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1.5 libqrencode 3.4.1-3.el7

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<one line to give the program's name and a brief idea of what it does.>  
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```

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```
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1.8 shared-mime-info 1.8 5.e17

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```

```
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1.9 open-ldap 2.4.44-25.el7_9

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1.10 xml-apis 1.4.01

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2000-05-05

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* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/bytecode/ByteStream.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/tools/Callback.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/CtConstructor.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/bytecode/InnerClassesAttribute.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/compiler/Lex.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/scopedpool/ScopedClassPoolFactoryImpl.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/CtNewClass.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/compiler/ast/NewExpr.java
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- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/CodeIterator.java
- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/CtNewWrappedConstructor.java
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- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/tools/reflect/Loader.java
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- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/scopedpool/ScopedClassPool.java
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jar/javassist/bytecode/CodeAnalyzer.java

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- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/annotation/FloatMemberValue.java
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- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/annotation/DoubleMemberValue.java
- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/annotation/ShortMemberValue.java
- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/annotation/IntegerMemberValue.java
- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/annotation/StringMemberValue.java
- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/annotation/EnumMemberValue.java
- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/annotation/BooleanMemberValue.java
- * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/annotation/AnnotationMemberValue.java

1.12 wsgiref 0.1.2

1.12.1 Available under license :

No license file was found, but licenses were detected in source scan.

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Found in path(s):

- * /opt/cola/permits/1403963770_1661913703.6112542/0/wsgiref-0-1-2-2-zip/wsgiref-0.1.2/wsgiref/validate.py

No license file was found, but licenses were detected in source scan.

Metadata-Version: 1.0

Name: wsgiref

Version: 0.1.2

Summary: WSGI (PEP 333) Reference Library

Home-page: <http://cheeseshop.python.org/pypi/wsgiref>

Author: Phillip J. Eby

Author-email: web-sig@python.org

License: PSF or ZPL

Description: This is a standalone release of the ``wsgiref`` library to be included in Python 2.5. For the standalone version's documentation, see:

HTML

http://peak.telecommunity.com/wsgiref_docs/

PDF

<http://peak.telecommunity.com/wsgiref.pdf>

Platform: UNKNOWN

Found in path(s):

* /opt/cola/permits/1403963770_1661913703.6112542/0/wsgiref-0-1-2-2-zip/wsgiref-0.1.2/wsgiref.egg-info/PKG-INFO

* /opt/cola/permits/1403963770_1661913703.6112542/0/wsgiref-0-1-2-2-zip/wsgiref-0.1.2/PKG-INFO

1.13 libuser 0.60 9.e17

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Version 2, June 1991

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1.14 coreutils 8.22-24.e17_9.2

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Version 3, 29 June 2007

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1.17 grep 2.20-3.el7

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1.20 python-urlgrabber 3.10 10.e17

1.20.1 Available under license :

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1.22 tar 1.26 35.e17

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Version 3, 29 June 2007

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The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

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```

* DNS resolver (dirmngr/dns.c)

dns.c - Recursive, Reentrant DNS Resolver.

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regexp/jimregexp.[ch]:

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Subsequently modified by:

1986 John Gilmore hoptoad!gnu

1987 James A. Woods ames!jaw

1993 Christopher Seiwald seiwald@vix.com

2000, 2002 Christopher Seiwald <seiwald@perforce.com>

2010 Steve Bennett <steveb@workware.net.au>

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1.24 jackson-dataformat-yaml 2.10.5

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1.26 okhttp 2.7.4

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- * /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-jar/com/squareup/okhttp/Headers.java
- * /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-jar/com/squareup/okhttp/internal/tls/OkHostnameVerifier.java
- * /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-jar/com/squareup/okhttp/internal/http/HttpEngine.java
- * /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-jar/com/squareup/okhttp/internal/tls/CertificateChainCleaner.java
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- * /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-jar/com/squareup/okhttp/internal/io/RealConnection.java
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- * /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-jar/com/squareup/okhttp/internal/tls/RealTrustRootIndex.java
- * /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-

jar/com/squareup/okhttp/internal/tls/AndroidTrustRootIndex.java
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* /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-jar/com/squareup/okhttp/HttpUrl.java
* /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-
jar/com/squareup/okhttp/internal/http/StreamAllocation.java
* /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-
jar/com/squareup/okhttp/internal/io/FileSystem.java
* /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-
jar/com/squareup/okhttp/internal/ConnectionSpecSelector.java
* /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-
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- * /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-jar/com/squareup/okhttp/internal/framed/ErrorCode.java
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- * /opt/cola/permits/1196234293_1629878885.03/0/okhttp-2-7-4-sources-3-jar/com/squareup/okhttp/internal/http/AuthenticatorAdapter.java
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1.32 grpc-protobuf-lite 1.22.1

1.32.1 Available under license :

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```
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 * limitations under the License.
 */
```

Found in path(s):

```
*/opt/ws_local/PERMITS_SQL/1013689277_1591363916.5/0/grpc-protobuf-lite-1-22-1-sources-
jar/io/grpc/protobuf-lite/package-info.java
```

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```
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 * limitations under the License.
 */
```

Found in path(s):

```
*/opt/ws_local/PERMITS_SQL/1013689277_1591363916.5/0/grpc-protobuf-lite-1-22-1-sources-
jar/io/grpc/protobuf-lite/ProtoLiteUtils.java
```

* /opt/ws_local/PERMITS_SQL/1013689277_1591363916.5/0/grpc-protobuf-lite-1-22-1-sources-jar/io/grpc/protobuf/lite/ProtoInputStream.java

1.33 metrics-logback 4.1.33

1.33.1 Available under license :

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Manifest-Version: 1.0
Automatic-Module-Name: com.codahale.metrics.logback
Build-Jdk-Spec: 1.8
Bundle-Description: An instrumented appender for Logback.
Bundle-License: <https://www.apache.org/licenses/LICENSE-2.0.html>
Bundle-ManifestVersion: 2
Bundle-Name: Metrics Integration for Logback
Bundle-SymbolicName: io.dropwizard.metrics.logback
Bundle-Version: 4.1.33
Created-By: Apache Maven Bundle Plugin 5.1.8
Export-Package: com.codahale.metrics.logback;uses:="ch.qos.logback.classic.spi,ch.qos.logback.core,com.codahale.metrics";version="4.1.33"
Implementation-Title: Metrics Integration for Logback
Implementation-Version: 4.1.33
Import-Package: ch.qos.logback.classic;version="[1.2,2)",ch.qos.logback.classic.spi;version="[1.2,2)",ch.qos.logback.core;version="[1.2,2)",com.codahale.metrics;version="[4.1,5)"
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.8))"
Tool: Bnd-6.3.1.202206071316

Found in path(s):

* /opt/cola/permits/1480501725_1668971427.6429615/0/metrics-logback-4-1-33-jar/META-INF/MANIFEST.MF

1.34 ca-certificates 2022.2.54-74.el7_9

1.34.1 Available under license :

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License: Public Domain

Found in path(s):

* /opt/cola/permits/1425443200_1664017022.0583818/0/ca-certificates-2022.2.54-74.el7_9.src.rpm-cosi-expand-archive-GCjLhYzR/ca-certificates.spec

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Found in path(s):

* /opt/cola/permits/1425443200_1664017022.0583818/0/ca-certificates-2022.2.54-74.el7_9.src.rpm-cosi-expand-archive-GCjLhYzR/nssckbi.h

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////

ca-legacy(8)

=====

:doctype: manpage

:man source: ca-legacy

NAME

ca-legacy - Manage the system configuration for legacy CA certificates

SYNOPSIS

ca-legacy ['COMMAND']

DESCRIPTION

ca-legacy(8) is used to include or exclude a set of legacy Certificate Authority (CA) certificates in the system's list of trusted CA certificates.

The list of CA certificates and trust flags included in the ca-certificates package are based on the decisions made by Mozilla.org according to the Mozilla CA policy.

Occasionally, removal or distrust decisions made by Mozilla.org might be incompatible with the requirements or limitations of some applications that also use the CA certificates list in the Linux environment.

The ca-certificates package might keep some CA certificates included and trusted by default, as long as it is seen necessary by the maintainers, despite the fact that they have been removed by Mozilla. These certificates are called legacy CA certificates.

The general requirements to keep legacy CA certificates included and trusted might change over time, for example if functional limitations of software packages have been resolved. Future versions of the ca-certificates package might reduce the set of legacy CA certificates that are included and trusted by default.

The ca-legacy(8) command can be used to override the default behaviour.

The mechanisms to individually trust or distrust CA certificates as described in update-ca-trust(8) still apply.

COMMANDS

***check*::**

The current configuration will be shown.

***default*::**

Configure the system to use the default configuration, as recommended by the package maintainers.

***disable*::**

Configure the system to explicitly disable legacy CA certificates. Using this configuration, the system will use the set of included and trusted CA certificates as released by Mozilla.

***install*::**

The configuration file will be read and the system configuration will be set accordingly. This command is executed automatically during upgrades of the ca-certificates package.

FILES

/etc/pki/ca-trust/ca-legacy.conf::

A configuration file that will be used and modified by the ca-legacy command.

The contents of the configuration file will be read on package upgrades.

AUTHOR

Written by Kai Engert.

Found in path(s):

* /opt/cola/permits/1425443200_1664017022.0583818/0/ca-certificates-2022.2.54-74.el7_9.src.rpm-cosi-expand-archive-GCjLhYzR/ca-legacy.8.txt

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////

update-ca-trust(8)

=====

:doctype: manpage

:man source: update-ca-trust

NAME

update-ca-trust - manage consolidated and dynamic configuration of CA certificates and associated trust

SYNOPSIS

update-ca-trust ['COMMAND']

DESCRIPTION

update-ca-trust(8) is used to manage a consolidated and dynamic configuration feature of Certificate Authority (CA) certificates and associated trust.

The feature is available for new applications that read the consolidated configuration files found in the /etc/pki/ca-trust/extracted directory or that load the PKCS#11 module p11-kit-trust.so

Parts of the new feature are also provided in a way to make it useful for legacy applications.

Many legacy applications expect CA certificates and trust configuration in a fixed location, contained in files with particular path and name,

or by referring to a classic PKCS#11 trust module provided by the NSS cryptographic library.

The dynamic configuration feature provides functionally compatible replacements for classic configuration files and for the classic NSS trust module named libnssckbi.

In order to enable legacy applications, that read the classic files or access the classic module, to make use of the new consolidated and dynamic configuration feature, the classic filenames have been changed to symbolic links. The symbolic links refer to dynamically created and consolidated output stored below the /etc/pki/ca-trust/extracted directory hierarchy.

The output is produced using the 'update-ca-trust' command (without parameters), or using the 'update-ca-trust extract' command.

In order to produce the output, a flexible set of source configuration is read, as described in section <<sourceconf,SOURCE CONFIGURATION>>.

In addition, the classic PKCS#11 module is replaced with a new PKCS#11 module (p11-kit-trust.so) that dynamically reads the same source configuration.

[[sourceconf]]

SOURCE CONFIGURATION

The dynamic configuration feature uses several source directories that will be scanned for any number of source files. *It is important to select the correct subdirectory for adding files, as the subdirectory defines how contained certificates will be trusted or distrusted, and which file formats are read.*

Files in *subdirectories below the directory hierarchy /usr/share/pki/ca-trust-source/* contain CA certificates and trust settings in the PEM file format. The trust settings found here will be interpreted with a *low priority*.

Files in *subdirectories below the directory hierarchy /etc/pki/ca-trust/source/* contain CA certificates and trust settings in the PEM file format. The trust settings found here will be interpreted with a *high priority*.

.You may use the following rules of thumb to decide, whether your configuration files should be added to the /etc or rather to the /usr directory hierarchy:

* If you are manually adding a configuration file to a system, you probably want it to override any other default configuration, and you most likely should add it to the respective subdirectory in the /etc hierarchy.

* If you are creating a package that provides additional root CA certificates, that is intended for distribution to several computer systems, but you still want to allow the administrator to override your list, then your package should add your files to the respective subdirectory in the /usr hierarchy.

* If you are creating a package that is supposed to override the default system

trust settings, that is intended for distribution to several computer systems, then your package should install the files to the respective subdirectory in the /etc hierarchy.

.***QUICK HELP 1***: To add a certificate in the simple PEM or DER file formats to the list of CAs trusted on the system:

- * add it as a new file to directory /etc/pki/ca-trust/source/anchors/
- * run 'update-ca-trust extract'

.***QUICK HELP 2***: If your certificate is in the extended BEGIN TRUSTED file format (which may contain distrust/blacklist trust flags, or trust flags for usages other than TLS) then:

- * add it as a new file to directory /etc/pki/ca-trust/source/
- * run 'update-ca-trust extract'

.In order to offer simplicity and flexibility, the way certificate files are treated depends on the subdirectory they are installed to.

- * simple trust anchors subdirectory: /usr/share/pki/ca-trust-source/anchors/ or /etc/pki/ca-trust/source/anchors/
- * simple blacklist (distrust) subdirectory: /usr/share/pki/ca-trust-source/blacklist/ or /etc/pki/ca-trust/source/blacklist/
- * extended format directory: /usr/share/pki/ca-trust-source/ or /etc/pki/ca-trust/source/

.In the main directories /usr/share/pki/ca-trust-source/ or /etc/pki/ca-trust/source/ you may install one or multiple files in the following file formats:

- * certificate files that include trust flags, in the BEGIN/END TRUSTED CERTIFICATE file format (any file name), which have been created using the openssl x509 tool and the -adject -addtrust options.

Bundle files with multiple certificates are supported.

- * files in the p11-kit file format using the .p11-kit file name extension, which can (e.g.) be used to distrust certificates based on serial number and issuer name, without having the full certificate available.

(This is currently an undocumented format, to be extended later.

For examples of the supported formats, see the files shipped with the ca-certificates package.)

- * certificate files without trust flags in either the DER file format or in the PEM (BEGIN/END CERTIFICATE) file format (any file name). Such files will be added with neutral trust, neither trusted nor distrusted.

They will simply be known to the system, which might be helpful to assist cryptographic software in constructing chains of certificates.

(If you want a CA certificate in these file formats to be trusted, you should remove it from this directory and move it to the ./anchors subdirectory instead.)

In the anchors subdirectories /usr/share/pki/ca-trust-source/anchors/ or /etc/pki/ca-trust/source/anchors/ you may install one or multiple certificates in either the DER file format or in the PEM (BEGIN/END CERTIFICATE) file format.

Each certificate will be treated as ***trusted*** for all purposes.

In the blacklist subdirectories `/usr/share/pki/ca-trust-source/blacklist/` or `/etc/pki/ca-trust/source/blacklist/` you may install one or multiple certificates in either the DER file format or in the PEM (BEGIN/END CERTIFICATE) file format. Each certificate will be treated as `*distrusted*` for all purposes.

Please refer to the x509(1) manual page for the documentation of the BEGIN/END CERTIFICATE and BEGIN/END TRUSTED CERTIFICATE file formats.

Applications that rely on a static file for a list of trusted CAs may load one of the files found in the `/etc/pki/ca-trust/extracted` directory. After modifying any file in the `/usr/share/pki/ca-trust-source/` or `/etc/pki/ca-trust/source/` directories or in any of their subdirectories, or after adding a file, it is necessary to run the `'update-ca-trust extract'` command, in order to update the consolidated files in `/etc/pki/ca-trust/extracted/`.

Applications that load the classic PKCS#11 module using filename `libnssckbi.so` (which has been converted into a symbolic link pointing to the new module) and any application capable of loading PKCS#11 modules and loading `p11-kit-trust.so`, will benefit from the dynamically merged set of certificates and trust information stored in the `/usr/share/pki/ca-trust-source/` and `/etc/pki/ca-trust/source/` directories.

[[extractconf]]

EXTRACTED CONFIGURATION

The directory `/etc/pki/ca-trust/extracted/` contains generated CA certificate bundle files which are created and updated, based on the `<<sourceconf,SOURCE CONFIGURATION>>` by running the `'update-ca-trust extract'` command.

If your application isn't able to load the PKCS#11 module `p11-kit-trust.so`, then you can use these files in your application to load a list of global root CA certificates.

Please never manually edit the files stored in this directory, because your changes will be lost and the files automatically overwritten, each time the `'update-ca-trust extract'` command gets executed.

In order to install new trusted or distrusted certificates, please rather install them in the respective subdirectory below the `/usr/share/pki/ca-trust-source/` or `/etc/pki/ca-trust/source/` directories, as described in the `<<sourceconf,SOURCE CONFIGURATION>>` section.

The directory `/etc/pki/ca-trust/extracted/java/` contains a CA certificate bundle in the java keystore file format. Distrust information cannot be represented in this file format, and distrusted certificates are missing from these files.

File cacerts contains CA certificates trusted for TLS server authentication.

The directory `/etc/pki/ca-trust/extracted/openssl/` contains CA certificate bundle files in the extended BEGIN/END TRUSTED CERTIFICATE file format, as described in the x509(1) manual page.

File `ca-bundle.trust.crt` contains the full set of all trusted or distrusted certificates, including the associated trust flags.

The directory `/etc/pki/ca-trust/extracted/pem/` contains CA certificate bundle files in the simple BEGIN/END CERTIFICATE file format, as described in the x509(1) manual page.

Distrust information cannot be represented in this file format, and distrusted certificates are missing from these files.

File `tls-ca-bundle.pem` contains CA certificates trusted for TLS server authentication.

File `email-ca-bundle.pem` contains CA certificates trusted for E-Mail protection.

File `objsign-ca-bundle.pem` contains CA certificates trusted for code signing.

COMMANDS

(absent/empty command)::

Same as the `*extract*` command described below. (However, the command may print fewer warnings, as this command is being run during rpm package installation, where non-fatal status output is undesired.)

`*extract*::`

Instruct `update-ca-trust` to scan the `<<sourceconf,SOURCE CONFIGURATION>>` and produce updated versions of the consolidated configuration files stored below the `/etc/pki/ca-trust/extracted` directory hierarchy.

FILES

`/etc/pki/tls/certs/ca-bundle.crt::`

Classic filename, file contains a list of CA certificates trusted for TLS server authentication usage, in the simple BEGIN/END CERTIFICATE file format, without distrust information.

This file is a symbolic link that refers to the consolidated output created by the `update-ca-trust` command.

`/etc/pki/tls/certs/ca-bundle.trust.crt::`

Classic filename, file contains a list of CA certificates in the extended BEGIN/END TRUSTED CERTIFICATE file format, which includes trust (and/or distrust) flags specific to certificate usage.

This file is a symbolic link that refers to the consolidated output created by the `update-ca-trust` command.

`/etc/pki/java/cacerts::`

Classic filename, file contains a list of CA certificates trusted for TLS server authentication usage, in the Java keystore file format, without distrust information.

This file is a symbolic link that refers to the consolidated output created by the update-ca-trust command.

/usr/share/pki/ca-trust-source::

Contains multiple, low priority source configuration files as explained in section <<sourceconf,SOURCE CONFIGURATION>>. Please pay attention to the specific meanings of the respective subdirectories.

/etc/pki/ca-trust/source::

Contains multiple, high priority source configuration files as explained in section <<sourceconf,SOURCE CONFIGURATION>>. Please pay attention to the specific meanings of the respective subdirectories.

/etc/pki/ca-trust/extracted::

Contains consolidated and automatically generated configuration files for consumption by applications, which are created using the 'update-ca-trust extract' command. Don't edit files in this directory, because they will be overwritten.

See section <<extractconf,EXTRACTED CONFIGURATION>> for additional details.

AUTHOR

Written by Kai Engert and Stef Walter.

Found in path(s):

* /opt/cola/permits/1425443200_1664017022.0583818/0/ca-certificates-2022.2.54-74.el7_9.src.rpm-cosi-expand-archive-GCjLhYzR/update-ca-trust.8.txt

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```

Found in path(s):

* /opt/cola/permits/1425443200_1664017022.0583818/0/ca-certificates-2022.2.54-74.el7_9.src.rpm-cosi-expand-archive-GCjLhYzR/certdata2pem.py

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```
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```

```
#
# certdata.txt
```

```

#
# This file contains the object definitions for the certs and other
# information "built into" NSS.
#
# Object definitions:
#
# Certificates
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS  CKO_CERTIFICATE
# CKA_TOKEN            CK_BBOOL        CK_TRUE
# CKA_PRIVATE          CK_BBOOL        CK_FALSE
# CKA_MODIFIABLE      CK_BBOOL        CK_FALSE
# CKA_LABEL            UTF8            (varies)
# CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
# CKA_SUBJECT          DER+base64      (varies)
# CKA_ID               byte array      (varies)
# CKA_ISSUER           DER+base64      (varies)
# CKA_SERIAL_NUMBER    DER+base64      (varies)
# CKA_VALUE            DER+base64      (varies)
# CKA_NSS_EMAIL        ASCII7          (unused here)
# CKA_NSS_SERVER_DISTRUST_AFTER DER+base64      (varies)
# CKA_NSS_EMAIL_DISTRUST_AFTER DER+base64      (varies)
#
# Trust
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS  CKO_TRUST
# CKA_TOKEN            CK_BBOOL        CK_TRUE
# CKA_PRIVATE          CK_BBOOL        CK_FALSE
# CKA_MODIFIABLE      CK_BBOOL        CK_FALSE
# CKA_LABEL            UTF8            (varies)
# CKA_ISSUER           DER+base64      (varies)
# CKA_SERIAL_NUMBER    DER+base64      (varies)
# CKA_CERT_HASH        binary+base64    (varies)
# CKA_EXPIRES          CK_DATE          (not used here)
# CKA_TRUST_DIGITAL_SIGNATURE CK_TRUST      (varies)
# CKA_TRUST_NON_REPUDIATION CK_TRUST      (varies)
# CKA_TRUST_KEY_ENCIPHERMENT CK_TRUST      (varies)
# CKA_TRUST_DATA_ENCIPHERMENT CK_TRUST      (varies)
# CKA_TRUST_KEY_AGREEMENT CK_TRUST      (varies)
# CKA_TRUST_KEY_CERT_SIGN CK_TRUST      (varies)
# CKA_TRUST_CRL_SIGN   CK_TRUST      (varies)
# CKA_TRUST_SERVER_AUTH CK_TRUST      (varies)
# CKA_TRUST_CLIENT_AUTH CK_TRUST      (varies)
# CKA_TRUST_CODE_SIGNING CK_TRUST      (varies)
# CKA_TRUST_EMAIL_PROTECTION CK_TRUST      (varies)
# CKA_TRUST_IPSEC_END_SYSTEM CK_TRUST      (varies)

```

```

# CKA_TRUST_IPSEC_TUNNEL    CK_TRUST    (varies)
# CKA_TRUST_IPSEC_USER     CK_TRUST    (varies)
# CKA_TRUST_TIME_STAMPING  CK_TRUST    (varies)
# CKA_TRUST_STEP_UP_APPROVED CK_BBOOL    (varies)
# (other trust attributes can be defined)
#

#

# The object to tell NSS that this is a root list and we don't
# have to go looking for others.
#
BEGINDATA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_BUILTIN_ROOT_LIST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Mozilla Builtin Roots"

#

# Certificate "GlobalSign Root CA"
#
# Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
# Serial Number:04:00:00:00:00:01:15:4b:5a:c3:94
# Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Tue Sep 01 12:00:00 1998
# Not Valid After : Fri Jan 28 12:00:00 2028
# Fingerprint (SHA-256):
EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99
# Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003

```

\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\013\004\000\000\000\000\001\025\113\132\303\224

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\165\060\202\002\135\240\003\002\001\002\002\013\004
\000\000\000\000\001\025\113\132\303\224\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\127\061\013\060\011\006
\003\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004
\012\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166
\055\163\141\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\033\060\031\006\003\125\004\003\023\022
\107\154\157\142\141\154\123\151\147\156\040\122\157\157\164\040
\103\101\060\036\027\015\071\070\060\071\060\061\061\062\060\060
\060\060\132\027\015\062\070\060\061\062\070\061\062\060\060\060
\060\132\060\127\061\013\060\011\006\003\125\004\006\023\002\102
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142
\141\154\123\151\147\156\040\156\166\055\163\141\061\020\060\016
\006\003\125\004\013\023\007\122\157\157\164\040\103\101\061\033
\060\031\006\003\125\004\003\023\022\107\154\157\142\141\154\123
\151\147\156\040\122\157\157\164\040\103\101\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\332\016\346\231
\215\316\243\343\117\212\176\373\361\213\203\045\153\352\110\037
\361\052\260\271\225\021\004\275\360\143\321\342\147\146\317\034
\335\317\033\110\053\356\215\211\216\232\257\051\200\145\253\351
\307\055\022\313\253\034\114\160\007\241\075\012\060\315\025\215
\117\370\335\324\214\120\025\034\357\120\356\304\056\367\374\351
\122\362\221\175\340\155\325\065\060\216\136\103\163\362\101\351
\325\152\343\262\211\072\126\071\070\157\006\074\210\151\133\052
\115\305\247\124\270\154\211\314\233\371\074\312\345\375\211\365
\022\074\222\170\226\326\334\164\156\223\104\141\321\215\307\106
\262\165\016\206\350\031\212\325\155\154\325\170\026\225\242\351
\310\012\070\353\362\044\023\117\163\124\223\023\205\072\033\274
\036\064\265\213\005\214\271\167\213\261\333\037\040\221\253\011
\123\156\220\316\173\067\164\271\160\107\221\042\121\143\026\171
\256\261\256\101\046\010\310\031\053\321\106\252\110\326\144\052
\327\203\064\377\054\052\301\154\031\103\112\007\205\347\323\174
\366\041\150\357\352\362\122\237\177\223\220\317\002\003\001\000
\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\140\173\146\032\105\015\227\312\211\120\057\175\004\315\064
\250\377\374\375\113\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\326\163\347\174\117\166\320

```
\215\277\354\272\242\276\064\305\050\062\265\174\374\154\234\054
\053\275\011\236\123\277\153\136\252\021\110\266\345\010\243\263
\312\075\141\115\323\106\011\263\076\303\240\343\143\125\033\362
\272\357\255\071\341\103\271\070\243\346\057\212\046\073\357\240
\120\126\371\306\012\375\070\315\304\013\160\121\224\227\230\004
\337\303\137\224\325\025\311\024\101\234\304\135\165\144\025\015
\377\125\060\354\206\217\377\015\357\054\271\143\106\366\252\374
\337\274\151\375\056\022\110\144\232\340\225\360\246\357\051\217
\001\261\025\265\014\035\245\376\151\054\151\044\170\036\263\247
\034\161\142\356\312\310\227\254\027\135\212\302\370\107\206\156
\052\304\126\061\225\320\147\211\205\053\371\154\246\135\106\235
\014\252\202\344\231\121\335\160\267\333\126\075\141\344\152\341
\134\326\366\376\075\336\101\314\007\256\143\122\277\123\123\364
\053\351\307\375\266\367\202\137\205\322\101\030\333\201\263\004
\034\305\037\244\200\157\025\040\311\336\014\210\012\035\326\146
\125\342\374\110\311\051\046\151\340
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Root CA"
```

```
# Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
```

```
# Serial Number:04:00:00:00:01:15:4b:5a:c3:94
```

```
# Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
```

```
# Not Valid Before: Tue Sep 01 12:00:00 1998
```

```
# Not Valid After : Fri Jan 28 12:00:00 2028
```

```
# Fingerprint (SHA-256):
```

```
EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99
```

```
# Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\261\274\226\213\324\364\235\142\052\250\232\201\362\025\001\122
\244\035\202\234
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\076\105\122\025\011\121\222\341\267\135\067\237\261\207\051\212
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
```

```

\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\025\113\132\303\224
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Verisign Class 1 Public Primary Certification Authority - G3"
#
# Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4
# Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
# Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
# For Email Distrust After: Wed Aug 31 00:00:00 2022
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123

```

\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
\316\261\244

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\032\060\202\003\002\002\021\000\213\133\165\126\204
\124\205\013\000\317\257\070\110\316\261\244\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111
\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164
\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050
\143\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171
\061\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123
\151\147\156\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060
\061\060\060\060\060\060\060\132\027\015\063\066\060\067\061\066
\062\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012
\023\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056
\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123
\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162
\153\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040
\061\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111
\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060
\103\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156
\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143\040
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040

\055\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\335\204\324\271\264\371\247\330\363\004\170
\234\336\075\334\154\023\026\331\172\335\044\121\146\300\307\046
\131\015\254\006\010\302\224\321\063\037\360\203\065\037\156\033
\310\336\252\156\025\116\124\047\357\304\155\032\354\013\343\016
\360\104\245\127\307\100\130\036\243\107\037\161\354\140\366\155
\224\310\030\071\355\376\102\030\126\337\344\114\111\020\170\116
\001\166\065\143\022\066\335\146\274\001\004\066\243\125\150\325
\242\066\011\254\253\041\046\124\006\255\077\312\024\340\254\312
\255\006\035\225\342\370\235\361\340\140\377\302\177\165\053\114
\314\332\376\207\231\041\352\272\376\076\124\327\322\131\170\333
\074\156\317\240\023\000\032\270\047\241\344\276\147\226\312\240
\305\263\234\335\311\165\236\353\060\232\137\243\315\331\256\170
\031\077\043\351\134\333\051\275\255\125\310\033\124\214\143\366
\350\246\352\307\067\022\134\243\051\036\002\331\333\037\073\264
\327\017\126\107\201\025\004\112\257\203\047\321\305\130\210\301
\335\366\252\247\243\030\332\150\252\155\021\121\341\277\145\153
\237\226\166\321\075\002\003\001\000\001\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\253\146
\215\327\263\272\307\232\266\346\125\320\005\361\237\061\215\132
\252\331\252\106\046\017\161\355\245\255\123\126\142\001\107\052
\104\351\376\077\164\013\023\233\271\364\115\033\262\321\137\262
\266\322\210\134\263\237\315\313\324\247\331\140\225\204\072\370
\301\067\035\141\312\347\260\305\345\221\332\124\246\254\061\201
\256\227\336\315\010\254\270\300\227\200\177\156\162\244\347\151
\023\225\145\037\304\223\074\375\171\217\004\324\076\117\352\367
\236\316\315\147\174\117\145\002\377\221\205\124\163\307\377\066
\367\206\055\354\320\136\117\377\021\237\162\006\326\270\032\361
\114\015\046\145\342\104\200\036\307\237\343\335\350\012\332\354
\245\040\200\151\150\241\117\176\341\153\317\007\101\372\203\216
\274\070\335\260\056\021\261\153\262\102\314\232\274\371\110\042
\171\112\031\017\262\034\076\040\164\331\152\303\276\362\050\170
\023\126\171\117\155\120\352\033\260\265\127\261\067\146\130\043
\363\334\017\337\012\207\304\357\206\005\325\070\024\140\231\243
\113\336\006\226\161\054\362\333\266\037\244\357\077\356

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
\062\062\060\070\063\061\060\060\060\060\060\060\132

END

Trust for "Verisign Class 1 Public Primary Certification Authority - G3"
Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4
Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For

```
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
# Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\040\102\205\334\367\353\166\101\225\127\216\023\153\324\267\321
\351\216\106\245
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\261\107\274\030\127\321\030\240\170\055\354\161\350\052\225\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
\316\261\244
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Verisign Class 2 Public Primary Certification Authority - G3"
#
# Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a
```

Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

Not Valid Before: Fri Oct 01 00:00:00 1999

Not Valid After : Wed Jul 16 23:59:59 2036

Fingerprint (SHA-256):

92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB

Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11

For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120
\133\172

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\031\060\202\003\001\002\020\141\160\313\111\214\137
\230\105\051\347\260\246\331\120\133\172\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125
\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156
\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145\162
\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164\167
\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050\143
\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156\054
\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164\150
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061
\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123\151
\147\156\040\103\154\141\163\163\040\062\040\120\165\142\154\151
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060\061
\060\060\060\060\060\060\132\027\015\063\066\060\067\061\066\062
\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012\023
\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056\061
\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123\151
\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040\061
\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111\156
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151
\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060\103
\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156\040
\103\154\141\163\163\040\062\040\120\165\142\154\151\143\040\120
\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055
\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\257\012\015\302\325\054\333\147\271\055\345\224
\047\335\245\276\340\260\115\217\263\141\126\074\326\174\303\364
\315\076\206\313\242\210\342\341\330\244\151\305\265\342\277\301
\246\107\120\136\106\071\213\325\226\272\265\157\024\277\020\316
\047\023\236\005\107\233\061\172\023\330\037\331\323\002\067\213
\255\054\107\360\216\201\006\247\015\060\014\353\367\074\017\040
\035\334\162\106\356\245\002\310\133\303\311\126\151\114\305\030
\301\221\173\013\325\023\000\233\274\357\303\110\076\106\140\040
\205\052\325\220\266\315\213\240\314\062\335\267\375\100\125\262
\120\034\126\256\314\215\167\115\307\040\115\247\061\166\357\150
\222\212\220\036\010\201\126\262\255\151\243\122\320\313\034\304
\043\075\037\231\376\114\350\026\143\216\306\010\216\366\061\366
\322\372\345\166\335\265\034\222\243\111\315\315\001\315\150\315
\251\151\272\243\353\035\015\234\244\040\246\301\240\305\321\106

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\114\027\155\322\254\146\077\226\214\340\204\324\066\377\042\131
\305\371\021\140\250\137\004\175\362\032\366\045\102\141\017\304
\112\270\076\211\002\003\001\000\001\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\001\001\000\064\046\025
\074\300\215\115\103\111\035\275\351\041\222\327\146\234\267\336
\305\270\320\344\135\137\166\042\300\046\371\204\072\072\371\214
\265\373\354\140\361\350\316\004\260\310\335\247\003\217\060\363
\230\337\244\346\244\061\337\323\034\013\106\334\162\040\077\256
\356\005\074\244\063\077\013\071\254\160\170\163\113\231\053\337
\060\302\124\260\250\073\125\241\376\026\050\315\102\275\164\156
\200\333\047\104\247\316\104\135\324\033\220\230\015\036\102\224
\261\000\054\004\320\164\243\002\005\042\143\143\315\203\265\373
\301\155\142\153\151\165\375\135\160\101\271\365\277\174\337\276
\301\062\163\042\041\213\130\201\173\025\221\172\272\343\144\110
\260\177\373\066\045\332\225\320\361\044\024\027\335\030\200\153
\106\043\071\124\365\216\142\011\004\035\224\220\246\233\346\045
\342\102\105\252\270\220\255\276\010\217\251\013\102\030\224\317
\162\071\341\261\103\340\050\317\267\347\132\154\023\153\111\263
\377\343\030\174\211\213\063\135\254\063\327\247\371\332\072\125
\311\130\020\371\252\357\132\266\317\113\113\337\052
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END

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CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
\062\062\060\070\063\061\060\060\060\060\060\060\132
```

END

```
# Trust for "Verisign Class 2 Public Primary Certification Authority - G3"
# Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a
# Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB
# Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\141\357\103\327\177\312\324\141\121\274\230\340\303\131\022\257
\237\353\143\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
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\370\276\304\143\042\311\250\106\164\213\270\035\036\112\053\366

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120
\133\172

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Entrust.net Premium 2048 Secure Server CA"

#

Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
Serial Number: 946069240 (0x3863def8)

Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net

Not Valid Before: Fri Dec 24 17:50:51 1999

Not Valid After : Tue Jul 24 14:15:12 2029

Fingerprint (SHA-256):

6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77

Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125

\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\070\143\336\370

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\052\060\202\003\022\240\003\002\001\002\002\004\070
\143\336\370\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\264\061\024\060\022\006\003\125\004\012\023\013
\105\156\164\162\165\163\164\056\156\145\164\061\100\060\076\006
\003\125\004\013\024\067\167\167\167\056\145\156\164\162\165\163
\164\056\156\145\164\057\103\120\123\137\062\060\064\070\040\151
\156\143\157\162\160\056\040\142\171\040\162\145\146\056\040\050
\154\151\155\151\164\163\040\154\151\141\142\056\051\061\045\060
\043\006\003\125\004\013\023\034\050\143\051\040\061\071\071\071
\040\105\156\164\162\165\163\164\056\156\145\164\040\114\151\155
\151\164\145\144\061\063\060\061\006\003\125\004\003\023\052\105
\156\164\162\165\163\164\056\156\145\164\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\050\062\060\064\070\051\060\036\027\015\071\071\061
\062\062\064\061\067\065\060\065\061\132\027\015\062\071\060\067
\062\064\061\064\061\065\061\062\132\060\201\264\061\024\060\022
\006\003\125\004\012\023\013\105\156\164\162\165\163\164\056\156
\145\164\061\100\060\076\006\003\125\004\013\024\067\167\167\167

\056\145\156\164\162\165\163\164\056\156\145\164\057\103\120\123
\137\062\060\064\070\040\151\156\143\157\162\160\056\040\142\171
\040\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151
\141\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050
\143\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056
\156\145\164\040\114\151\155\151\164\145\144\061\063\060\061\006
\003\125\004\003\023\052\105\156\164\162\165\163\164\056\156\145
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\040\050\062\060\064\070\051
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\255\115\113\251\022\206\262\352\243\040\007\025\026\144\052
\053\113\321\277\013\112\115\216\355\200\166\245\147\267\170\100
\300\163\102\310\150\300\333\123\053\335\136\270\166\230\065\223
\213\032\235\174\023\072\016\037\133\267\036\317\345\044\024\036
\261\201\251\215\175\270\314\153\113\003\361\002\014\334\253\245
\100\044\000\177\164\224\241\235\010\051\263\210\013\365\207\167
\235\125\315\344\303\176\327\152\144\253\205\024\206\225\133\227
\062\120\157\075\310\272\146\014\343\374\275\270\111\301\166\211
\111\031\375\300\250\275\211\243\147\057\306\237\274\161\031\140
\270\055\351\054\311\220\166\146\173\224\342\257\170\326\145\123
\135\074\326\234\262\317\051\003\371\057\244\120\262\324\110\316
\005\062\125\212\375\262\144\114\016\344\230\007\165\333\177\337
\271\010\125\140\205\060\051\371\173\110\244\151\206\343\065\077
\036\206\135\172\172\025\275\357\000\216\025\042\124\027\000\220
\046\223\274\016\111\150\221\277\370\107\323\235\225\102\301\016
\115\337\157\046\317\303\030\041\142\146\103\160\326\325\300\007
\341\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\125\344\201\321\021\200\276\330\211\271
\010\243\061\371\241\044\011\026\271\160\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\073\233
\217\126\233\060\347\123\231\174\172\171\247\115\227\327\031\225
\220\373\006\037\312\063\174\106\143\217\226\146\044\372\100\033
\041\047\312\346\162\163\362\117\376\061\231\375\310\014\114\150
\123\306\200\202\023\230\372\266\255\332\135\075\361\316\156\366
\025\021\224\202\014\356\077\225\257\021\253\017\327\057\336\037
\003\217\127\054\036\311\273\232\032\104\225\353\030\117\246\037
\315\175\127\020\057\233\004\011\132\204\265\156\330\035\072\341
\326\236\321\154\171\136\171\034\024\305\343\320\114\223\073\145
\074\355\337\075\276\246\345\225\032\303\265\031\303\275\136\133
\273\377\043\357\150\031\313\022\223\047\134\003\055\157\060\320
\036\266\032\254\336\132\367\321\252\250\047\246\376\171\201\304
\171\231\063\127\272\022\260\251\340\102\154\223\312\126\336\376
\155\204\013\010\213\176\215\352\327\230\041\306\363\347\074\171
\057\136\234\321\114\025\215\341\354\042\067\314\232\103\013\227
\334\200\220\215\263\147\233\157\110\010\025\126\317\277\361\053


```
\174\136\232\166\351\131\220\305\174\203\065\021\145\121
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Entrust.net Premium 2048 Secure Server CA"
# Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
# Serial Number: 946069240 (0x3863def8)
# Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
# Not Valid Before: Fri Dec 24 17:50:51 1999
# Not Valid After : Tue Jul 24 14:15:12 2029
# Fingerprint (SHA-256):
6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77
# Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\120\060\006\011\035\227\324\365\256\071\367\313\347\222\175\175
\145\055\064\061
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\356\051\061\274\062\176\232\346\350\265\367\121\264\064\161\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\070\143\336\370
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Baltimore CyberTrust Root"

#

Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

Serial Number: 33554617 (0x20000b9)

Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

Not Valid Before: Fri May 12 18:46:00 2000

Not Valid After : Mon May 12 23:59:00 2025

Fingerprint (SHA-256):

16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB

Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Baltimore CyberTrust Root"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\002\000\000\271

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\167\060\202\002\137\240\003\002\001\002\002\004\002
\000\000\271\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\111
\105\061\022\060\020\006\003\125\004\012\023\011\102\141\154\164
\151\155\157\162\145\061\023\060\021\006\003\125\004\013\023\012
\103\171\142\145\162\124\162\165\163\164\061\042\060\040\006\003
\125\004\003\023\031\102\141\154\164\151\155\157\162\145\040\103

\171\142\145\162\124\162\165\163\164\040\122\157\157\164\060\036
\027\015\060\060\060\065\061\062\061\070\064\066\060\060\132\027
\015\062\065\060\065\061\062\062\063\065\071\060\060\132\060\132
\061\013\060\011\006\003\125\004\006\023\002\111\105\061\022\060
\020\006\003\125\004\012\023\011\102\141\154\164\151\155\157\162
\145\061\023\060\021\006\003\125\004\013\023\012\103\171\142\145
\162\124\162\165\163\164\061\042\060\040\006\003\125\004\003\023
\031\102\141\154\164\151\155\157\162\145\040\103\171\142\145\162
\124\162\165\163\164\040\122\157\157\164\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\243\004\273\042\253
\230\075\127\350\046\162\232\265\171\324\051\342\341\350\225\200
\261\260\343\133\216\053\051\232\144\337\241\135\355\260\011\005
\155\333\050\056\316\142\242\142\376\264\210\332\022\353\070\353
\041\235\300\101\053\001\122\173\210\167\323\034\217\307\272\271
\210\265\152\011\347\163\350\021\100\247\321\314\312\142\215\055
\345\217\013\246\120\322\250\120\303\050\352\365\253\045\207\212
\232\226\034\251\147\270\077\014\325\367\371\122\023\057\302\033
\325\160\160\360\217\300\022\312\006\313\232\341\331\312\063\172
\167\326\370\354\271\361\150\104\102\110\023\322\300\302\244\256
\136\140\376\266\246\005\374\264\335\007\131\002\324\131\030\230
\143\365\245\143\340\220\014\175\135\262\006\172\363\205\352\353
\324\003\256\136\204\076\137\377\025\355\151\274\371\071\066\162
\165\317\167\122\115\363\311\220\054\271\075\345\311\043\123\077
\037\044\230\041\134\007\231\051\275\306\072\354\347\156\206\072
\153\227\164\143\063\275\150\030\061\360\170\215\166\277\374\236
\216\135\052\206\247\115\220\334\047\032\071\002\003\001\000\001
\243\105\060\103\060\035\006\003\125\035\016\004\026\004\024\345
\235\131\060\202\107\130\314\254\372\010\124\066\206\173\072\265
\004\115\360\060\022\006\003\125\035\023\001\001\377\004\010\060
\006\001\001\377\002\001\003\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\205\014\135\216\344
\157\121\150\102\005\240\335\273\117\047\045\204\003\275\367\144
\375\055\327\060\343\244\020\027\353\332\051\051\266\171\077\166
\366\031\023\043\270\020\012\371\130\244\324\141\160\275\004\141
\152\022\212\027\325\012\275\305\274\060\174\326\351\014\045\215
\206\100\117\354\314\243\176\070\306\067\021\117\355\335\150\061
\216\114\322\263\001\164\356\276\165\136\007\110\032\177\160\377
\026\134\204\300\171\205\270\005\375\177\276\145\021\243\017\300
\002\264\370\122\067\071\004\325\251\061\172\030\277\240\052\364
\022\231\367\243\105\202\343\074\136\365\235\236\265\310\236\174
\056\310\244\236\116\010\024\113\155\375\160\155\153\032\143\275
\144\346\037\267\316\360\362\237\056\273\033\267\362\120\210\163
\222\302\342\343\026\215\232\062\002\253\216\030\335\351\020\021
\356\176\065\253\220\257\076\060\224\172\320\063\075\247\145\017
\365\374\216\236\142\317\107\104\054\001\135\273\035\265\062\322
\107\322\070\056\320\376\201\334\062\152\036\265\356\074\325\374

```

\347\201\035\031\303\044\102\352\143\071\251
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Baltimore CyberTrust Root"
# Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
# Serial Number: 33554617 (0x20000b9)
# Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
# Not Valid Before: Fri May 12 18:46:00 2000
# Not Valid After : Mon May 12 23:59:00 2025
# Fingerprint (SHA-256):
16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB
# Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Baltimore CyberTrust Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\324\336\040\320\136\146\374\123\376\032\120\210\054\170\333\050
\122\312\344\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\254\266\224\245\234\027\340\327\221\122\233\261\227\006\246\344
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\002\000\000\271
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust Root Certification Authority"
#
# Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US

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```
# Serial Number: 1164660820 (0x456b5054)
# Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US
# Not Valid Before: Mon Nov 27 20:23:42 2006
# Not Valid After : Fri Nov 27 20:53:42 2026
# Fingerprint (SHA-256):
73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C
# Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\105\153\120\124
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\221\060\202\003\171\240\003\002\001\002\002\004\105
```

\153\120\124\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\260\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164
\162\165\163\164\054\040\111\156\143\056\061\071\060\067\006\003
\125\004\013\023\060\167\167\167\056\145\156\164\162\165\163\164
\056\156\145\164\057\103\120\123\040\151\163\040\151\156\143\157
\162\160\157\162\141\164\145\144\040\142\171\040\162\145\146\145
\162\145\156\143\145\061\037\060\035\006\003\125\004\013\023\026
\050\143\051\040\062\060\060\066\040\105\156\164\162\165\163\164
\054\040\111\156\143\056\061\055\060\053\006\003\125\004\003\023
\044\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\060\036\027\015\060\066\061\061\062\067\062
\060\062\063\064\062\132\027\015\062\066\061\061\062\067\062\060
\065\063\064\062\132\060\201\260\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015
\105\156\164\162\165\163\164\054\040\111\156\143\056\061\071\060
\067\006\003\125\004\013\023\060\167\167\167\056\145\156\164\162
\165\163\164\056\156\145\164\057\103\120\123\040\151\163\040\151
\156\143\157\162\160\157\162\141\164\145\144\040\142\171\040\162
\145\146\145\162\145\156\143\145\061\037\060\035\006\003\125\004
\013\023\026\050\143\051\040\062\060\060\066\040\105\156\164\162
\165\163\164\054\040\111\156\143\056\061\055\060\053\006\003\125
\004\003\023\044\105\156\164\162\165\163\164\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\266\225\266\103\102\372\306
\155\052\157\110\337\224\114\071\127\005\356\303\171\021\101\150
\066\355\354\376\232\001\217\241\070\050\374\367\020\106\146\056
\115\036\032\261\032\116\306\321\300\225\210\260\311\377\061\213
\063\003\333\267\203\173\076\040\204\136\355\262\126\050\247\370
\340\271\100\161\067\305\313\107\016\227\052\150\300\042\225\142
\025\333\107\331\365\320\053\377\202\113\311\255\076\336\114\333
\220\200\120\077\011\212\204\000\354\060\012\075\030\315\373\375
\052\131\232\043\225\027\054\105\236\037\156\103\171\155\014\134
\230\376\110\247\305\043\107\134\136\375\156\347\036\264\366\150
\105\321\206\203\133\242\212\215\261\343\051\200\376\045\161\210
\255\276\274\217\254\122\226\113\252\121\215\344\023\061\031\350
\116\115\237\333\254\263\152\325\274\071\124\161\312\172\172\177
\220\335\175\035\200\331\201\273\131\046\302\021\376\346\223\342
\367\200\344\145\373\064\067\016\051\200\160\115\257\070\206\056
\236\177\127\257\236\027\256\353\034\313\050\041\137\266\034\330
\347\242\004\042\371\323\332\330\313\002\003\001\000\001\243\201
\260\060\201\255\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\053\006\003\125\035\020\004\044\060\042
\200\017\062\060\060\066\061\061\062\067\062\060\062\063\064\062

\132\201\017\062\060\062\066\061\061\062\067\062\060\065\063\064
\062\132\060\037\006\003\125\035\043\004\030\060\026\200\024\150
\220\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373
\204\275\155\060\035\006\003\125\035\016\004\026\004\024\150\220
\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373\204
\275\155\060\035\006\011\052\206\110\206\366\175\007\101\000\004
\020\060\016\033\010\126\067\056\061\072\064\056\060\003\002\004
\220\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\223\324\060\260\327\003\040\052\320\371\143
\350\221\014\005\040\251\137\031\312\173\162\116\324\261\333\320
\226\373\124\132\031\054\014\010\367\262\274\205\250\235\177\155
\073\122\263\052\333\347\324\204\214\143\366\017\313\046\001\221
\120\154\364\137\024\342\223\164\300\023\236\060\072\120\343\264
\140\305\034\360\042\104\215\161\107\254\310\032\311\351\233\232
\000\140\023\377\160\176\137\021\115\111\033\263\025\122\173\311
\124\332\277\235\225\257\153\232\330\236\351\361\344\103\215\342
\021\104\072\277\257\275\203\102\163\122\213\252\273\247\051\317
\365\144\034\012\115\321\274\252\254\237\052\320\377\177\177\332
\175\352\261\355\060\045\301\204\332\064\322\133\170\203\126\354
\234\066\303\046\342\021\366\147\111\035\222\253\214\373\353\377
\172\356\205\112\247\120\200\360\247\134\112\224\056\137\005\231
\074\122\101\340\315\264\143\317\001\103\272\234\203\334\217\140
\073\363\132\264\264\173\256\332\013\220\070\165\357\201\035\146
\322\367\127\160\066\263\277\374\050\257\161\045\205\133\023\376
\036\177\132\264\074

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Entrust Root Certification Authority"

Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US

Serial Number: 1164660820 (0x456b5054)

Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US

Not Valid Before: Mon Nov 27 20:23:42 2006

Not Valid After : Fri Nov 27 20:53:42 2026

Fingerprint (SHA-256):

73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C

Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust Root Certification Authority"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\263\036\261\267\100\343\154\204\002\332\334\067\324\115\365\324

\147\111\122\371

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\326\245\303\355\135\335\076\000\301\075\207\222\037\035\077\344

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165

\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004

\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156

\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160

\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145

\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143

\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040

\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105

\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164

\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162

\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\105\153\120\124

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Certum Root CA"

#

Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

Serial Number: 65568 (0x10020)

Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

Not Valid Before: Tue Jun 11 10:46:39 2002

Not Valid After : Fri Jun 11 10:46:39 2027

Fingerprint (SHA-256):

D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24

Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certum Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061

\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164

\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020

\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\014\060\202\001\364\240\003\002\001\002\002\003\001
\000\040\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\036\027\015\060\062\060\066\061\061\061\060\064\066\063
\071\132\027\015\062\067\060\066\061\061\061\060\064\066\063\071
\132\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\316\261\301\056\323\117\174\315\045\316\030\076\117\304
\214\157\200\152\163\310\133\121\370\233\322\334\273\000\134\261
\240\374\165\003\356\201\360\210\356\043\122\351\346\025\063\215
\254\055\011\305\166\371\053\071\200\211\344\227\113\220\245\250
\170\370\163\103\173\244\141\260\330\130\314\341\154\146\176\234
\363\011\136\125\143\204\325\250\357\363\261\056\060\150\263\304
\074\330\254\156\215\231\132\220\116\064\334\066\232\217\201\210
\120\267\155\226\102\011\363\327\225\203\015\101\113\260\152\153
\370\374\017\176\142\237\147\304\355\046\137\020\046\017\010\117
\360\244\127\050\316\217\270\355\105\366\156\356\045\135\252\156
\071\276\344\223\057\331\107\240\162\353\372\246\133\257\312\123
\077\342\016\306\226\126\021\156\367\351\146\251\046\330\177\225
\123\355\012\205\210\272\117\051\245\102\214\136\266\374\205\040
\000\252\150\013\241\032\205\001\234\304\106\143\202\210\266\042
\261\356\376\252\106\131\176\317\065\054\325\266\332\135\367\110
\063\024\124\266\353\331\157\316\315\210\326\253\033\332\226\073
\035\131\002\003\001\000\001\243\023\060\021\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\270\215\316\357\347\024\272\317\356\260\104\222\154\264\071\076
\242\204\156\255\270\041\167\322\324\167\202\207\346\040\101\201

```
\356\342\370\021\267\143\321\027\067\276\031\166\044\034\004\032
\114\353\075\252\147\157\055\324\315\376\145\061\160\305\033\246
\002\012\272\140\173\155\130\302\232\111\376\143\062\013\153\343
\072\300\254\253\073\260\350\323\011\121\214\020\203\306\064\340
\305\053\340\032\266\140\024\047\154\062\167\214\274\262\162\230
\317\315\314\077\271\310\044\102\024\326\127\374\346\046\103\251
\035\345\200\220\316\003\124\050\076\367\077\323\370\115\355\152
\012\072\223\023\233\073\024\043\023\143\234\077\321\207\047\171
\345\114\121\343\001\255\205\135\032\073\261\325\163\020\244\323
\362\274\156\144\365\132\126\220\250\307\016\114\164\017\056\161
\073\367\310\107\364\151\157\025\362\021\136\203\036\234\174\122
\256\375\002\332\022\250\131\147\030\333\274\160\335\233\261\151
\355\200\316\211\100\110\152\016\065\312\051\146\025\041\224\054
\350\140\052\233\205\112\100\363\153\212\044\354\006\026\054\163
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Certum Root CA"
```

```
# Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
```

```
# Serial Number: 65568 (0x10020)
```

```
# Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
```

```
# Not Valid Before: Tue Jun 11 10:46:39 2002
```

```
# Not Valid After : Fri Jun 11 10:46:39 2027
```

```
# Fingerprint (SHA-256):
```

```
D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24
```

```
# Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certum Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\142\122\334\100\367\021\103\242\057\336\236\367\064\216\006\102
\121\261\201\030
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\054\217\237\146\035\030\220\261\107\046\235\216\206\202\214\251
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\003\001\000\040
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Comodo AAA Services root"
#
# Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
# Serial Number: 1 (0x1)
# Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
# Not Valid Before: Thu Jan 01 00:00:00 2004
# Not Valid After : Sun Dec 31 23:59:59 2028
# Fingerprint (SHA-256):
D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4
# Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo AAA Services root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\004\062\060\202\003\032\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103
\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003\125
\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151\143
\141\164\145\040\123\145\162\166\151\143\145\163\060\036\027\015
\060\064\060\061\060\061\060\060\060\060\060\132\027\015\062
\070\061\062\063\061\062\063\065\071\065\071\132\060\173\061\013
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006
\003\125\004\010\014\022\107\162\145\141\164\145\162\040\115\141
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004
\007\014\007\123\141\154\146\157\162\144\061\032\060\030\006\003
\125\004\012\014\021\103\157\155\157\144\157\040\103\101\040\114
\151\155\151\164\145\144\061\041\060\037\006\003\125\004\003\014
\030\101\101\101\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\276\100\235\364\156\341
\352\166\207\034\115\105\104\216\276\106\310\203\006\235\301\052
\376\030\037\216\344\002\372\363\253\135\120\212\026\061\013\232
\006\320\305\160\042\315\111\055\124\143\314\266\156\150\106\013
\123\352\313\114\044\300\274\162\116\352\361\025\256\364\124\232
\022\012\303\172\262\063\140\342\332\211\125\363\042\130\363\336
\334\317\357\203\206\242\214\224\117\237\150\362\230\220\106\204
\047\307\166\277\343\314\065\054\213\136\007\144\145\202\300\110
\260\250\221\371\141\237\166\040\120\250\221\307\146\265\353\170
\142\003\126\360\212\032\023\352\061\243\036\240\231\375\070\366
\366\047\062\130\157\007\365\153\270\373\024\053\257\267\252\314
\326\143\137\163\214\332\005\231\250\070\250\313\027\170\066\121
\254\351\236\364\170\072\215\317\017\331\102\342\230\014\253\057
\237\016\001\336\357\237\231\111\361\055\337\254\164\115\033\230
\265\107\305\345\051\321\371\220\030\307\142\234\276\203\307\046
\173\076\212\045\307\300\335\235\346\065\150\020\040\235\217\330
\336\322\303\204\234\015\136\350\057\311\002\003\001\000\001\243
\201\300\060\201\275\060\035\006\003\125\035\016\004\026\004\024
\240\021\012\043\076\226\361\007\354\342\257\051\357\202\245\177
\320\060\244\264\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\173\006\003\125\035\037\004\164\060\162
\060\070\240\066\240\064\206\062\150\164\164\160\072\057\057\143
\162\154\056\143\157\155\157\144\157\143\141\056\143\157\155\057
\101\101\101\103\145\162\164\151\146\151\143\141\164\145\123\145
\162\166\151\143\145\163\056\143\162\154\060\066\240\064\240\062
\206\060\150\164\164\160\072\057\057\143\162\154\056\143\157\155

```
\157\144\157\056\156\145\164\057\101\101\101\103\145\162\164\151
\146\151\143\141\164\145\123\145\162\166\151\143\145\163\056\143
\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\003\202\001\001\000\010\126\374\002\360\233\350\377\244\372
\326\173\306\104\200\316\117\304\305\366\000\130\314\246\266\274
\024\111\150\004\166\350\346\356\135\354\002\017\140\326\215\120
\030\117\046\116\001\343\346\260\245\356\277\274\164\124\101\277
\375\374\022\270\307\117\132\364\211\140\005\177\140\267\005\112
\363\366\361\302\277\304\271\164\206\266\055\175\153\314\322\363
\106\335\057\306\340\152\303\303\064\003\054\175\226\335\132\302
\016\247\012\231\301\005\213\253\014\057\363\134\072\317\154\067
\125\011\207\336\123\100\154\130\357\374\266\253\145\156\004\366
\033\334\074\340\132\025\306\236\331\361\131\110\060\041\145\003
\154\354\351\041\163\354\233\003\241\340\067\255\240\025\030\217
\372\272\002\316\247\054\251\020\023\054\324\345\010\046\253\042
\227\140\370\220\136\164\324\242\232\123\275\362\251\150\340\242
\156\302\327\154\261\243\017\236\277\353\150\347\126\362\256\362
\343\053\070\072\011\201\265\153\205\327\276\055\355\077\032\267
\262\143\342\365\142\054\202\324\152\000\101\120\361\071\203\237
\225\351\066\226\230\156
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Comodo AAA Services root"
```

```
# Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
```

```
# Serial Number: 1 (0x1)
```

```
# Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
```

```
# Not Valid Before: Thu Jan 01 00:00:00 2004
```

```
# Not Valid After : Sun Dec 31 23:59:59 2028
```

```
# Fingerprint (SHA-256):
```

```
D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4
```

```
# Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Comodo AAA Services root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\321\353\043\244\155\027\326\217\331\045\144\302\361\361\140\027
\144\330\343\111
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\111\171\004\260\353\207\031\254\107\260\274\021\121\233\164\320
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
```

```
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\001
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "QuoVadis Root CA 2"

#

Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM

Serial Number: 1289 (0x509)

Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM

Not Valid Before: Fri Nov 24 18:27:00 2006

Not Valid After : Mon Nov 24 18:23:33 2031

Fingerprint (SHA-256):

85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86

Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "QuoVadis Root CA 2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\002\005\011

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\267\060\202\003\237\240\003\002\001\002\002\002\005
\011\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\060\036\027\015\060\066\061\061\062
\064\061\070\062\067\060\060\132\027\015\063\061\061\061\062\064
\061\070\062\063\063\063\132\060\105\061\013\060\011\006\003\125
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\101\040\062\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\232
\030\312\113\224\015\000\055\257\003\051\212\360\017\201\310\256
\114\031\205\035\010\237\253\051\104\205\363\057\201\255\062\036
\220\106\277\243\206\046\032\036\376\176\034\030\072\134\234\140
\027\052\072\164\203\063\060\175\141\124\021\313\355\253\340\346
\322\242\176\365\153\157\030\267\012\013\055\375\351\076\357\012
\306\263\020\351\334\302\106\027\370\135\375\244\332\377\236\111
\132\234\346\063\346\044\226\367\077\272\133\053\034\172\065\302
\326\147\376\253\146\120\213\155\050\140\053\357\327\140\303\307
\223\274\215\066\221\363\177\370\333\021\023\304\234\167\166\301
\256\267\002\152\201\172\251\105\203\342\005\346\271\126\301\224
\067\217\110\161\143\042\354\027\145\007\225\212\113\337\217\306
\132\012\345\260\343\137\136\153\021\253\014\371\205\353\104\351
\370\004\163\362\351\376\134\230\214\365\163\257\153\264\176\315
\324\134\002\053\114\071\341\262\225\225\055\102\207\327\325\263
\220\103\267\154\023\361\336\335\366\304\370\211\077\321\165\365
\222\303\221\325\212\210\320\220\354\334\155\336\211\302\145\161
\226\213\015\003\375\234\277\133\026\254\222\333\352\376\171\174
\255\353\257\367\026\313\333\315\045\053\345\037\373\232\237\342
\121\314\072\123\014\110\346\016\275\311\264\166\006\122\346\021
\023\205\162\143\003\004\340\004\066\053\040\031\002\350\164\247
\037\266\311\126\146\360\165\045\334\147\301\016\141\140\210\263
\076\321\250\374\243\332\035\260\321\261\043\124\337\104\166\155
\355\101\330\301\262\042\266\123\034\337\065\035\334\241\167\052
\061\344\055\365\345\345\333\310\340\377\345\200\327\013\143\240
\377\063\241\017\272\054\025\025\352\227\263\322\242\265\276\362
\214\226\036\032\217\035\154\244\141\067\271\206\163\063\327\227
\226\236\043\175\202\244\114\201\342\241\321\272\147\137\225\007
\243\047\021\356\026\020\173\274\105\112\114\262\004\322\253\357
\325\375\014\121\316\120\152\010\061\371\221\332\014\217\144\134

\003\303\072\213\040\077\156\215\147\075\072\326\376\175\133\210
\311\136\373\314\141\334\213\063\167\323\104\062\065\011\142\004
\222\026\020\330\236\047\107\373\073\041\343\370\353\035\133\002
\003\001\000\001\243\201\260\060\201\255\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003\125
\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016\004
\026\004\024\032\204\142\274\110\114\063\045\004\324\356\320\366
\003\304\031\106\321\224\153\060\156\006\003\125\035\043\004\147
\060\145\200\024\032\204\142\274\110\114\063\045\004\324\356\320
\366\003\304\031\106\321\224\153\241\111\244\107\060\105\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\033\060\031\006\003\125\004\003\023
\022\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\062\202\002\005\011\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\002\001\000\076\012\026\115\237
\006\133\250\256\161\135\057\005\057\147\346\023\105\203\304\066
\366\363\300\046\014\015\265\107\144\135\370\264\162\311\106\245
\003\030\047\125\211\170\175\166\352\226\064\200\027\040\334\347
\203\370\215\374\007\270\332\137\115\056\147\262\204\375\331\104
\374\167\120\201\346\174\264\311\015\013\162\123\370\166\007\007
\101\107\226\014\373\340\202\046\223\125\214\376\042\037\140\145
\174\137\347\046\263\367\062\220\230\120\324\067\161\125\366\222
\041\170\367\225\171\372\370\055\046\207\146\126\060\167\246\067
\170\063\122\020\130\256\077\141\216\362\152\261\357\030\176\112
\131\143\312\215\242\126\325\247\057\274\126\037\317\071\301\342
\373\012\250\025\054\175\115\172\143\306\154\227\104\074\322\157
\303\112\027\012\370\220\322\127\242\031\121\245\055\227\101\332
\007\117\251\120\332\220\215\224\106\341\076\360\224\375\020\000
\070\365\073\350\100\341\264\156\126\032\040\314\157\130\215\355
\056\105\217\326\351\223\077\347\261\054\337\072\326\042\214\334
\204\273\042\157\320\370\344\306\071\351\004\210\074\303\272\353
\125\172\155\200\231\044\365\154\001\373\370\227\260\224\133\353
\375\322\157\361\167\150\015\065\144\043\254\270\125\241\003\321
\115\102\031\334\370\165\131\126\243\371\250\111\171\370\257\016
\271\021\240\174\267\152\355\064\320\266\046\142\070\032\207\014
\370\350\375\056\323\220\177\007\221\052\035\326\176\134\205\203
\231\260\070\010\077\351\136\371\065\007\344\311\142\156\127\177
\247\120\225\367\272\310\233\346\216\242\001\305\326\146\277\171
\141\363\074\034\341\271\202\134\135\240\303\351\330\110\275\031
\242\021\024\031\156\262\206\033\150\076\110\067\032\210\267\135
\226\136\234\307\357\047\142\010\342\221\031\134\322\361\041\335
\272\027\102\202\227\161\201\123\061\251\237\366\175\142\277\162
\341\243\223\035\314\212\046\132\011\070\320\316\327\015\200\026
\264\170\245\072\207\114\215\212\245\325\106\227\362\054\020\271
\274\124\042\300\001\120\151\103\236\364\262\357\155\370\354\332
\361\343\261\357\337\221\217\124\052\013\045\301\046\031\304\122
\020\005\145\325\202\020\352\302\061\315\056


```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "QuoVadis Root CA 2"
# Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Serial Number: 1289 (0x509)
# Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 18:27:00 2006
# Not Valid After : Mon Nov 24 18:23:33 2031
# Fingerprint (SHA-256):
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
# Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\312\072\373\317\022\100\066\113\104\262\026\040\210\200\110\071
\031\223\174\367
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\136\071\173\335\370\272\354\202\351\254\142\272\014\124\000\053
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\011
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 3"
#
# Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
# Serial Number: 1478 (0x5c6)
# Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 19:11:23 2006

```

```
# Not Valid After : Mon Nov 24 19:06:44 2031
# Fingerprint (SHA-256):
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
# Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\306
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\235\060\202\004\205\240\003\002\001\002\002\002\005
\306\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\060\036\027\015\060\066\061\061\062
\064\061\071\061\061\062\063\132\027\015\063\061\061\061\062\064
\061\071\060\066\064\064\132\060\105\061\013\060\011\006\003\125
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\101\040\063\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\314
\127\102\026\124\234\346\230\323\323\115\356\376\355\307\237\103
\071\112\145\263\350\026\210\064\333\015\131\221\164\317\222\270
\004\100\255\002\113\061\253\274\215\221\150\330\040\016\032\001
\342\032\173\116\027\135\342\212\267\077\231\032\315\353\141\253
```

\302\145\246\037\267\267\275\267\217\374\375\160\217\013\240\147
\276\001\242\131\317\161\346\017\051\166\377\261\126\171\105\053
\037\236\172\124\350\243\051\065\150\244\001\117\017\244\056\067
\357\033\277\343\217\020\250\162\253\130\127\347\124\206\310\311
\363\133\332\054\332\135\216\156\074\243\076\332\373\202\345\335
\362\134\262\005\063\157\212\066\316\320\023\116\377\277\112\014
\064\114\246\303\041\275\120\004\125\353\261\273\235\373\105\036
\144\025\336\125\001\214\002\166\265\313\241\077\102\151\274\057
\275\150\103\026\126\211\052\067\141\221\375\246\256\116\300\313
\024\145\224\067\113\222\006\357\004\320\310\234\210\333\013\173
\201\257\261\075\052\304\145\072\170\266\356\334\200\261\322\323
\231\234\072\356\153\132\153\263\215\267\325\316\234\302\276\245
\113\057\026\261\236\150\073\006\157\256\175\237\370\336\354\314
\051\247\230\243\045\103\057\357\361\137\046\341\210\115\370\136
\156\327\331\024\156\031\063\151\247\073\204\211\223\304\123\125
\023\241\121\170\100\370\270\311\242\356\173\272\122\102\203\236
\024\355\005\122\132\131\126\247\227\374\235\077\012\051\330\334
\117\221\016\023\274\336\225\244\337\213\231\276\254\233\063\210
\357\265\201\257\033\306\042\123\310\366\307\356\227\024\260\305
\174\170\122\310\360\316\156\167\140\204\246\351\052\166\040\355
\130\001\027\060\223\351\032\213\340\163\143\331\152\222\224\111
\116\264\255\112\205\304\243\042\060\374\011\355\150\042\163\246
\210\014\125\041\130\305\341\072\237\052\335\312\341\220\340\331
\163\253\154\200\270\350\013\144\223\240\234\214\031\377\263\322
\014\354\221\046\207\212\263\242\341\160\217\054\012\345\315\155
\150\121\353\332\077\005\177\213\062\346\023\134\153\376\137\100
\342\042\310\264\264\144\117\326\272\175\110\076\250\151\014\327
\273\206\161\311\163\270\077\073\235\045\113\332\377\100\353\002
\003\001\000\001\243\202\001\225\060\202\001\221\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\201\341
\006\003\125\035\040\004\201\331\060\201\326\060\201\323\006\011
\053\006\001\004\001\276\130\000\003\060\201\305\060\201\223\006
\010\053\006\001\005\005\007\002\002\060\201\206\032\201\203\101
\156\171\040\165\163\145\040\157\146\040\164\150\151\163\040\103
\145\162\164\151\146\151\143\141\164\145\040\143\157\156\163\164
\151\164\165\164\145\163\040\141\143\143\145\160\164\141\156\143
\145\040\157\146\040\164\150\145\040\121\165\157\126\141\144\151
\163\040\122\157\157\164\040\103\101\040\063\040\103\145\162\164
\151\146\151\143\141\164\145\040\120\157\154\151\143\171\040\057
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\120
\162\141\143\164\151\143\145\040\123\164\141\164\145\155\145\156
\164\056\060\055\006\010\053\006\001\005\005\007\002\001\026\041
\150\164\164\160\072\057\057\167\167\167\056\161\165\157\166\141
\144\151\163\147\154\157\142\141\154\056\143\157\155\057\143\160
\163\060\013\006\003\125\035\017\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\362\300\023\340\202\103\076
\373\356\057\147\062\226\065\134\333\270\313\002\320\060\156\006
\003\125\035\043\004\147\060\145\200\024\362\300\023\340\202\103

\076\373\356\057\147\062\226\065\134\333\270\313\002\320\241\111
\244\107\060\105\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\033\060\031
\006\003\125\004\003\023\022\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\063\202\002\005\306\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001
\000\117\255\240\054\114\372\300\362\157\367\146\125\253\043\064
\356\347\051\332\303\133\266\260\203\331\320\320\342\041\373\363
\140\247\073\135\140\123\047\242\233\366\010\042\052\347\277\240
\162\345\234\044\152\061\261\220\172\047\333\204\021\211\047\246
\167\132\070\327\277\254\206\374\356\135\203\274\006\306\321\167
\153\017\155\044\057\113\172\154\247\007\226\312\343\204\237\255
\210\213\035\253\026\215\133\146\027\331\026\364\213\200\322\335
\370\262\166\303\374\070\023\252\014\336\102\151\053\156\363\074
\353\200\047\333\365\246\104\015\237\132\125\131\013\325\015\122
\110\305\256\237\362\057\200\305\352\062\120\065\022\227\056\301
\341\377\361\043\210\121\070\237\362\146\126\166\347\017\121\227
\245\122\014\115\111\121\225\066\075\277\242\113\014\020\035\206
\231\114\252\363\162\021\223\344\352\366\233\332\250\135\247\115
\267\236\002\256\163\000\310\332\043\003\350\371\352\031\164\142
\000\224\313\042\040\276\224\247\131\265\202\152\276\231\171\172
\251\362\112\044\122\367\164\375\272\116\346\250\035\002\156\261
\015\200\104\301\256\323\043\067\137\273\205\174\053\222\056\350
\176\245\213\335\231\341\277\047\157\055\135\252\173\207\376\012
\335\113\374\216\365\046\344\156\160\102\156\063\354\061\236\173
\223\301\344\311\151\032\075\300\153\116\042\155\356\253\130\115
\306\320\101\301\053\352\117\022\207\136\353\105\330\154\365\230
\002\323\240\330\125\212\006\231\031\242\240\167\321\060\236\254
\314\165\356\203\365\260\142\071\317\154\127\342\114\322\221\013
\016\165\050\033\232\277\375\032\103\361\312\167\373\073\217\141
\270\151\050\026\102\004\136\160\052\034\041\330\217\341\275\043
\133\055\164\100\222\331\143\031\015\163\335\151\274\142\107\274
\340\164\053\262\353\175\276\101\033\265\300\106\305\241\042\313
\137\116\301\050\222\336\030\272\325\052\050\273\021\213\027\223
\230\231\140\224\134\043\317\132\047\227\136\013\005\006\223\067
\036\073\151\066\353\251\236\141\035\217\062\332\216\014\326\164
\076\173\011\044\332\001\167\107\304\073\315\064\214\231\365\312
\341\045\141\063\262\131\033\342\156\327\067\127\266\015\251\022
\332

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "QuoVadis Root CA 3"
Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Serial Number: 1478 (0x5c6)

```

# Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 19:11:23 2006
# Not Valid After : Mon Nov 24 19:06:44 2031
# Fingerprint (SHA-256):
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
# Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\111\024\367\330\164\225\035\335\256\002\300\276\375\072\055
\202\165\121\205
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\061\205\074\142\224\227\143\271\252\375\211\116\257\157\340\317
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\306
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication Root CA"
#
# Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Serial Number: 0 (0x0)
# Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Not Valid Before: Tue Sep 30 04:20:49 2003
# Not Valid After : Sat Sep 30 04:20:49 2023
# Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
# Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\132\060\202\002\102\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061\030
\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040\124
\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125\004
\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155\155
\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103\101
\061\060\036\027\015\060\063\060\071\063\060\060\064\062\060\064
\071\132\027\015\062\063\060\071\063\060\060\064\062\060\064\071
\132\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120
\061\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115
\040\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003
\125\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157
\155\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164
\103\101\061\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\263\263\376\177\323\155\261\357\026\174\127\245
\014\155\166\212\057\113\277\144\373\114\356\212\360\363\051\174
\365\377\356\052\340\351\351\272\133\144\042\232\232\157\054\072
\046\151\121\005\231\046\334\325\034\152\161\306\232\175\036\235
\335\174\154\306\214\147\147\112\076\370\161\260\031\047\251\011
\014\246\225\277\113\214\014\372\125\230\073\330\350\042\241\113
\161\070\171\254\227\222\151\263\211\176\352\041\150\006\230\024
\226\207\322\141\066\274\155\047\126\236\127\356\300\300\126\375
\062\317\244\331\216\302\043\327\215\250\363\330\045\254\227\344
```

\160\070\364\266\072\264\235\073\227\046\103\243\241\274\111\131
\162\114\043\060\207\001\130\366\116\276\034\150\126\146\257\315
\101\135\310\263\115\052\125\106\253\037\332\036\342\100\075\333
\315\175\271\222\200\234\067\335\014\226\144\235\334\042\367\144
\213\337\141\336\025\224\122\025\240\175\122\311\113\250\041\311
\306\261\355\313\303\225\140\321\017\360\253\160\370\337\313\115
\176\354\326\372\253\331\275\177\124\362\245\351\171\372\331\326
\166\044\050\163\002\003\001\000\001\243\077\060\075\060\035\006
\003\125\035\016\004\026\004\024\240\163\111\231\150\334\205\133
\145\343\233\050\057\127\237\275\063\274\007\110\060\013\006\003
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\150\100
\251\250\273\344\117\135\171\263\005\265\027\263\140\023\353\306
\222\135\340\321\323\152\376\373\276\233\155\277\307\005\155\131
\040\304\034\360\267\332\204\130\002\143\372\110\026\357\117\245
\013\367\112\230\362\077\236\033\255\107\153\143\316\010\107\353
\122\077\170\234\257\115\256\370\325\117\317\232\230\052\020\101
\071\122\304\335\331\233\016\357\223\001\256\262\056\312\150\102
\044\102\154\260\263\072\076\315\351\332\110\304\025\313\351\371
\007\017\222\120\111\212\335\061\227\137\311\351\067\252\073\131
\145\227\224\062\311\263\237\076\072\142\130\305\111\255\142\016
\161\245\062\252\057\306\211\166\103\100\023\023\147\075\242\124
\045\020\313\361\072\362\331\372\333\111\126\273\246\376\247\101
\065\303\340\210\141\311\210\307\337\066\020\042\230\131\352\260
\112\373\126\026\163\156\254\115\367\042\241\117\255\035\172\055
\105\047\345\060\301\136\362\332\023\313\045\102\121\225\107\003
\214\154\041\314\164\102\355\123\377\063\213\217\017\127\001\026
\057\317\246\356\311\160\042\024\275\375\276\154\013\003

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Security Communication Root CA"

Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP

Serial Number: 0 (0x0)

Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP

Not Valid Before: Tue Sep 30 04:20:49 2003

Not Valid After : Sat Sep 30 04:20:49 2023

Fingerprint (SHA-256):

E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C

Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Security Communication Root CA"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\066\261\053\111\371\201\236\327\114\236\274\070\017\306\126\217
\135\254\262\367
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\361\274\143\152\124\340\265\047\365\315\347\032\343\115\156\112
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Camerfirma Chambers of Commerce Root"
#
# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Serial Number: 0 (0x0)
# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Not Valid Before: Tue Sep 30 16:13:43 2003
# Not Valid After : Wed Sep 30 16:13:44 2037
# Fingerprint (SHA-256):
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3
# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1
# For Email Distrust After: Mon Mar 01 00:00:00 2021
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004

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\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\275\060\202\003\245\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047
\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145
\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070
\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141
\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060\040
\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163\040
\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157\164
\060\036\027\015\060\063\060\071\063\060\061\066\061\063\064\063
\132\027\015\063\067\060\071\063\060\061\066\061\063\064\064\132
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164\060\202\001\040\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\015\000\060\202\001\010\002\202\001
\001\000\267\066\125\345\245\135\030\060\340\332\211\124\221\374
\310\307\122\370\057\120\331\357\261\165\163\145\107\175\033\133
\272\165\305\374\241\210\044\372\057\355\312\010\112\071\124\304
\121\172\265\332\140\352\070\074\201\262\313\361\273\331\221\043

\077\110\001\160\165\251\005\052\255\037\161\363\311\124\075\035
\006\152\100\076\263\014\205\356\134\033\171\302\142\304\270\066
\216\065\135\001\014\043\004\107\065\252\233\140\116\240\146\075
\313\046\012\234\100\241\364\135\230\277\161\253\245\000\150\052
\355\203\172\017\242\024\265\324\042\263\200\260\074\014\132\121
\151\055\130\030\217\355\231\236\361\256\342\225\346\366\107\250
\326\014\017\260\130\130\333\303\146\067\236\233\221\124\063\067
\322\224\034\152\110\311\311\362\245\332\245\014\043\367\043\016
\234\062\125\136\161\234\204\005\121\232\055\375\346\116\052\064
\132\336\312\100\067\147\014\124\041\125\167\332\012\014\314\227
\256\200\334\224\066\112\364\076\316\066\023\036\123\344\254\116
\072\005\354\333\256\162\234\070\213\320\071\073\211\012\076\167
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\014\060\074\006\003\125\035\037\004\065\060\063\060\061\240\057
\240\055\206\053\150\164\164\160\072\057\057\143\162\154\056\143
\150\141\155\142\145\162\163\151\147\156\056\157\162\147\057\143
\150\141\155\142\145\162\163\162\157\157\164\056\143\162\154\060
\035\006\003\125\035\016\004\026\004\024\343\224\365\261\115\351
\333\241\051\133\127\213\115\166\006\166\341\321\242\212\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\021
\006\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000
\007\060\047\006\003\125\035\021\004\040\060\036\201\034\143\150
\141\155\142\145\162\163\162\157\157\164\100\143\150\141\155\142
\145\162\163\151\147\156\056\157\162\147\060\047\006\003\125\035
\022\004\040\060\036\201\034\143\150\141\155\142\145\162\163\162
\157\157\164\100\143\150\141\155\142\145\162\163\151\147\156\056
\157\162\147\060\130\006\003\125\035\040\004\121\060\117\060\115
\006\013\053\006\001\004\001\201\207\056\012\003\001\060\076\060
\074\006\010\053\006\001\005\005\007\002\001\026\060\150\164\164
\160\072\057\057\143\160\163\056\143\150\141\155\142\145\162\163
\151\147\156\056\157\162\147\057\143\160\163\057\143\150\141\155
\142\145\162\163\162\157\157\164\056\150\164\155\154\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\014\101\227\302\032\206\300\042\174\237\373\220\363\032\321
\003\261\357\023\371\041\137\004\234\332\311\245\215\047\154\226
\207\221\276\101\220\001\162\223\347\036\175\137\366\211\306\135
\247\100\011\075\254\111\105\105\334\056\215\060\150\262\011\272
\373\303\057\314\272\013\337\077\167\173\106\175\072\022\044\216
\226\217\074\005\012\157\322\224\050\035\155\014\300\056\210\042
\325\330\317\035\023\307\360\110\327\327\005\247\317\307\107\236
\073\074\064\310\200\117\324\024\273\374\015\120\367\372\263\354
\102\137\251\335\155\310\364\165\317\173\301\162\046\261\001\034
\134\054\375\172\116\264\001\305\005\127\271\347\074\252\005\331
\210\351\007\106\101\316\357\101\201\256\130\337\203\242\256\312
\327\167\037\347\000\074\235\157\216\344\062\011\035\115\170\064
\170\064\074\224\233\046\355\117\161\306\031\172\275\040\042\110
\132\376\113\175\003\267\347\130\276\306\062\116\164\036\150\335

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\250\150\133\263\076\356\142\175\331\200\350\012\165\172\267\356
\264\145\232\041\220\340\252\320\230\274\070\265\163\074\213\370
\334
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER MULTILINE_OCTAL
\062\061\060\063\060\061\060\060\060\060\060\060\132
END
```

```
# Trust for "Camerfirma Chambers of Commerce Root"
# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Serial Number: 0 (0x0)
# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Not Valid Before: Tue Sep 30 16:13:43 2003
# Not Valid After : Wed Sep 30 16:13:44 2037
# Fingerprint (SHA-256):
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3
# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\156\072\125\244\031\014\031\134\223\204\074\300\333\162\056\061
\060\141\360\261
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\260\001\356\024\331\257\051\030\224\166\216\361\151\063\052\204
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Camerfirma Global Chambersign Root"

#

Issuer: CN=Global Chambersign Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU

Serial Number: 0 (0x0)

Subject: CN=Global Chambersign Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU

Not Valid Before: Tue Sep 30 16:14:18 2003

Not Valid After : Wed Sep 30 16:14:18 2037

Fingerprint (SHA-256):

EF:3C:B4:17:FC:8E:BF:6F:97:87:6C:9E:4E:CE:39:DE:1E:A5:FE:64:91:41:D1:02:8B:7D:11:C0:B2:29:8C:ED

Fingerprint (SHA1): 33:9B:6B:14:50:24:9B:55:7A:01:87:72:84:D9:E0:2F:C3:D2:D8:E9

For Email Distrust After: Mon Mar 01 00:00:00 2021

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Camerfirma Global Chambersign Root"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\175\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\040\060
\036\006\003\125\004\003\023\027\107\154\157\142\141\154\040\103
\150\141\155\142\145\162\163\151\147\156\040\122\157\157\164

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\175\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\040\060
\036\006\003\125\004\003\023\027\107\154\157\142\141\154\040\103
\150\141\155\142\145\162\163\151\147\156\040\122\157\157\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

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\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\175\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047
\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145
\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070
\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141
\155\142\145\162\163\151\147\156\056\157\162\147\061\040\060\036
\006\003\125\004\003\023\027\107\154\157\142\141\154\040\103\150
\141\155\142\145\162\163\151\147\156\040\122\157\157\164\060\036
\027\015\060\063\060\071\063\060\061\066\061\064\061\070\132\027
\015\063\067\060\071\063\060\061\066\061\064\061\070\132\060\175
\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047\060
\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145\162
\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070\062
\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013\023
\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141\155
\142\145\162\163\151\147\156\056\157\162\147\061\040\060\036\006
\003\125\004\003\023\027\107\154\157\142\141\154\040\103\150\141
\155\142\145\162\163\151\147\156\040\122\157\157\164\060\202\001
\040\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\015\000\060\202\001\010\002\202\001\001\000\242\160
\242\320\237\102\256\133\027\307\330\175\317\024\203\374\117\311
\241\267\023\257\212\327\236\076\004\012\222\213\140\126\372\264
\062\057\210\115\241\140\010\364\267\011\116\240\111\057\111\326
\323\337\235\227\132\237\224\004\160\354\077\131\331\267\314\146
\213\230\122\050\011\002\337\305\057\204\215\172\227\167\277\354
\100\235\045\162\253\265\077\062\230\373\267\267\374\162\204\345
\065\207\371\125\372\243\037\016\157\056\050\335\151\240\331\102
\020\306\370\265\104\302\320\103\177\333\274\344\242\074\152\125
\170\012\167\251\330\352\031\062\267\057\376\134\077\033\356\261
\230\354\312\255\172\151\105\343\226\017\125\366\346\355\165\352
\145\350\062\126\223\106\211\250\045\212\145\006\356\153\277\171
\007\320\361\267\257\355\054\115\222\273\300\250\137\247\147\175
\004\362\025\010\160\254\222\326\175\004\322\063\373\114\266\013
\013\373\032\311\304\215\003\251\176\134\362\120\253\022\245\241
\317\110\120\245\357\322\310\032\023\372\260\177\261\202\034\167
\152\017\137\334\013\225\217\357\103\176\346\105\011\045\002\001
\003\243\202\001\120\060\202\001\114\060\022\006\003\125\035\023
\001\001\377\004\010\060\006\001\001\377\002\001\014\060\077\006
\003\125\035\037\004\070\060\066\060\064\240\062\240\060\206\056
\150\164\164\160\072\057\057\143\162\154\056\143\150\141\155\142
\145\162\163\151\147\156\056\157\162\147\057\143\150\141\155\142
\145\162\163\151\147\156\162\157\157\164\056\143\162\154\060\035
\006\003\125\035\016\004\026\004\024\103\234\066\237\260\236\060
\115\306\316\137\255\020\253\345\003\245\372\251\024\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\021\006

\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000\007
\060\052\006\003\125\035\021\004\043\060\041\201\037\143\150\141
\155\142\145\162\163\151\147\156\162\157\157\164\100\143\150\141
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\125\035\022\004\043\060\041\201\037\143\150\141\155\142\145\162
\163\151\147\156\162\157\157\164\100\143\150\141\155\142\145\162
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\124\060\122\060\120\006\013\053\006\001\004\001\201\207\056\012
\001\001\060\101\060\077\006\010\053\006\001\005\005\007\002\001
\026\063\150\164\164\160\072\057\057\143\160\163\056\143\150\141
\155\142\145\162\163\151\147\156\056\157\162\147\057\143\160\163
\057\143\150\141\155\142\145\162\163\151\147\156\162\157\157\164
\056\150\164\155\154\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\074\073\160\221\371\004\124
\047\221\341\355\355\376\150\177\141\135\345\101\145\117\062\361
\030\005\224\152\034\336\037\160\333\076\173\062\002\064\265\014
\154\241\212\174\245\364\217\377\324\330\255\027\325\055\004\321
\077\130\200\342\201\131\210\276\300\343\106\223\044\376\220\275
\046\242\060\055\350\227\046\127\065\211\164\226\030\366\025\342
\257\044\031\126\002\002\262\272\017\024\352\306\212\146\301\206
\105\125\213\276\222\276\234\244\004\307\111\074\236\350\051\172
\211\327\376\257\377\150\365\245\027\220\275\254\231\314\245\206
\127\011\147\106\333\326\026\302\106\361\344\251\120\365\217\321
\222\025\323\137\076\306\000\111\072\156\130\262\321\321\047\015
\045\310\062\370\040\021\315\175\062\063\110\224\124\114\335\334
\171\304\060\237\353\216\270\125\265\327\210\134\305\152\044\075
\262\323\005\003\121\306\007\357\314\024\162\164\075\156\162\316
\030\050\214\112\240\167\345\011\053\105\104\107\254\267\147\177
\001\212\005\132\223\276\241\301\377\370\347\016\147\244\107\111
\166\135\165\220\032\365\046\217\360

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER MULTILINE_OCTAL
\062\061\060\063\060\061\060\060\060\060\060\060\132
END

Trust for "Camerfirma Global Chambersign Root"

Issuer: CN=Global Chambersign Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU

Serial Number: 0 (0x0)

Subject: CN=Global Chambersign Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU

Not Valid Before: Tue Sep 30 16:14:18 2003

Not Valid After : Wed Sep 30 16:14:18 2037

Fingerprint (SHA-256):

EF:3C:B4:17:FC:8E:BF:6F:97:87:6C:9E:4E:CE:39:DE:1E:A5:FE:64:91:41:D1:02:8B:7D:11:C0:B2:29:8C:ED

Fingerprint (SHA1): 33:9B:6B:14:50:24:9B:55:7A:01:87:72:84:D9:E0:2F:C3:D2:D8:E9

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Global Chambersign Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\063\233\153\024\120\044\233\125\172\001\207\162\204\331\340\057
\303\322\330\351
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\346\173\277\006\320\117\103\355\304\172\145\212\373\153\031
END
CKA_ISSUER MULTILINE_OCTAL
\060\175\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\040\060
\036\006\003\125\004\003\023\027\107\154\157\142\141\154\040\103
\150\141\155\142\145\162\163\151\147\156\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "XRamp Global CA Root"
#
# Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad
# Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Not Valid Before: Mon Nov 01 17:14:04 2004
# Not Valid After : Mon Jan 01 05:37:19 2035
# Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
# Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\020\120
\224\154\354\030\352\325\234\115\325\227\357\165\217\240\255\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\202\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036
\060\034\006\003\125\004\013\023\025\167\167\167\056\170\162\141
\155\160\163\145\143\165\162\151\164\171\056\143\157\155\061\044
\060\042\006\003\125\004\012\023\033\130\122\141\155\160\040\123
\145\143\165\162\151\164\171\040\123\145\162\166\151\143\145\163
\040\111\156\143\061\055\060\053\006\003\125\004\003\023\044\130
\122\141\155\160\040\107\154\157\142\141\154\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\036\027\015\060\064\061\061\060\061\061\067\061
\064\060\064\132\027\015\063\065\060\061\060\061\060\065\063\067
\061\071\132\060\201\202\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\036\060\034\006\003\125\004\013\023\025\167\167
\167\056\170\162\141\155\160\163\145\143\165\162\151\164\171\056
\143\157\155\061\044\060\042\006\003\125\004\012\023\033\130\122
\141\155\160\040\123\145\143\165\162\151\164\171\040\123\145\162
\166\151\143\145\163\040\111\156\143\061\055\060\053\006\003\125

\004\003\023\044\130\122\141\155\160\040\107\154\157\142\141\154
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\230\044\036\275\025\264\272
\337\307\214\245\047\266\070\013\151\363\266\116\250\054\056\041
\035\134\104\337\041\135\176\043\164\376\136\176\264\112\267\246
\255\037\256\340\006\026\342\233\133\331\147\164\153\135\200\217
\051\235\206\033\331\234\015\230\155\166\020\050\130\344\145\260
\177\112\230\171\237\340\303\061\176\200\053\265\214\300\100\073
\021\206\320\313\242\206\066\140\244\325\060\202\155\331\156\320
\017\022\004\063\227\137\117\141\132\360\344\371\221\253\347\035
\073\274\350\317\364\153\055\064\174\342\110\141\034\216\363\141
\104\314\157\240\112\251\224\260\115\332\347\251\064\172\162\070
\250\101\314\074\224\021\175\353\310\246\214\267\206\313\312\063
\073\331\075\067\213\373\172\076\206\054\347\163\327\012\127\254
\144\233\031\353\364\017\004\010\212\254\003\027\031\144\364\132
\045\042\215\064\054\262\366\150\035\022\155\323\212\036\024\332
\304\217\246\342\043\205\325\172\015\275\152\340\351\354\354\027
\273\102\033\147\252\045\355\105\203\041\374\301\311\174\325\142
\076\372\362\305\055\323\375\324\145\002\003\001\000\001\243\201
\237\060\201\234\060\023\006\011\053\006\001\004\001\202\067\024
\002\004\006\036\004\000\103\000\101\060\013\006\003\125\035\017
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\306\117\242\075\006\143\204\011\234\316\142\344\004\254
\215\134\265\351\266\033\060\066\006\003\125\035\037\004\057\060
\055\060\053\240\051\240\047\206\045\150\164\164\160\072\057\057
\143\162\154\056\170\162\141\155\160\163\145\143\165\162\151\164
\171\056\143\157\155\057\130\107\103\101\056\143\162\154\060\020
\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\221\025\071\003\001\033\147\373\112\034\371\012
\140\133\241\332\115\227\142\371\044\123\047\327\202\144\116\220
\056\303\111\033\053\232\334\374\250\170\147\065\361\035\360\021
\275\267\110\343\020\366\015\337\077\322\311\266\252\125\244\110
\272\002\333\336\131\056\025\133\073\235\026\175\107\327\067\352
\137\115\166\022\066\273\037\327\241\201\004\106\040\243\054\155
\251\236\001\176\077\051\316\000\223\337\375\311\222\163\211\211
\144\236\347\053\344\034\221\054\322\271\316\175\316\157\061\231
\323\346\276\322\036\220\360\011\024\171\134\043\253\115\322\332
\041\037\115\231\171\235\341\317\047\237\020\233\034\210\015\260
\212\144\101\061\270\016\154\220\044\244\233\134\161\217\272\273
\176\034\033\333\152\200\017\041\274\351\333\246\267\100\364\262
\213\251\261\344\357\232\032\320\075\151\231\356\250\050\243\341
\074\263\360\262\021\234\317\174\100\346\335\347\103\175\242\330
\072\265\251\215\362\064\231\304\324\020\341\006\375\011\204\020
\073\356\304\114\364\354\047\174\102\302\164\174\202\212\011\311

```
\264\003\045\274
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "XRamp Global CA Root"
# Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad
# Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Not Valid Before: Mon Nov 01 17:14:04 2004
# Not Valid After : Mon Jan 01 05:37:19 2035
# Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
# Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\001\206\321\353\234\206\245\101\004\317\060\124\363\114\122
\267\345\130\306
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\241\013\104\263\312\020\330\000\156\235\017\330\017\222\012\321
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "Go Daddy Class 2 CA"
#
# Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
# Serial Number: 0 (0x0)
# Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
# Not Valid Before: Tue Jun 29 17:06:20 2004
# Not Valid After : Thu Jun 29 17:06:20 2034
# Fingerprint (SHA-256):
C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4
# Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\000\060\202\002\350\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041
\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157\040
\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156\143
\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040\104
\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145\162
```

\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\060\036\027\015\060\064\060\066\062\071\061\067
\060\066\062\060\132\027\015\063\064\060\066\062\071\061\067\060
\066\062\060\132\060\143\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\041\060\037\006\003\125\004\012\023\030\124\150
\145\040\107\157\040\104\141\144\144\171\040\107\162\157\165\160
\054\040\111\156\143\056\061\061\060\057\006\003\125\004\013\023
\050\107\157\040\104\141\144\144\171\040\103\154\141\163\163\040
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\202\001\040\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\015
\000\060\202\001\010\002\202\001\001\000\336\235\327\352\127\030
\111\241\133\353\327\137\110\206\352\276\335\377\344\357\147\034
\364\145\150\263\127\161\240\136\167\273\355\233\111\351\160\200
\075\126\030\143\010\157\332\362\314\320\077\177\002\124\042\124
\020\330\262\201\324\300\165\075\113\177\307\167\303\076\170\253
\032\003\265\040\153\057\152\053\261\305\210\176\304\273\036\260
\301\330\105\047\157\252\067\130\367\207\046\327\330\055\366\251
\027\267\037\162\066\116\246\027\077\145\230\222\333\052\156\135
\242\376\210\340\013\336\177\345\215\025\341\353\313\072\325\342
\022\242\023\055\330\216\257\137\022\075\240\010\005\010\266\134
\245\145\070\004\105\231\036\243\140\140\164\305\101\245\162\142
\033\142\305\037\157\137\032\102\276\002\121\145\250\256\043\030
\152\374\170\003\251\115\177\200\303\372\253\132\374\241\100\244
\312\031\026\376\262\310\357\136\163\015\356\167\275\232\366\171
\230\274\261\007\147\242\025\015\335\240\130\306\104\173\012\076
\142\050\137\272\101\007\123\130\317\021\176\070\164\305\370\377
\265\151\220\217\204\164\352\227\033\257\002\001\003\243\201\300
\060\201\275\060\035\006\003\125\035\016\004\026\004\024\322\304
\260\322\221\324\114\021\161\263\141\313\075\241\376\335\250\152
\324\343\060\201\215\006\003\125\035\043\004\201\205\060\201\202
\200\024\322\304\260\322\221\324\114\021\161\263\141\313\075\241
\376\335\250\152\324\343\241\147\244\145\060\143\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\041\060\037\006\003\125
\004\012\023\030\124\150\145\040\107\157\040\104\141\144\144\171
\040\107\162\157\165\160\054\040\111\156\143\056\061\061\060\057
\006\003\125\004\013\023\050\107\157\040\104\141\144\144\171\040
\103\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202
\001\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\062\113\363\262\312\076\221\374\022\306\241\007
\214\216\167\240\063\006\024\134\220\036\030\367\010\246\075\012
\031\371\207\200\021\156\151\344\226\027\060\377\064\221\143\162
\070\356\314\034\001\243\035\224\050\244\061\366\172\304\124\327
\366\345\061\130\003\242\314\316\142\333\224\105\163\265\277\105
\311\044\265\325\202\002\255\043\171\151\215\270\266\115\316\317
\114\312\063\043\350\034\210\252\235\213\101\156\026\311\040\345

```
\211\236\315\073\332\160\367\176\231\046\040\024\124\045\253\156
\163\205\346\233\041\235\012\154\202\016\250\370\302\014\372\020
\036\154\226\357\207\015\304\017\141\213\255\356\203\053\225\370
\216\222\204\162\071\353\040\352\203\355\203\315\227\156\010\274
\353\116\046\266\163\053\344\323\366\114\376\046\161\342\141\021
\164\112\377\127\032\207\017\165\110\056\317\121\151\027\240\002
\022\141\225\325\321\100\262\020\114\356\304\254\020\103\246\245
\236\012\325\225\142\232\015\317\210\202\305\062\014\344\053\237
\105\346\015\237\050\234\261\271\052\132\127\255\067\017\257\035
\177\333\275\237
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Go Daddy Class 2 CA"

Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

Serial Number: 0 (0x0)

Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

Not Valid Before: Tue Jun 29 17:06:20 2004

Not Valid After : Thu Jun 29 17:06:20 2034

Fingerprint (SHA-256):

C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4

Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Go Daddy Class 2 CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\047\226\272\346\077\030\001\342\167\046\033\240\327\167\160\002
\217\040\356\344
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\221\336\006\045\253\332\375\062\027\014\273\045\027\052\204\147
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\000
```

END

```

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Starfield Class 2 CA"
#
# Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
# Serial Number: 0 (0x0)
# Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
# Not Valid Before: Tue Jun 29 17:39:16 2004
# Not Valid After : Thu Jun 29 17:39:16 2034
# Fingerprint (SHA-256):
14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58
# Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\017\060\202\002\367\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061\045

```

\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151\145
\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163\054
\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023\051
\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163\040
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\036\027\015\060\064\060
\066\062\071\061\067\063\071\061\066\132\027\015\063\064\060\066
\062\071\061\067\063\071\061\066\132\060\150\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\045\060\043\006\003\125\004
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061
\062\060\060\006\003\125\004\013\023\051\123\164\141\162\146\151
\145\154\144\040\103\154\141\163\163\040\062\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\202\001\040\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\015\000\060\202\001\010\002
\202\001\001\000\267\062\310\376\351\161\246\004\205\255\014\021
\144\337\316\115\357\310\003\030\207\077\241\253\373\074\246\237
\360\303\241\332\324\330\156\053\123\220\373\044\244\076\204\360
\236\350\137\354\345\047\104\365\050\246\077\173\336\340\052\360
\310\257\123\057\236\312\005\001\223\036\217\146\034\071\247\115
\372\132\266\163\004\045\146\353\167\177\347\131\306\112\231\045
\024\124\353\046\307\363\177\031\325\060\160\217\257\260\106\052
\377\255\353\051\355\327\237\252\004\207\243\324\371\211\245\064
\137\333\103\221\202\066\331\146\074\261\270\271\202\375\234\072
\076\020\310\073\357\006\145\146\172\233\031\030\075\377\161\121
\074\060\056\137\276\075\167\163\262\135\006\154\303\043\126\232
\053\205\046\222\034\247\002\263\344\077\015\257\010\171\202\270
\066\075\352\234\323\065\263\274\151\312\365\314\235\350\375\144
\215\027\200\063\156\136\112\135\231\311\036\207\264\235\032\300
\325\156\023\065\043\136\337\233\137\075\357\326\367\166\302\352
\076\273\170\015\034\102\147\153\004\330\370\326\332\157\213\362
\104\240\001\253\002\001\003\243\201\305\060\201\302\060\035\006
\003\125\035\016\004\026\004\024\277\137\267\321\316\335\037\206
\364\133\125\254\334\327\020\302\016\251\210\347\060\201\222\006
\003\125\035\043\004\201\212\060\201\207\200\024\277\137\267\321
\316\335\037\206\364\133\125\254\334\327\020\302\016\251\210\347
\241\154\244\152\060\150\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\045\060\043\006\003\125\004\012\023\034\123\164
\141\162\146\151\145\154\144\040\124\145\143\150\156\157\154\157
\147\151\145\163\054\040\111\156\143\056\061\062\060\060\006\003
\125\004\013\023\051\123\164\141\162\146\151\145\154\144\040\103
\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202\001
\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\001\001\000\005\235\077\210\235\321\311\032\125\241\254\151\363
\363\131\332\233\001\207\032\117\127\251\241\171\011\052\333\367

```
\057\262\036\314\307\136\152\330\203\207\241\227\357\111\065\076
\167\006\101\130\142\277\216\130\270\012\147\077\354\263\335\041
\146\037\311\124\372\162\314\075\114\100\330\201\257\167\236\203
\172\273\242\307\365\064\027\216\331\021\100\364\374\054\052\115
\025\177\247\142\135\056\045\323\000\013\040\032\035\150\371\027
\270\364\275\213\355\050\131\335\115\026\213\027\203\310\262\145
\307\055\172\245\252\274\123\206\155\335\127\244\312\370\040\101
\013\150\360\364\373\164\276\126\135\172\171\365\371\035\205\343
\055\225\276\365\161\220\103\314\215\037\232\000\012\207\051\351
\125\042\130\000\043\352\343\022\103\051\133\107\010\335\214\101
\152\145\006\250\345\041\252\101\264\225\041\225\271\175\321\064
\253\023\326\255\274\334\342\075\071\315\275\076\165\160\241\030
\131\003\311\042\264\217\234\325\136\052\327\245\266\324\012\155
\370\267\100\021\106\232\037\171\016\142\277\017\227\354\340\057
\037\027\224
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Starfield Class 2 CA"

Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

Serial Number: 0 (0x0)

Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

Not Valid Before: Tue Jun 29 17:39:16 2004

Not Valid After : Thu Jun 29 17:39:16 2034

Fingerprint (SHA-256):

14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58

Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Starfield Class 2 CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\255\176\034\050\260\144\357\217\140\003\100\040\024\303\320\343
\067\016\265\212
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\062\112\113\273\310\143\151\233\276\164\232\306\335\035\106\044
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
```



```

\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Assured ID Root CA"
#
# Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39
# Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C
# Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360

```

\060\071

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\267\060\202\002\237\240\003\002\001\002\002\020\014
\347\340\345\027\330\106\376\217\345\140\374\033\360\060\071\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157
\157\164\040\103\101\060\036\027\015\060\066\061\061\061\060\060
\060\060\060\060\060\132\027\015\063\061\061\061\061\060\060\060
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145
\144\040\111\104\040\122\157\157\164\040\103\101\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\255\016\025
\316\344\103\200\134\261\207\363\267\140\371\161\022\245\256\334
\046\224\210\252\364\316\365\040\071\050\130\140\014\370\200\332
\251\025\225\062\141\074\265\261\050\204\212\212\334\237\012\014
\203\027\172\217\220\254\212\347\171\123\134\061\204\052\366\017
\230\062\066\166\314\336\335\074\250\242\357\152\373\041\362\122
\141\337\237\040\327\037\342\261\331\376\030\144\322\022\133\137
\371\130\030\065\274\107\315\241\066\371\153\177\324\260\070\076
\301\033\303\214\063\331\330\057\030\376\050\017\263\247\203\326
\303\156\104\300\141\065\226\026\376\131\234\213\166\155\327\361
\242\113\015\053\377\013\162\332\236\140\320\216\220\065\306\170
\125\207\040\241\317\345\155\012\310\111\174\061\230\063\154\042
\351\207\320\062\132\242\272\023\202\021\355\071\027\235\231\072
\162\241\346\372\244\331\325\027\061\165\256\205\175\042\256\077
\001\106\206\366\050\171\310\261\332\344\127\027\304\176\034\016
\260\264\222\246\126\263\275\262\227\355\252\247\360\267\305\250
\077\225\026\320\377\241\226\353\010\137\030\167\117\002\003\001
\000\001\243\143\060\141\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\105\353\242\257\364\222\313\202\061\055\121\213\247\247
\041\235\363\155\310\017\060\037\006\003\125\035\043\004\030\060
\026\200\024\105\353\242\257\364\222\313\202\061\055\121\213\247
\247\041\235\363\155\310\017\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\242\016\274\337\342
\355\360\343\162\163\172\144\224\277\367\162\146\330\062\344\102

```
\165\142\256\207\353\362\325\331\336\126\263\237\314\316\024\050
\271\015\227\140\134\022\114\130\344\323\075\203\111\105\130\227
\065\151\032\250\107\352\126\306\171\253\022\330\147\201\204\337
\177\011\074\224\346\270\046\054\040\275\075\263\050\211\367\137
\377\042\342\227\204\037\351\145\357\207\340\337\301\147\111\263
\135\353\262\011\052\353\046\355\170\276\175\077\053\363\267\046
\065\155\137\211\001\266\111\133\237\001\005\233\253\075\045\301
\314\266\177\302\361\157\206\306\372\144\150\353\201\055\224\353
\102\267\372\214\036\335\142\361\276\120\147\267\154\275\363\361
\037\153\014\066\007\026\177\067\174\251\133\155\172\361\022\106
\140\203\327\047\004\276\113\316\227\276\303\147\052\150\021\337
\200\347\014\063\146\277\023\015\024\156\363\177\037\143\020\036
\372\215\033\045\155\154\217\245\267\141\001\261\322\243\046\241
\020\161\235\255\342\303\371\303\231\121\267\053\007\010\316\056
\346\120\262\247\372\012\105\057\242\360\362
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Trust for "DigiCert Assured ID Root CA"

Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39

Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Fri Nov 10 00:00:00 2006

Not Valid After : Mon Nov 10 00:00:00 2031

Fingerprint (SHA-256):

3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C

Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\005\143\270\143\015\142\327\132\273\310\253\036\113\337\265\250
\231\262\115\103
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\207\316\013\173\052\016\111\000\341\130\161\233\067\250\223\162
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
```

```

\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Global Root CA"
#
# Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a
# Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61
# Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\257\060\202\002\227\240\003\002\001\002\002\020\010
\073\340\126\220\102\106\261\241\165\152\311\131\221\307\112\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\103
\101\060\036\027\015\060\066\061\061\061\060\060\060\060\060\060
\060\132\027\015\063\061\061\061\061\060\060\060\060\060\060
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157
\164\040\103\101\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\342\073\341\021\162\336\250\244\323\243\127
\252\120\242\217\013\167\220\311\242\245\356\022\316\226\133\001
\011\040\314\001\223\247\116\060\267\123\367\103\304\151\000\127
\235\342\215\042\335\207\006\100\000\201\011\316\316\033\203\277
\337\315\073\161\106\342\326\146\307\005\263\166\047\026\217\173
\236\036\225\175\356\267\110\243\010\332\326\257\172\014\071\006
\145\177\112\135\037\274\027\370\253\276\356\050\327\164\177\172
\170\231\131\205\150\156\134\043\062\113\277\116\300\350\132\155
\343\160\277\167\020\277\374\001\366\205\331\250\104\020\130\062
\251\165\030\325\321\242\276\107\342\047\152\364\232\063\370\111
\010\140\213\324\137\264\072\204\277\241\252\112\114\175\076\317
\117\137\154\166\136\240\113\067\221\236\334\042\346\155\316\024
\032\216\152\313\376\315\263\024\144\027\307\133\051\236\062\277
\362\356\372\323\013\102\324\253\267\101\062\332\014\324\357\370
\201\325\273\215\130\077\265\033\350\111\050\242\160\332\061\004
\335\367\262\026\362\114\012\116\007\250\355\112\075\136\265\177
\243\220\303\257\047\002\003\001\000\001\243\143\060\141\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\035\006\003\125\035\016\004\026\004\024\003\336\120\065\126\321
\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060\037
\006\003\125\035\043\004\030\060\026\200\024\003\336\120\065\126
\321\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\001\001\000\313\234\067\252\110\023\022\012\372\335\104\234\117

```
\122\260\364\337\256\004\365\171\171\010\243\044\030\374\113\053
\204\300\055\271\325\307\376\364\301\037\130\313\270\155\234\172
\164\347\230\051\253\021\265\343\160\240\241\315\114\210\231\223
\214\221\160\342\253\017\034\276\223\251\377\143\325\344\007\140
\323\243\277\235\133\011\361\325\216\343\123\364\216\143\372\077
\247\333\264\146\337\142\146\326\321\156\101\215\362\055\265\352
\167\112\237\235\130\342\053\131\300\100\043\355\055\050\202\105
\076\171\124\222\046\230\340\200\110\250\067\357\360\326\171\140
\026\336\254\350\016\315\156\254\104\027\070\057\111\332\341\105
\076\052\271\066\123\317\072\120\006\367\056\350\304\127\111\154
\141\041\030\325\004\255\170\074\054\072\200\153\247\353\257\025
\024\351\330\211\301\271\070\154\342\221\154\212\377\144\271\167
\045\127\060\300\033\044\243\341\334\351\337\107\174\265\264\044
\010\005\060\354\055\275\013\277\105\277\120\271\251\363\353\230
\001\022\255\310\210\306\230\064\137\215\012\074\306\351\325\225
\225\155\336
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Global Root CA"

Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a

Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Fri Nov 10 00:00:00 2006

Not Valid After : Mon Nov 10 00:00:00 2031

Fingerprint (SHA-256):

43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61

Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert Global Root CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\250\230\135\072\145\345\345\304\262\327\326\155\100\306\335\057
\261\234\124\066
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\171\344\251\204\015\175\072\226\327\300\117\342\103\114\211\056
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
```

\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "DigiCert High Assurance EV Root CA"

#

Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77

Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Fri Nov 10 00:00:00 2006

Not Valid After : Mon Nov 10 00:00:00 2031

Fingerprint (SHA-256):

74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF

Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\305\060\202\002\255\240\003\002\001\002\002\020\002
\254\134\046\152\013\100\233\217\013\171\362\256\106\045\167\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\154
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\053\060\051\006\003\125\004\003\023\042\104\151\147\151\103\145
\162\164\040\110\151\147\150\040\101\163\163\165\162\141\156\143
\145\040\105\126\040\122\157\157\164\040\103\101\060\036\027\015
\060\066\061\061\061\060\060\060\060\060\060\060\060\132\027\015\063
\061\061\061\061\060\060\060\060\060\060\060\132\060\154\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006
\003\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111
\156\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167
\056\144\151\147\151\143\145\162\164\056\143\157\155\061\053\060
\051\006\003\125\004\003\023\042\104\151\147\151\103\145\162\164
\040\110\151\147\150\040\101\163\163\165\162\141\156\143\145\040
\105\126\040\122\157\157\164\040\103\101\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\306\314\345\163\346
\373\324\273\345\055\055\062\246\337\345\201\077\311\315\045\111
\266\161\052\303\325\224\064\147\242\012\034\260\137\151\246\100
\261\304\267\262\217\320\230\244\251\101\131\072\323\334\224\326
\074\333\164\070\244\112\314\115\045\202\367\112\245\123\022\070
\356\363\111\155\161\221\176\143\266\253\246\137\303\244\204\370
\117\142\121\276\370\305\354\333\070\222\343\006\345\010\221\014
\304\050\101\125\373\313\132\211\025\176\161\350\065\277\115\162
\011\075\276\072\070\120\133\167\061\033\215\263\307\044\105\232
\247\254\155\000\024\132\004\267\272\023\353\121\012\230\101\101
\042\116\145\141\207\201\101\120\246\171\134\211\336\031\112\127
\325\056\346\135\034\123\054\176\230\315\032\006\026\244\150\163
\320\064\004\023\134\241\161\323\132\174\125\333\136\144\341\067
\207\060\126\004\345\021\264\051\200\022\361\171\071\210\242\002
\021\174\047\146\267\210\267\170\362\312\012\250\070\253\012\144
\302\277\146\135\225\204\301\241\045\036\207\135\032\120\013\040
\022\314\101\273\156\013\121\070\270\113\313\002\003\001\000\001
\243\143\060\141\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002\357
\143\144\053\303\060\037\006\003\125\035\043\004\030\060\026\200
\024\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002


```
\357\143\144\053\303\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\034\032\006\227\334\327\234
\237\074\210\146\006\010\127\041\333\041\107\370\052\147\252\277
\030\062\166\100\020\127\301\212\363\172\331\021\145\216\065\372
\236\374\105\265\236\331\114\061\113\270\221\350\103\054\216\263
\170\316\333\343\123\171\161\326\345\041\224\001\332\125\207\232
\044\144\366\212\146\314\336\234\067\315\250\064\261\151\233\043
\310\236\170\042\053\160\103\343\125\107\061\141\031\357\130\305
\205\057\116\060\366\240\061\026\043\310\347\342\145\026\063\313
\277\032\033\240\075\370\312\136\213\061\213\140\010\211\055\014
\006\134\122\267\304\371\012\230\321\025\137\237\022\276\174\066
\143\070\275\104\244\177\344\046\053\012\304\227\151\015\351\214
\342\300\020\127\270\310\166\022\221\125\362\110\151\330\274\052
\002\133\017\104\324\040\061\333\364\272\160\046\135\220\140\236
\274\113\027\011\057\264\313\036\103\150\311\007\047\301\322\134
\367\352\041\271\150\022\234\074\234\277\236\374\200\134\233\143
\315\354\107\252\045\047\147\240\067\363\000\202\175\124\327\251
\370\351\056\023\243\167\350\037\112
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert High Assurance EV Root CA"
```

```
# Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
```

```
# Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Fri Nov 10 00:00:00 2006
```

```
# Not Valid After : Mon Nov 10 00:00:00 2031
```

```
# Fingerprint (SHA-256):
```

```
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
```

```
# Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\137\267\356\006\063\342\131\333\255\014\114\232\346\323\217\032
\141\307\334\045
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\324\164\336\127\134\071\262\323\234\205\203\305\300\145\111\212
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
```

```
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

Certificate "SwissSign Platinum CA - G2"

#

Issuer: CN=SwissSign Platinum CA - G2,O=SwissSign AG,C=CH

Serial Number:4e:b2:00:67:0c:03:5d:4f

Subject: CN=SwissSign Platinum CA - G2,O=SwissSign AG,C=CH

Not Valid Before: Wed Oct 25 08:36:00 2006

Not Valid After : Sat Oct 25 08:36:00 2036

Fingerprint (SHA-256):

3B:22:2E:56:67:11:E9:92:30:0D:C0:B1:5A:B9:47:3D:AF:DE:F8:C8:4D:0C:EF:7D:33:17:B4:C1:82:1D:14:36

Fingerprint (SHA1): 56:E0:FA:C0:3B:8F:18:23:55:18:E5:D3:11:CA:E8:C2:43:31:AB:66

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SwissSign Platinum CA - G2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\111\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\043\060\041\006\003\125\004\003\023
\032\123\167\151\163\163\123\151\147\156\040\120\154\141\164\151
\156\165\155\040\103\101\040\055\040\107\062
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\111\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\043\060\041\006\003\125\004\003\023
\032\123\167\151\163\163\123\151\147\156\040\120\154\141\164\151
\156\165\155\040\103\101\040\055\040\107\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\010\116\262\000\147\014\003\135\117
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\301\060\202\003\251\240\003\002\001\002\002\010\116
\262\000\147\014\003\135\117\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\111\061\013\060\011\006\003\125\004
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014
\123\167\151\163\163\123\151\147\156\040\101\107\061\043\060\041
\006\003\125\004\003\023\032\123\167\151\163\163\123\151\147\156
\040\120\154\141\164\151\156\165\155\040\103\101\040\055\040\107
\062\060\036\027\015\060\066\061\060\062\065\060\070\063\066\060
\060\132\027\015\063\066\061\060\062\065\060\070\063\066\060\060
\132\060\111\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163
\123\151\147\156\040\101\107\061\043\060\041\006\003\125\004\003
\023\032\123\167\151\163\163\123\151\147\156\040\120\154\141\164
\151\156\165\155\040\103\101\040\055\040\107\062\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\337\242
\002\342\332\370\374\007\026\261\336\140\252\336\226\134\144\037
\307\057\176\317\147\372\104\102\326\166\143\225\256\353\257\162
\040\212\105\107\206\142\170\206\326\040\071\046\364\256\243\375
\043\347\245\234\265\042\041\031\267\067\223\042\300\120\234\202
\173\324\325\004\104\134\313\264\302\237\222\276\044\330\173\147
\042\342\151\137\345\005\170\324\207\331\161\160\063\045\123\264
\207\073\051\220\050\066\232\125\104\060\150\244\203\227\177\015
\036\234\166\377\025\235\140\227\000\215\212\205\003\354\200\276
\352\054\156\020\121\222\314\176\325\243\063\330\326\111\336\130
\052\257\366\026\353\113\173\220\062\227\271\272\235\130\361\370
\127\111\004\036\242\135\006\160\335\161\333\371\335\213\232\033
\214\317\075\243\115\316\313\174\366\273\234\240\372\011\316\043
\142\262\351\015\037\342\162\050\217\237\254\150\040\175\157\073
\250\205\061\011\177\013\307\350\145\351\343\170\016\011\147\060
\213\064\202\373\135\340\314\235\201\155\142\356\010\036\004\054
\116\233\354\376\251\117\137\375\151\170\357\011\037\241\264\277
\372\363\357\220\036\114\005\213\036\352\172\221\172\303\327\345
\373\060\274\154\033\020\130\230\367\032\137\320\051\062\003\023
\106\115\141\152\205\114\122\164\057\006\037\173\021\342\204\227
\306\231\363\155\177\327\147\203\176\023\150\330\161\050\132\330
\316\335\350\020\024\232\376\155\043\207\156\216\132\160\074\325
\215\011\000\247\252\274\260\061\067\155\310\204\024\036\133\275
\105\143\040\153\113\164\214\275\333\072\016\301\317\132\026\217
\245\230\362\166\211\262\023\022\073\013\167\167\254\273\345\074
\051\112\222\162\312\141\032\053\136\114\342\203\164\167\372\065
\110\172\205\115\215\232\123\304\337\170\312\227\221\110\053\105
\053\001\367\034\032\242\355\030\272\012\275\203\372\157\274\215
\127\223\073\324\324\246\316\036\361\240\261\316\253\375\053\050
\232\117\033\327\303\162\333\244\304\277\135\114\365\335\173\226
\151\356\150\200\346\347\230\272\066\267\376\156\355\053\275\040

\370\145\031\332\125\011\176\045\334\376\141\142\162\371\176\030
\002\357\143\264\320\373\257\345\073\143\214\147\217\002\003\001
\000\001\243\201\254\060\201\251\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\120\257\314\007\207\025\107\157\070\305\264\145
\321\336\225\252\351\337\234\314\060\037\006\003\125\035\043\004
\030\060\026\200\024\120\257\314\007\207\025\107\157\070\305\264
\145\321\336\225\252\351\337\234\314\060\106\006\003\125\035\040
\004\077\060\075\060\073\006\011\140\205\164\001\131\001\001\001
\001\060\056\060\054\006\010\053\006\001\005\005\007\002\001\026
\040\150\164\164\160\072\057\057\162\145\160\157\163\151\164\157
\162\171\056\163\167\151\163\163\163\151\147\156\056\143\157\155
\057\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\002\001\000\010\205\246\365\026\014\374\104\032\301\143
\340\371\125\106\010\374\160\034\102\050\226\216\267\305\301\101
\165\116\011\161\171\345\155\226\312\113\245\210\140\320\060\164
\270\312\010\334\264\060\236\100\007\026\153\145\225\167\001\256
\244\267\065\013\201\332\161\025\251\164\027\070\173\130\312\371
\057\373\300\145\166\215\133\001\271\175\336\202\075\144\270\276
\024\164\243\012\124\323\054\225\030\027\065\365\121\153\077\217
\242\226\141\071\170\153\113\345\246\240\370\123\337\121\020\223
\142\347\200\057\342\321\340\274\216\066\106\167\063\354\270\373
\216\232\054\211\115\061\021\017\046\236\004\273\267\004\215\013
\362\271\374\132\235\073\026\267\057\310\230\253\376\212\120\131
\056\243\073\374\051\135\213\301\113\311\342\212\023\035\261\277
\273\102\035\122\335\116\330\024\136\020\306\061\007\357\161\047
\367\033\071\011\334\202\352\213\263\225\206\136\375\365\332\135
\061\246\340\061\266\224\346\104\111\164\305\026\345\367\037\003
\141\050\305\310\313\022\240\102\113\371\153\210\010\215\264\062
\030\363\165\237\304\177\000\117\005\225\234\243\027\002\303\263
\123\233\252\040\071\051\053\146\372\235\257\136\263\222\322\265
\246\341\032\371\055\101\151\201\024\264\264\265\355\211\075\316
\373\251\235\065\102\104\261\034\024\163\201\317\052\001\065\232
\061\325\055\217\155\204\337\200\115\127\343\077\305\204\165\332
\211\306\060\273\353\217\313\042\010\240\256\252\361\003\154\072
\113\115\011\245\016\162\306\126\153\041\102\116\043\045\024\150
\256\166\012\174\014\007\160\144\371\232\057\366\005\071\046\306
\014\217\031\177\103\136\156\364\133\025\057\333\141\135\346\147
\057\077\010\224\371\140\264\230\061\332\164\361\204\223\161\115
\137\373\140\130\321\373\304\301\155\211\242\273\040\037\235\161
\221\313\062\233\023\075\076\175\222\122\065\254\222\224\242\323
\030\302\174\307\352\257\166\005\026\335\147\047\302\176\034\007
\042\041\363\100\012\033\064\007\104\023\302\204\152\216\337\031
\132\277\177\353\035\342\032\070\321\134\257\107\222\153\200\265
\060\245\311\215\330\253\061\201\037\337\302\146\067\323\223\251
\205\206\171\145\322

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SwissSign Platinum CA - G2"

Issuer: CN=SwissSign Platinum CA - G2,O=SwissSign AG,C=CH

Serial Number:4e:b2:00:67:0c:03:5d:4f

Subject: CN=SwissSign Platinum CA - G2,O=SwissSign AG,C=CH

Not Valid Before: Wed Oct 25 08:36:00 2006

Not Valid After : Sat Oct 25 08:36:00 2036

Fingerprint (SHA-256):

3B:22:2E:56:67:11:E9:92:30:0D:C0:B1:5A:B9:47:3D:AF:DE:F8:C8:4D:0C:EF:7D:33:17:B4:C1:82:1D:14:36

Fingerprint (SHA1): 56:E0:FA:C0:3B:8F:18:23:55:18:E5:D3:11:CA:E8:C2:43:31:AB:66

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SwissSign Platinum CA - G2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\126\340\372\300\073\217\030\043\125\030\345\323\021\312\350\302
\103\061\253\146

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\311\230\047\167\050\036\075\016\025\074\204\000\270\205\003\346

END

CKA_ISSUER MULTILINE_OCTAL

\060\111\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\043\060\041\006\003\125\004\003\023
\032\123\167\151\163\163\123\151\147\156\040\120\154\141\164\151
\156\165\155\040\103\101\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\116\262\000\147\014\003\135\117

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "SwissSign Gold CA - G2"

#

Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

Serial Number:00:bb:40:1c:43:f5:5e:4f:b0

Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

Not Valid Before: Wed Oct 25 08:30:35 2006

Not Valid After : Sat Oct 25 08:30:35 2036

```
# Fingerprint (SHA-256):
62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95
# Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\272\060\202\003\242\240\003\002\001\002\002\011\000
\273\100\034\103\365\136\117\260\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\105\061\013\060\011\006\003\125
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023
\014\123\167\151\163\163\123\151\147\156\040\101\107\061\037\060
\035\006\003\125\004\003\023\026\123\167\151\163\163\123\151\147
\156\040\107\157\154\144\040\103\101\040\055\040\107\062\060\036
\027\015\060\066\061\060\062\065\060\070\063\060\063\065\132\027
\015\063\066\061\060\062\065\060\070\063\060\063\065\132\060\105
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025\060
\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151\147
\156\040\101\107\061\037\060\035\006\003\125\004\003\023\026\123
\167\151\163\163\123\151\147\156\040\107\157\154\144\040\103\101
\040\055\040\107\062\060\202\002\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002
\012\002\202\002\001\000\257\344\356\176\213\044\016\022\156\251
\120\055\026\104\073\222\222\134\312\270\135\204\222\102\023\052
\274\145\127\202\100\076\127\044\315\120\213\045\052\267\157\374
\357\242\320\300\037\002\044\112\023\226\217\043\023\346\050\130
\000\243\107\307\006\247\204\043\053\273\275\226\053\177\125\314
```

\213\301\127\037\016\142\145\017\335\075\126\212\163\332\256\176
\155\272\201\034\176\102\214\040\065\331\103\115\204\372\204\333
\122\054\363\016\047\167\013\153\277\021\057\162\170\237\056\330
\076\346\030\067\132\052\162\371\332\142\220\222\225\312\037\234
\351\263\074\053\313\363\001\023\277\132\317\301\265\012\140\275
\335\265\231\144\123\270\240\226\263\157\342\046\167\221\214\340
\142\020\002\237\064\017\244\325\222\063\121\336\276\215\272\204
\172\140\074\152\333\237\053\354\336\336\001\077\156\115\345\120
\206\313\264\257\355\104\100\305\312\132\214\332\322\053\174\250
\356\276\246\345\012\252\016\245\337\005\122\267\125\307\042\135
\062\152\227\227\143\023\333\311\333\171\066\173\205\072\112\305
\122\211\371\044\347\235\167\251\202\377\125\034\245\161\151\053
\321\002\044\362\263\046\324\153\332\004\125\345\301\012\307\155
\060\067\220\052\344\236\024\063\136\026\027\125\305\133\265\313
\064\211\222\361\235\046\217\241\007\324\306\262\170\120\333\014
\014\013\174\013\214\101\327\271\351\335\214\210\367\243\115\262
\062\314\330\027\332\315\267\316\146\235\324\375\136\377\275\227
\076\051\165\347\176\247\142\130\257\045\064\245\101\307\075\274
\015\120\312\003\003\017\010\132\037\225\163\170\142\277\257\162
\024\151\016\245\345\003\016\170\216\046\050\102\360\007\013\142
\040\020\147\071\106\372\251\003\314\004\070\172\146\357\040\203
\265\214\112\126\216\221\000\374\216\134\202\336\210\240\303\342
\150\156\175\215\357\074\335\145\364\135\254\121\357\044\200\256
\252\126\227\157\371\255\175\332\141\077\230\167\074\245\221\266
\034\214\046\332\145\242\011\155\301\342\124\343\271\312\114\114
\200\217\167\173\140\232\036\337\266\362\110\036\016\272\116\124
\155\230\340\341\242\032\242\167\120\317\304\143\222\354\107\031
\235\353\346\153\316\301\002\003\001\000\001\243\201\254\060\201
\251\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\035\006\003\125\035\016\004\026\004\024\133\045\173
\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347\360
\356\060\037\006\003\125\035\043\004\030\060\026\200\024\133\045
\173\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347
\360\356\060\106\006\003\125\035\040\004\077\060\075\060\073\006
\011\140\205\164\001\131\001\002\001\001\060\056\060\054\006\010
\053\006\001\005\005\007\002\001\026\040\150\164\164\160\072\057
\057\162\145\160\157\163\151\164\157\162\171\056\163\167\151\163
\163\163\151\147\156\056\143\157\155\057\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\047\272
\343\224\174\361\256\300\336\027\346\345\330\325\365\124\260\203
\364\273\315\136\005\173\117\237\165\146\257\074\350\126\176\374
\162\170\070\003\331\053\142\033\000\271\370\351\140\315\314\316
\121\212\307\120\061\156\341\112\176\030\057\151\131\266\075\144
\201\053\343\203\204\346\042\207\216\175\340\356\002\231\141\270
\036\364\270\053\210\022\026\204\302\061\223\070\226\061\246\271
\073\123\077\303\044\223\126\133\151\222\354\305\301\273\070\000
\343\354\027\251\270\334\307\174\001\203\237\062\107\272\122\042

```
\064\035\062\172\011\126\247\174\045\066\251\075\113\332\300\202
\157\012\273\022\310\207\113\047\021\371\036\055\307\223\077\236
\333\137\046\153\122\331\056\212\361\024\306\104\215\025\251\267
\277\275\336\246\032\356\256\055\373\110\167\027\376\273\354\257
\030\365\052\121\360\071\204\227\225\154\156\033\303\053\304\164
\140\171\045\260\012\047\337\337\136\322\071\317\105\175\102\113
\337\263\054\036\305\306\135\312\125\072\240\234\151\232\217\332
\357\262\260\074\237\207\154\022\053\145\160\025\122\061\032\044
\317\157\061\043\120\037\214\117\217\043\303\164\101\143\034\125
\250\024\335\076\340\121\120\317\361\033\060\126\016\222\260\202
\205\330\203\313\042\144\274\055\270\045\325\124\242\270\006\352
\255\222\244\044\240\301\206\265\112\023\152\107\317\056\013\126
\225\124\313\316\232\333\152\264\246\262\333\101\010\206\047\167
\367\152\240\102\154\013\070\316\327\165\120\062\222\302\337\053
\060\042\110\320\325\101\070\045\135\244\351\135\237\306\224\165
\320\105\375\060\227\103\217\220\253\012\307\206\163\140\112\151
\055\336\245\170\327\006\332\152\236\113\076\167\072\040\023\042
\001\320\277\150\236\143\140\153\065\115\013\155\272\241\075\300
\223\340\177\043\263\125\255\162\045\116\106\371\322\026\357\260
\144\301\001\236\351\312\240\152\230\016\317\330\140\362\057\111
\270\344\102\341\070\065\026\364\310\156\117\367\201\126\350\272
\243\276\043\257\256\375\157\003\340\002\073\060\166\372\033\155
\101\317\001\261\351\270\311\146\364\333\046\363\072\244\164\362
\111\044\133\311\260\320\127\301\372\076\172\341\227\311
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SwissSign Gold CA - G2"
```

```
# Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
```

```
# Serial Number:00:bb:40:1c:43:f5:5e:4f:b0
```

```
# Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
```

```
# Not Valid Before: Wed Oct 25 08:30:35 2006
```

```
# Not Valid After : Sat Oct 25 08:30:35 2036
```

```
# Fingerprint (SHA-256):
```

```
62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95
```

```
# Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\330\305\070\212\267\060\033\033\156\324\172\346\105\045\072\157
\237\032\047\141
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```


\044\167\331\250\221\321\073\372\210\055\302\377\370\315\063\223

END

CKA_ISSUER MULTILINE_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061

\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123

\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023

\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040

\103\101\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\273\100\034\103\365\136\117\260

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "SwissSign Silver CA - G2"

#

Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH

Serial Number:4f:1b:d4:2f:54:bb:2f:4b

Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH

Not Valid Before: Wed Oct 25 08:32:46 2006

Not Valid After : Sat Oct 25 08:32:46 2036

Fingerprint (SHA-256):

BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5

Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SwissSign Silver CA - G2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061

\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123

\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023

\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145

\162\040\103\101\040\055\040\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061

\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123

\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023

\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145

\162\040\103\101\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\117\033\324\057\124\273\057\113

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\275\060\202\003\245\240\003\002\001\002\002\010\117
\033\324\057\124\273\057\113\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\107\061\013\060\011\006\003\125\004
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014
\123\167\151\163\163\123\151\147\156\040\101\107\061\041\060\037
\006\003\125\004\003\023\030\123\167\151\163\163\123\151\147\156
\040\123\151\154\166\145\162\040\103\101\040\055\040\107\062\060
\036\027\015\060\066\061\060\062\065\060\070\063\062\064\066\132
\027\015\063\066\061\060\062\065\060\070\063\062\064\066\132\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025
\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151
\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023\030
\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145\162
\040\103\101\040\055\040\107\062\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\304\361\207\177\323\170\061
\367\070\311\370\303\231\103\274\307\367\274\067\347\116\161\272
\113\217\245\163\035\134\156\230\256\003\127\256\070\067\103\057
\027\075\037\310\316\150\020\301\170\256\031\003\053\020\372\054
\171\203\366\350\271\150\271\125\362\004\104\247\071\371\374\004
\213\036\361\242\115\047\371\141\173\272\267\345\242\023\266\353
\141\076\320\154\321\346\373\372\136\355\035\264\236\240\065\133
\241\222\313\360\111\222\376\205\012\005\076\346\331\013\342\117
\273\334\225\067\374\221\351\062\065\042\321\037\072\116\047\205
\235\260\025\224\062\332\141\015\107\115\140\102\256\222\107\350
\203\132\120\130\351\212\213\271\135\241\334\335\231\112\037\066
\147\273\110\344\203\266\067\353\110\072\257\017\147\217\027\007
\350\004\312\357\152\061\207\324\300\266\371\224\161\173\147\144
\270\266\221\112\102\173\145\056\060\152\014\365\220\356\225\346
\362\315\202\354\331\241\112\354\366\262\113\345\105\205\346\155
\170\223\004\056\234\202\155\066\251\304\061\144\037\206\203\013
\052\364\065\012\170\311\125\317\101\260\107\351\060\237\231\276
\141\250\006\204\271\050\172\137\070\331\033\251\070\260\203\177
\163\301\303\073\110\052\202\017\041\233\270\314\250\065\303\204
\033\203\263\076\276\244\225\151\001\072\211\000\170\004\331\311
\364\231\031\253\126\176\133\213\206\071\025\221\244\020\054\011
\062\200\140\263\223\300\052\266\030\013\235\176\215\111\362\020
\112\177\371\325\106\057\031\222\243\231\247\046\254\273\214\074
\346\016\274\107\007\334\163\121\361\160\144\057\010\371\264\107
\035\060\154\104\352\051\067\205\222\150\146\274\203\070\376\173
\071\056\323\120\360\037\373\136\140\266\251\246\372\047\101\361
\233\030\162\362\365\204\164\112\311\147\304\124\256\110\144\337
\214\321\156\260\035\341\007\217\010\036\231\234\161\351\114\330

\245\367\107\022\037\164\321\121\236\206\363\302\242\043\100\013
\163\333\113\246\347\163\006\214\301\240\351\301\131\254\106\372
\346\057\370\317\161\234\106\155\271\304\025\215\070\171\003\105
\110\357\304\135\327\010\356\207\071\042\206\262\015\017\130\103
\367\161\251\110\056\375\352\326\037\002\003\001\000\001\243\201
\254\060\201\251\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034\302
\230\372\206\130\060\037\006\003\125\035\043\004\030\060\026\200
\024\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034
\302\230\372\206\130\060\106\006\003\125\035\040\004\077\060\075
\060\073\006\011\140\205\164\001\131\001\003\001\001\060\056\060
\054\006\010\053\006\001\005\005\007\002\001\026\040\150\164\164
\160\072\057\057\162\145\160\157\163\151\164\157\162\171\056\163
\167\151\163\163\163\151\147\156\056\143\157\155\057\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001
\000\163\306\201\340\047\322\055\017\340\225\060\342\232\101\177
\120\054\137\137\142\141\251\206\152\151\030\014\164\111\326\135
\204\352\101\122\030\157\130\255\120\126\040\152\306\275\050\151
\130\221\334\221\021\065\251\072\035\274\032\245\140\236\330\037
\177\105\221\151\331\176\273\170\162\301\006\017\052\316\217\205
\160\141\254\240\315\013\270\071\051\126\204\062\116\206\273\075
\304\052\331\327\037\162\356\376\121\241\042\101\261\161\002\143
\032\202\260\142\253\136\127\022\037\337\313\335\165\240\300\135
\171\220\214\033\340\120\346\336\061\376\230\173\160\137\245\220
\330\255\370\002\266\157\323\140\335\100\113\042\305\075\255\072
\172\237\032\032\107\221\171\063\272\202\334\062\151\003\226\156
\037\113\360\161\376\343\147\162\240\261\277\134\213\344\372\231
\042\307\204\271\033\215\043\227\077\355\045\340\317\145\273\365
\141\004\357\335\036\262\132\101\042\132\241\237\135\054\350\133
\311\155\251\014\014\170\252\140\306\126\217\001\132\014\150\274
\151\031\171\304\037\176\227\005\277\305\351\044\121\136\324\325
\113\123\355\331\043\132\066\003\145\243\301\003\255\101\060\363
\106\033\205\220\257\145\265\325\261\344\026\133\170\165\035\227
\172\155\131\251\052\217\173\336\303\207\211\020\231\111\163\170
\310\075\275\121\065\164\052\325\361\176\151\033\052\273\073\275
\045\270\232\132\075\162\141\220\146\207\356\014\326\115\324\021
\164\013\152\376\013\003\374\243\125\127\211\376\112\313\256\133
\027\005\310\362\215\043\061\123\070\322\055\152\077\202\271\215
\010\152\367\136\101\164\156\303\021\176\007\254\051\140\221\077
\070\312\127\020\015\275\060\057\307\245\346\101\240\332\256\005
\207\232\240\244\145\154\114\011\014\211\272\270\323\271\300\223
\212\060\372\215\345\232\153\025\001\116\147\252\332\142\126\076
\204\010\146\322\304\066\175\247\076\020\374\210\340\324\200\345
\000\275\252\363\116\006\243\172\152\371\142\162\343\011\117\353
\233\016\001\043\361\237\273\174\334\334\154\021\227\045\262\362
\264\143\024\322\006\052\147\214\203\365\316\352\007\330\232\152

```

\036\354\344\012\273\052\114\353\011\140\071\316\312\142\330\056
\156
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "SwissSign Silver CA - G2"
# Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Serial Number:4f:1b:d4:2f:54:bb:2f:4b
# Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Not Valid Before: Wed Oct 25 08:32:46 2006
# Not Valid After : Sat Oct 25 08:32:46 2036
# Fingerprint (SHA-256):
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
# Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\233\252\345\237\126\356\041\313\103\132\276\045\223\337\247\360
\100\321\035\313
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\340\006\241\311\175\317\311\374\015\300\126\165\226\330\142\023
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\117\033\324\057\124\273\057\113
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SecureTrust CA"
#
# Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0

```

```
# Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
# Not Valid Before: Tue Nov 07 19:31:18 2006
# Not Valid After : Mon Dec 31 19:40:55 2029
# Fingerprint (SHA-256):
F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73
# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\270\060\202\002\240\240\003\002\001\002\002\020\014
\360\216\134\010\026\245\255\102\177\360\353\047\030\131\320\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\110
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\027\060\025\006\003\125\004\003\023\016\123\145\143\165\162\145
\124\162\165\163\164\040\103\101\060\036\027\015\060\066\061\061
\060\067\061\071\063\061\061\070\132\027\015\062\071\061\062\063
\061\061\071\064\060\065\065\132\060\110\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\040\060\036\006\003\125\004\012
\023\027\123\145\143\165\162\145\124\162\165\163\164\040\103\157
\162\160\157\162\141\164\151\157\156\061\027\060\025\006\003\125
\004\003\023\016\123\145\143\165\162\145\124\162\165\163\164\040
\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
```

\001\001\000\253\244\201\345\225\315\365\366\024\216\302\117\312
\324\342\170\225\130\234\101\341\015\231\100\044\027\071\221\063
\146\351\276\341\203\257\142\134\211\321\374\044\133\141\263\340
\021\021\101\034\035\156\360\270\273\370\336\247\201\272\246\110
\306\237\035\275\276\216\251\101\076\270\224\355\051\032\324\216
\322\003\035\003\357\155\015\147\034\127\327\006\255\312\310\365
\376\016\257\146\045\110\004\226\013\135\243\272\026\303\010\117
\321\106\370\024\134\362\310\136\001\231\155\375\210\314\206\250
\301\157\061\102\154\122\076\150\313\363\031\064\337\273\207\030
\126\200\046\304\320\334\300\157\337\336\240\302\221\026\240\144
\021\113\104\274\036\366\347\372\143\336\146\254\166\244\161\243
\354\066\224\150\172\167\244\261\347\016\057\201\172\342\265\162
\206\357\242\153\213\360\017\333\323\131\077\272\162\274\104\044
\234\343\163\263\367\257\127\057\102\046\235\251\164\272\000\122
\362\113\315\123\174\107\013\066\205\016\146\251\010\227\026\064
\127\301\146\367\200\343\355\160\124\307\223\340\056\050\025\131
\207\272\273\002\003\001\000\001\243\201\235\060\201\232\060\023
\006\011\053\006\001\004\001\202\067\024\002\004\006\036\004\000
\103\000\101\060\013\006\003\125\035\017\004\004\003\002\001\206
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\102\062\266\026
\372\004\375\376\135\113\172\303\375\367\114\100\035\132\103\257
\060\064\006\003\125\035\037\004\055\060\053\060\051\240\047\240
\045\206\043\150\164\164\160\072\057\057\143\162\154\056\163\145
\143\165\162\145\164\162\165\163\164\056\143\157\155\057\123\124
\103\101\056\143\162\154\060\020\006\011\053\006\001\004\001\202
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\060\355\117\112
\341\130\072\122\162\133\265\246\243\145\030\246\273\121\073\167
\351\235\352\323\237\134\340\105\145\173\015\312\133\342\160\120
\262\224\005\024\256\111\307\215\101\007\022\163\224\176\014\043
\041\375\274\020\177\140\020\132\162\365\230\016\254\354\271\177
\335\172\157\135\323\034\364\377\210\005\151\102\251\005\161\310
\267\254\046\350\056\264\214\152\377\161\334\270\261\337\231\274
\174\041\124\053\344\130\242\273\127\051\256\236\251\243\031\046
\017\231\056\010\260\357\375\151\317\231\032\011\215\343\247\237
\053\311\066\064\173\044\263\170\114\225\027\244\006\046\036\266
\144\122\066\137\140\147\331\234\305\005\164\013\347\147\043\322
\010\374\210\351\256\213\177\341\060\364\067\176\375\306\062\332
\055\236\104\060\060\154\356\007\336\322\064\374\322\377\100\366
\113\364\146\106\006\124\246\362\062\012\143\046\060\153\233\321
\334\213\107\272\341\271\325\142\320\242\240\364\147\005\170\051
\143\032\157\004\326\370\306\114\243\232\261\067\264\215\345\050
\113\035\236\054\302\270\150\274\355\002\356\061

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```

# Trust for "SecureTrust CA"
# Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0
# Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
# Not Valid Before: Tue Nov 07 19:31:18 2006
# Not Valid After : Mon Dec 31 19:40:55 2029
# Fingerprint (SHA-256):
F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73
# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\207\202\306\303\004\065\073\317\322\226\222\322\131\076\175\104
\331\064\377\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\334\062\303\247\155\045\127\307\150\011\235\352\055\251\242\321
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Secure Global CA"
#
# Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
# Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
# Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
# Not Valid Before: Tue Nov 07 19:42:28 2006
# Not Valid After : Mon Dec 31 19:52:06 2029
# Fingerprint (SHA-256):
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69

```

Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Secure Global CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\274\060\202\002\244\240\003\002\001\002\002\020\007
\126\042\244\350\324\212\211\115\364\023\310\360\370\352\245\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\112
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\031\060\027\006\003\125\004\003\023\020\123\145\143\165\162\145
\040\107\154\157\142\141\154\040\103\101\060\036\027\015\060\066
\061\061\060\067\061\071\064\062\062\070\132\027\015\062\071\061
\062\063\061\061\071\065\062\060\066\132\060\112\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\040\060\036\006\003\125
\004\012\023\027\123\145\143\165\162\145\124\162\165\163\164\040
\103\157\162\160\157\162\141\164\151\157\156\061\031\060\027\006
\003\125\004\003\023\020\123\145\143\165\162\145\040\107\154\157
\142\141\154\040\103\101\060\202\001\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\257\065\056\330\254\154\125\151\006
\161\345\023\150\044\263\117\330\314\041\107\370\361\140\070\211
\211\003\351\275\352\136\106\123\011\334\134\365\132\350\367\105
\052\002\353\061\141\327\051\063\114\316\307\174\012\067\176\017
\272\062\230\341\035\227\257\217\307\334\311\070\226\363\333\032

\374\121\355\150\306\320\156\244\174\044\321\256\102\310\226\120
\143\056\340\376\165\376\230\247\137\111\056\225\343\071\063\144
\216\036\244\137\220\322\147\074\262\331\376\101\271\125\247\011
\216\162\005\036\213\335\104\205\202\102\320\111\300\035\140\360
\321\027\054\225\353\366\245\301\222\243\305\302\247\010\140\015
\140\004\020\226\171\236\026\064\346\251\266\372\045\105\071\310
\036\145\371\223\365\252\361\122\334\231\230\075\245\206\032\014
\065\063\372\113\245\004\006\025\034\061\200\357\252\030\153\302
\173\327\332\316\371\063\040\325\365\275\152\063\055\201\004\373
\260\134\324\234\243\342\134\035\343\251\102\165\136\173\324\167
\357\071\124\272\311\012\030\033\022\231\111\057\210\113\375\120
\142\321\163\347\217\172\103\002\003\001\000\001\243\201\235\060
\201\232\060\023\006\011\053\006\001\004\001\202\067\024\002\004
\006\036\004\000\103\000\101\060\013\006\003\125\035\017\004\004
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\257\104\004\302\101\176\110\203\333\116\071\002\354\354\204\172
\346\316\311\244\060\064\006\003\125\035\037\004\055\060\053\060
\051\240\047\240\045\206\043\150\164\164\160\072\057\057\143\162
\154\056\163\145\143\165\162\145\164\162\165\163\164\056\143\157
\155\057\123\107\103\101\056\143\162\154\060\020\006\011\053\006
\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\143\032\010\100\175\244\136\123\015\167\330\172\256\037\015\013
\121\026\003\357\030\174\310\343\257\152\130\223\024\140\221\262
\204\334\210\116\276\071\212\072\363\346\202\211\135\001\067\263
\253\044\244\025\016\222\065\132\112\104\136\116\127\372\165\316
\037\110\316\146\364\074\100\046\222\230\154\033\356\044\106\014
\027\263\122\245\333\245\221\221\317\067\323\157\347\047\010\072
\116\031\037\072\247\130\134\027\317\171\077\213\344\247\323\046
\043\235\046\017\130\151\374\107\176\262\320\215\213\223\277\051
\117\103\151\164\166\147\113\317\007\214\346\002\367\265\341\264
\103\265\113\055\024\237\371\334\046\015\277\246\107\164\006\330
\210\321\072\051\060\204\316\322\071\200\142\033\250\307\127\111
\274\152\125\121\147\025\112\276\065\007\344\325\165\230\067\171
\060\024\333\051\235\154\305\151\314\107\125\242\060\367\314\134
\177\302\303\230\034\153\116\026\200\353\172\170\145\105\242\000
\032\257\014\015\125\144\064\110\270\222\271\361\264\120\051\362
\117\043\037\332\154\254\037\104\341\335\043\170\121\133\307\026
END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Secure Global CA"
Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US

```

# Not Valid Before: Tue Nov 07 19:42:28 2006
# Not Valid After : Mon Dec 31 19:52:06 2029
# Fingerprint (SHA-256):
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
# Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\072\104\163\132\345\201\220\037\044\206\141\106\036\073\234\304
\137\365\072\033
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\317\364\047\015\324\355\334\145\026\111\155\075\332\277\156\336
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "COMODO Certification Authority"
#
# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d
# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Fri Dec 01 00:00:00 2006
# Not Valid After : Mon Dec 31 23:59:59 2029
# Fingerprint (SHA-256):
0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66
# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\035\060\202\003\005\240\003\002\001\002\002\020\116
\201\055\212\202\145\340\013\002\356\076\065\002\106\345\075\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\201\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103
\101\040\114\151\155\151\164\145\144\061\047\060\045\006\003\125
\004\003\023\036\103\117\115\117\104\117\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\060\036\027\015\060\066\061\062\060\061\060\060\060\060
\060\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065
\071\132\060\201\201\061\013\060\011\006\003\125\004\006\023\002
\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162\145
\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162\061
```

\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157\162
\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115\117
\104\117\040\103\101\040\114\151\155\151\164\145\144\061\047\060
\045\006\003\125\004\003\023\036\103\117\115\117\104\117\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\320\100\213\213\162\343\221\033\367
\121\301\033\124\004\230\323\251\277\301\346\212\135\073\207\373
\273\210\316\015\343\057\077\006\226\360\242\051\120\231\256\333
\073\241\127\260\164\121\161\315\355\102\221\115\101\376\251\310
\330\152\206\167\104\273\131\146\227\120\136\264\324\054\160\104
\317\332\067\225\102\151\074\060\304\161\263\122\360\041\115\241
\330\272\071\174\034\236\243\044\235\362\203\026\230\252\026\174
\103\233\025\133\267\256\064\221\376\324\142\046\030\106\232\077
\353\301\371\361\220\127\353\254\172\015\213\333\162\060\152\146
\325\340\106\243\160\334\150\331\377\004\110\211\167\336\265\351
\373\147\155\101\351\274\071\275\062\331\142\002\361\261\250\075
\156\067\234\342\057\342\323\242\046\213\306\270\125\103\210\341
\043\076\245\322\044\071\152\107\253\000\324\241\263\251\045\376
\015\077\247\035\272\323\121\301\013\244\332\254\070\357\125\120
\044\005\145\106\223\064\117\055\215\255\306\324\041\031\322\216
\312\005\141\161\007\163\107\345\212\031\022\275\004\115\316\116
\234\245\110\254\273\046\367\002\003\001\000\001\243\201\216\060
\201\213\060\035\006\003\125\035\016\004\026\004\024\013\130\345
\213\306\114\025\067\244\100\251\060\251\041\276\107\066\132\126
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\111\006\003\125\035\037\004\102\060\100\060\076\240
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056
\143\157\155\157\144\157\143\141\056\143\157\155\057\103\117\115
\117\104\117\103\145\162\164\151\146\151\143\141\164\151\157\156
\101\165\164\150\157\162\151\164\171\056\143\162\154\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\076\230\236\233\366\033\351\327\071\267\170\256\035\162\030
\111\323\207\344\103\202\353\077\311\252\365\250\265\357\125\174
\041\122\145\371\325\015\341\154\364\076\214\223\163\221\056\002
\304\116\007\161\157\300\217\070\141\010\250\036\201\012\300\057
\040\057\101\213\221\334\110\105\274\361\306\336\272\166\153\063
\310\000\055\061\106\114\355\347\235\317\210\224\377\063\300\126
\350\044\206\046\270\330\070\070\337\052\153\335\022\314\307\077
\107\027\114\242\302\006\226\011\326\333\376\077\074\106\101\337
\130\342\126\017\074\073\301\034\223\065\331\070\122\254\356\310
\354\056\060\116\224\065\264\044\037\113\170\151\332\362\002\070
\314\225\122\223\360\160\045\131\234\040\147\304\356\371\213\127
\141\364\222\166\175\077\204\215\125\267\350\345\254\325\361\365
\031\126\246\132\373\220\034\257\223\353\345\034\324\147\227\135
\004\016\276\013\203\246\027\203\271\060\022\240\305\063\025\005

```
\271\015\373\307\005\166\343\330\112\215\374\064\027\243\306\041
\050\276\060\105\061\036\307\170\276\130\141\070\254\073\342\001
\145
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "COMODO Certification Authority"
# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d
# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Fri Dec 01 00:00:00 2006
# Not Valid After : Mon Dec 31 23:59:59 2029
# Fingerprint (SHA-256):
0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66
# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\146\061\277\236\367\117\236\266\311\325\246\014\272\152\276\321
\367\275\357\173
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\134\110\334\367\102\162\354\126\224\155\034\314\161\065\200\165
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Network Solutions Certificate Authority"

#

Issuer: CN=Network Solutions Certificate Authority,O=Network Solutions L.L.C.,C=US

Serial Number:57:cb:33:6f:c2:5c:16:e6:47:16:17:e3:90:31:68:e0

Subject: CN=Network Solutions Certificate Authority,O=Network Solutions L.L.C.,C=US

Not Valid Before: Fri Dec 01 00:00:00 2006

Not Valid After : Mon Dec 31 23:59:59 2029

Fingerprint (SHA-256):

15:F0:BA:00:A3:AC:7A:F3:AC:88:4C:07:2B:10:11:A0:77:BD:77:C0:97:F4:01:64:B2:F8:59:8A:BD:83:86:0C

Fingerprint (SHA1): 74:F8:A3:C3:EF:E7:B3:90:06:4B:83:90:3C:21:64:60:20:E5:DF:CE

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Network Solutions Certificate Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\116\145\164\167\157\162
\153\040\123\157\154\165\164\151\157\156\163\040\114\056\114\056
\103\056\061\060\060\056\006\003\125\004\003\023\047\116\145\164
\167\157\162\153\040\123\157\154\165\164\151\157\156\163\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\116\145\164\167\157\162
\153\040\123\157\154\165\164\151\157\156\163\040\114\056\114\056
\103\056\061\060\060\056\006\003\125\004\003\023\047\116\145\164
\167\157\162\153\040\123\157\154\165\164\151\157\156\163\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\127\313\063\157\302\134\026\346\107\026\027\343\220\061
\150\340

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\346\060\202\002\316\240\003\002\001\002\002\020\127
\313\063\157\302\134\026\346\107\026\027\343\220\061\150\340\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\142
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041\060

\037\006\003\125\004\012\023\030\116\145\164\167\157\162\153\040
\123\157\154\165\164\151\157\156\163\040\114\056\114\056\103\056
\061\060\060\056\006\003\125\004\003\023\047\116\145\164\167\157
\162\153\040\123\157\154\165\164\151\157\156\163\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\060\036\027\015\060\066\061\062\060\061\060\060\060\060
\060\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065
\071\132\060\142\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\041\060\037\006\003\125\004\012\023\030\116\145\164\167
\157\162\153\040\123\157\154\165\164\151\157\156\163\040\114\056
\114\056\103\056\061\060\060\056\006\003\125\004\003\023\047\116
\145\164\167\157\162\153\040\123\157\154\165\164\151\157\156\163
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\344\274\176\222\060\155\306\330\216
\053\013\274\106\316\340\047\226\336\336\371\372\022\323\074\063
\163\263\004\057\274\161\214\345\237\266\042\140\076\137\135\316
\011\377\202\014\033\232\121\120\032\046\211\335\325\141\135\031
\334\022\017\055\012\242\103\135\027\320\064\222\040\352\163\317
\070\054\006\046\011\172\162\367\372\120\062\370\302\223\323\151
\242\043\316\101\261\314\344\325\037\066\321\212\072\370\214\143
\342\024\131\151\355\015\323\177\153\350\270\003\345\117\152\345
\230\143\151\110\005\276\056\377\063\266\351\227\131\151\370\147
\031\256\223\141\226\104\025\323\162\260\077\274\152\175\354\110
\177\215\303\253\252\161\053\123\151\101\123\064\265\260\271\305
\006\012\304\260\105\365\101\135\156\211\105\173\075\073\046\214
\164\302\345\322\321\175\262\021\324\373\130\062\042\232\200\311
\334\375\014\351\177\136\003\227\316\073\000\024\207\047\160\070
\251\216\156\263\047\166\230\121\340\005\343\041\253\032\325\205
\042\074\051\265\232\026\305\200\250\364\273\153\060\217\057\106
\002\242\261\014\042\340\323\002\003\001\000\001\243\201\227\060
\201\224\060\035\006\003\125\035\016\004\026\004\024\041\060\311
\373\000\327\116\230\332\207\252\052\320\247\056\261\100\061\247
\114\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\122\006\003\125\035\037\004\113\060\111\060\107\240
\105\240\103\206\101\150\164\164\160\072\057\057\143\162\154\056
\156\145\164\163\157\154\163\163\154\056\143\157\155\057\116\145
\164\167\157\162\153\123\157\154\165\164\151\157\156\163\103\145
\162\164\151\146\151\143\141\164\145\101\165\164\150\157\162\151
\164\171\056\143\162\154\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\001\001\000\273\256\113\347\267\127
\353\177\252\055\267\163\107\205\152\301\344\245\035\344\347\074
\351\364\131\145\167\265\172\133\132\215\045\066\340\172\227\056
\070\300\127\140\203\230\006\203\237\271\166\172\156\120\340\272
\210\054\374\105\314\030\260\231\225\121\016\354\035\270\210\377
\207\120\034\202\302\343\340\062\200\277\240\013\107\310\303\061

```
\357\231\147\062\200\117\027\041\171\014\151\134\336\136\064\256
\002\265\046\352\120\337\177\030\145\054\311\362\143\341\251\007
\376\174\161\037\153\063\044\152\036\005\367\005\150\300\152\022
\313\056\136\141\313\256\050\323\176\302\264\146\221\046\137\074
\056\044\137\313\130\017\353\050\354\257\021\226\363\334\173\157
\300\247\210\362\123\167\263\140\136\256\256\050\332\065\054\157
\064\105\323\046\341\336\354\133\117\047\153\026\174\275\104\004
\030\202\263\211\171\027\020\161\075\172\242\026\116\365\001\315
\244\154\145\150\241\111\166\134\103\311\330\274\066\147\154\245
\224\265\324\314\271\275\152\065\126\041\336\330\303\353\373\313
\244\140\114\260\125\240\240\173\127\262
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Network Solutions Certificate Authority"
```

```
# Issuer: CN=Network Solutions Certificate Authority,O=Network Solutions L.L.C.,C=US
```

```
# Serial Number:57:cb:33:6f:c2:5c:16:e6:47:16:17:e3:90:31:68:e0
```

```
# Subject: CN=Network Solutions Certificate Authority,O=Network Solutions L.L.C.,C=US
```

```
# Not Valid Before: Fri Dec 01 00:00:00 2006
```

```
# Not Valid After : Mon Dec 31 23:59:59 2029
```

```
# Fingerprint (SHA-256):
```

```
15:F0:BA:00:A3:AC:7A:F3:AC:88:4C:07:2B:10:11:A0:77:BD:77:C0:97:F4:01:64:B2:F8:59:8A:BD:83:86:0C
```

```
# Fingerprint (SHA1): 74:F8:A3:C3:EF:E7:B3:90:06:4B:83:90:3C:21:64:60:20:E5:DF:CE
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Network Solutions Certificate Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\164\370\243\303\357\347\263\220\006\113\203\220\074\041\144\140
\040\345\337\316
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\323\363\246\026\300\372\153\035\131\261\055\226\115\016\021\056
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\116\145\164\167\157\162
\153\040\123\157\154\165\164\151\157\156\163\040\114\056\114\056
\103\056\061\060\060\056\006\003\125\004\003\023\047\116\145\164
\167\157\162\153\040\123\157\154\165\164\151\157\156\163\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\127\313\063\157\302\134\026\346\107\026\027\343\220\061
```



```

\150\340
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "COMODO ECC Certification Authority"
#
# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a
# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Thu Mar 06 00:00:00 2008
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7
# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO ECC Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171

```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143
\231\052

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\211\060\202\002\017\240\003\002\001\002\002\020\037
\107\257\252\142\000\160\120\124\114\001\236\233\143\231\052\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\205\061\013
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006
\003\125\004\010\023\022\107\162\145\141\164\145\162\040\115\141
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004
\007\023\007\123\141\154\146\157\162\144\061\032\060\030\006\003
\125\004\012\023\021\103\117\115\117\104\117\040\103\101\040\114
\151\155\151\164\145\144\061\053\060\051\006\003\125\004\003\023
\042\103\117\115\117\104\117\040\105\103\103\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\036\027\015\060\070\060\063\060\066\060\060\060
\060\060\060\132\027\015\063\070\060\061\061\070\062\063\065\071
\065\071\132\060\201\205\061\013\060\011\006\003\125\004\006\023
\002\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162
\145\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162
\061\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157
\162\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115
\117\104\117\040\103\101\040\114\151\155\151\164\145\144\061\053
\060\051\006\003\125\004\003\023\042\103\117\115\117\104\117\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\166\060\020\006
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\003\107\173\057\165\311\202\025\205\373\165\344\221
\026\324\253\142\231\365\076\122\013\006\316\101\000\177\227\341
\012\044\074\035\001\004\356\075\322\215\011\227\014\340\165\344
\372\373\167\212\052\365\003\140\113\066\213\026\043\026\255\011
\161\364\112\364\050\120\264\376\210\034\156\077\154\057\057\011
\131\133\245\133\013\063\231\342\303\075\211\371\152\054\357\262
\323\006\351\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\165\161\247\031\110\031\274\235\235\352\101\107\337\224
\304\110\167\231\323\171\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\061\000\357\003\133\172\254
\267\170\012\162\267\210\337\377\265\106\024\011\012\372\240\346
\175\010\306\032\207\275\030\250\163\275\046\312\140\014\235\316
\231\237\317\134\017\060\341\276\024\061\352\002\060\024\364\223
\074\111\247\063\172\220\106\107\263\143\175\023\233\116\267\157
\030\067\200\123\376\335\040\340\065\232\066\321\307\001\271\346
\334\335\363\377\035\054\072\026\127\331\222\071\326

END

```

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "COMODO ECC Certification Authority"
# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a
# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Thu Mar 06 00:00:00 2008
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7
# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO ECC Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\237\164\116\237\053\115\272\354\017\061\054\120\266\126\073\216
\055\223\303\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\174\142\377\164\235\061\123\136\150\112\325\170\252\036\277\043
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143
\231\052
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

```

```
# Certificate "OISTE WISeKey Global Root GA CA"
#
# Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
# Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a
# Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
# Not Valid Before: Sun Dec 11 16:03:44 2005
# Not Valid After : Fri Dec 11 16:09:51 2037
# Fingerprint (SHA-256):
41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5
# Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124
\337\232
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\361\060\202\002\331\240\003\002\001\002\002\020\101
\075\162\307\364\153\037\201\103\175\361\322\050\124\337\232\060
```

\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\212\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020
\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171
\061\033\060\031\006\003\125\004\013\023\022\103\157\160\171\162
\151\147\150\164\040\050\143\051\040\062\060\060\065\061\042\060
\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157
\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145
\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124
\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154
\040\122\157\157\164\040\107\101\040\103\101\060\036\027\015\060
\065\061\062\061\061\061\066\060\063\064\064\132\027\015\063\067
\061\062\061\061\061\066\060\071\065\061\132\060\201\212\061\013
\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006
\003\125\004\012\023\007\127\111\123\145\113\145\171\061\033\060
\031\006\003\125\004\013\023\022\103\157\160\171\162\151\147\150
\164\040\050\143\051\040\062\060\060\065\061\042\060\040\006\003
\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156\144
\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061\050
\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040\127
\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122\157
\157\164\040\107\101\040\103\101\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\313\117\263\000\233\075\066
\335\371\321\111\152\153\020\111\037\354\330\053\262\306\370\062
\201\051\103\225\114\232\031\043\041\025\105\336\343\310\034\121
\125\133\256\223\350\067\377\053\153\351\324\352\276\052\335\250
\121\053\327\146\303\141\134\140\002\310\365\316\162\173\073\270
\362\116\145\010\232\315\244\152\031\301\001\273\163\246\327\366
\303\335\315\274\244\213\265\231\141\270\001\242\243\324\115\324
\005\075\221\255\370\264\010\161\144\257\160\361\034\153\176\366
\303\167\235\044\163\173\344\014\214\341\331\066\341\231\213\005
\231\013\355\105\061\011\312\302\000\333\367\162\240\226\252\225
\207\320\216\307\266\141\163\015\166\146\214\334\033\264\143\242
\237\177\223\023\060\361\241\047\333\331\377\054\125\210\221\240
\340\117\007\260\050\126\214\030\033\227\104\216\211\335\340\027
\156\347\052\357\217\071\012\061\204\202\330\100\024\111\056\172
\101\344\247\376\343\144\314\301\131\161\113\054\041\247\133\175
\340\035\321\056\201\233\303\330\150\367\275\226\033\254\160\261
\026\024\013\333\140\271\046\001\005\002\003\001\000\001\243\121
\060\117\060\013\006\003\125\035\017\004\004\003\002\001\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\263\003\176\256\066
\274\260\171\321\334\224\046\266\021\276\041\262\151\206\224\060
\020\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001
\000\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\113\241\377\013\207\156\263\371\301\103\261
\110\363\050\300\035\056\311\011\101\372\224\000\034\244\244\253
\111\117\217\075\036\357\115\157\275\274\244\366\362\046\060\311

```
\020\312\035\210\373\164\031\037\205\105\275\260\154\121\371\066
\176\333\365\114\062\072\101\117\133\107\317\350\013\055\266\304
\031\235\164\305\107\306\073\152\017\254\024\333\074\364\163\234
\251\005\337\000\334\164\170\372\370\065\140\131\002\023\030\174
\274\373\115\260\040\155\103\273\140\060\172\147\063\134\305\231
\321\370\055\071\122\163\373\214\252\227\045\134\162\331\010\036
\253\116\074\343\201\061\237\003\246\373\300\376\051\210\125\332
\204\325\120\003\266\342\204\243\246\066\252\021\072\001\341\030
\113\326\104\150\263\075\371\123\164\204\263\106\221\106\226\000
\267\200\054\266\341\343\020\342\333\242\347\050\217\001\226\142
\026\076\000\343\034\245\066\201\030\242\114\122\166\300\021\243
\156\346\035\272\343\132\276\066\123\305\076\165\217\206\151\051
\130\123\265\234\273\157\237\134\305\030\354\335\057\341\230\311
\374\276\337\012\015
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "OISTE WISeKey Global Root GA CA"
```

```
# Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
```

```
# Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a
```

```
# Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
```

```
# Not Valid Before: Sun Dec 11 16:03:44 2005
```

```
# Not Valid After : Fri Dec 11 16:09:51 2037
```

```
# Fingerprint (SHA-256):
```

```
41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5
```

```
# Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\131\042\241\341\132\352\026\065\041\370\230\071\152\106\106\260
\104\033\017\251
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\274\154\121\063\247\351\323\146\143\124\025\162\033\041\222\223
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
```

```
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124
\337\232
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

Certificate "Certigna"

#

Issuer: CN=Certigna,O=Dhimyotis,C=FR

Serial Number:00:fe:dc:e3:01:0f:c9:48:ff

Subject: CN=Certigna,O=Dhimyotis,C=FR

Not Valid Before: Fri Jun 29 15:13:05 2007

Not Valid After : Tue Jun 29 15:13:05 2027

Fingerprint (SHA-256):

E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D

Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certigna"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\011\000\376\334\343\001\017\311\110\377
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\250\060\202\002\220\240\003\002\001\002\002\011\000
\376\334\343\001\017\311\110\377\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\064\061\013\060\011\006\003\125
\004\006\023\002\106\122\061\022\060\020\006\003\125\004\012\014
\011\104\150\151\155\171\157\164\151\163\061\021\060\017\006\003
\125\004\003\014\010\103\145\162\164\151\147\156\141\060\036\027
\015\060\067\060\066\062\071\061\065\061\063\060\065\132\027\015
\062\067\060\066\062\071\061\065\061\063\060\065\132\060\064\061
\013\060\011\006\003\125\004\006\023\002\106\122\061\022\060\020
\006\003\125\004\012\014\011\104\150\151\155\171\157\164\151\163
\061\021\060\017\006\003\125\004\003\014\010\103\145\162\164\151
\147\156\141\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\310\150\361\311\326\326\263\064\165\046\202\036
\354\264\276\352\134\341\046\355\021\107\141\341\242\174\026\170
\100\041\344\140\236\132\310\143\341\304\261\226\222\377\030\155
\151\043\341\053\142\367\335\342\066\057\221\007\271\110\317\016
\354\171\266\054\347\064\113\160\010\045\243\074\207\033\031\362
\201\007\017\070\220\031\323\021\376\206\264\362\321\136\036\036
\226\315\200\154\316\073\061\223\266\362\240\320\251\225\022\175
\245\232\314\153\310\204\126\212\063\251\347\042\025\123\026\360
\314\027\354\127\137\351\242\012\230\011\336\343\137\234\157\334
\110\343\205\013\025\132\246\272\237\254\110\343\011\262\367\364
\062\336\136\064\276\034\170\135\102\133\316\016\042\217\115\220
\327\175\062\030\263\013\054\152\277\216\077\024\021\211\040\016
\167\024\265\075\224\010\207\367\045\036\325\262\140\000\354\157
\052\050\045\156\052\076\030\143\027\045\077\076\104\040\026\366
\046\310\045\256\005\112\264\347\143\054\363\214\026\123\176\134
\373\021\032\010\301\106\142\237\042\270\361\302\215\151\334\372
\072\130\006\337\002\003\001\000\001\243\201\274\060\201\271\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\032\355\376\101\071
\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021\060
\144\006\003\125\035\043\004\135\060\133\200\024\032\355\376\101
\071\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021
\241\070\244\066\060\064\061\013\060\011\006\003\125\004\006\023
\002\106\122\061\022\060\020\006\003\125\004\012\014\011\104\150
\151\155\171\157\164\151\163\061\021\060\017\006\003\125\004\003
\014\010\103\145\162\164\151\147\156\141\202\011\000\376\334\343
\001\017\311\110\377\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\021\006\011\140\206\110\001\206\370\102
\001\001\004\004\003\002\000\007\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\205\003\036\222
\161\366\102\257\341\243\141\236\353\363\300\017\362\245\324\332
\225\346\326\276\150\066\075\176\156\037\114\212\357\321\017\041
\155\136\245\122\143\316\022\370\357\052\332\157\353\067\376\023
\002\307\313\073\076\042\153\332\141\056\177\324\162\075\335\060
\341\036\114\100\031\214\017\327\234\321\203\060\173\230\131\334


```
\175\306\271\014\051\114\241\063\242\353\147\072\145\204\323\226
\342\355\166\105\160\217\265\053\336\371\043\326\111\156\074\024
\265\306\237\065\036\120\320\301\217\152\160\104\002\142\313\256
\035\150\101\247\252\127\350\123\252\007\322\006\366\325\024\006
\013\221\003\165\054\154\162\265\141\225\232\015\213\271\015\347
\365\337\124\315\336\346\330\326\011\010\227\143\345\301\056\260
\267\104\046\300\046\300\257\125\060\236\073\325\066\052\031\004
\364\134\036\377\317\054\267\377\320\375\207\100\021\325\021\043
\273\110\300\041\251\244\050\055\375\025\370\260\116\053\364\060
\133\041\374\021\221\064\276\101\357\173\235\227\165\377\227\225
\300\226\130\057\352\273\106\327\273\344\331\056
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Certigna"

Issuer: CN=Certigna,O=Dhimyotis,C=FR

Serial Number:00:fe:dc:e3:01:0f:c9:48:ff

Subject: CN=Certigna,O=Dhimyotis,C=FR

Not Valid Before: Fri Jun 29 15:13:05 2007

Not Valid After : Tue Jun 29 15:13:05 2027

Fingerprint (SHA-256):

E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D

Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certigna"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\261\056\023\143\105\206\244\157\032\262\140\150\067\130\055\304
\254\375\224\227
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\253\127\246\133\175\102\202\031\265\330\130\046\050\136\375\377
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\011\000\376\334\343\001\017\311\110\377
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "ePKI Root Certification Authority"

#

Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

Serial Number:15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d

Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

Not Valid Before: Mon Dec 20 02:31:27 2004

Not Valid After : Wed Dec 20 02:31:27 2034

Fingerprint (SHA-256):

C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5

Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ePKI Root Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\260\060\202\003\230\240\003\002\001\002\002\020\025
\310\275\145\107\134\257\270\227\000\136\344\006\322\274\235\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\136
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164

\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036
\027\015\060\064\061\062\062\060\060\062\063\061\062\067\132\027
\015\063\064\061\062\062\060\060\062\063\061\062\067\132\060\136
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\341
\045\017\356\215\333\210\063\165\147\315\255\037\175\072\116\155
\235\323\057\024\363\143\164\313\001\041\152\067\352\204\120\007
\113\046\133\011\103\154\041\236\152\310\325\003\365\140\151\217
\314\360\042\344\037\347\367\152\042\061\267\054\025\362\340\376
\000\152\103\377\207\145\306\265\032\301\247\114\155\042\160\041
\212\061\362\227\164\211\011\022\046\034\236\312\331\022\242\225
\074\332\351\147\277\010\240\144\343\326\102\267\105\357\227\364
\366\365\327\265\112\025\002\130\175\230\130\113\140\274\315\327
\015\232\023\063\123\321\141\371\172\325\327\170\263\232\063\367
\000\206\316\035\115\224\070\257\250\354\170\121\160\212\134\020
\203\121\041\367\021\075\064\206\136\345\110\315\227\201\202\065
\114\031\354\145\366\153\305\005\241\356\107\023\326\263\041\047
\224\020\012\331\044\073\272\276\104\023\106\060\077\227\074\330
\327\327\152\356\073\070\343\053\324\227\016\271\033\347\007\111
\177\067\052\371\167\170\317\124\355\133\106\235\243\200\016\221
\103\301\326\133\137\024\272\237\246\215\044\107\100\131\277\162
\070\262\066\154\067\377\231\321\135\016\131\012\253\151\367\300
\262\004\105\172\124\000\256\276\123\366\265\347\341\370\074\243
\061\322\251\376\041\122\144\305\246\147\360\165\007\006\224\024
\201\125\306\047\344\001\217\027\301\152\161\327\276\113\373\224
\130\175\176\021\063\261\102\367\142\154\030\326\317\011\150\076
\177\154\366\036\217\142\255\245\143\333\011\247\037\042\102\101
\036\157\231\212\076\327\371\077\100\172\171\260\245\001\222\322
\235\075\010\025\245\020\001\055\263\062\166\250\225\015\263\172
\232\373\007\020\170\021\157\341\217\307\272\017\045\032\164\052
\345\034\230\101\231\337\041\207\350\225\006\152\012\263\152\107
\166\145\366\072\317\217\142\027\031\173\012\050\315\032\322\203
\036\041\307\054\277\276\377\141\150\267\147\033\273\170\115\215
\316\147\345\344\301\216\267\043\146\342\235\220\165\064\230\251
\066\053\212\232\224\271\235\354\314\212\261\370\045\211\134\132
\266\057\214\037\155\171\044\247\122\150\303\204\065\342\146\215
\143\016\045\115\325\031\262\346\171\067\247\042\235\124\061\002
\003\001\000\001\243\152\060\150\060\035\006\003\125\035\016\004
\026\004\024\036\014\367\266\147\362\341\222\046\011\105\300\125
\071\056\167\077\102\112\242\060\014\006\003\125\035\023\004\005

\060\003\001\001\377\060\071\006\004\147\052\007\000\004\061\060
\057\060\055\002\001\000\060\011\006\005\053\016\003\002\032\005
\000\060\007\006\005\147\052\003\000\000\004\024\105\260\302\307
\012\126\174\356\133\170\014\225\371\030\123\301\246\034\330\020
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\002\001\000\011\263\203\123\131\001\076\225\111\271\361\201
\272\371\166\040\043\265\047\140\164\324\152\231\064\136\154\000
\123\331\237\362\246\261\044\007\104\152\052\306\245\216\170\022
\350\107\331\130\033\023\052\136\171\233\237\012\052\147\246\045
\077\006\151\126\163\303\212\146\110\373\051\201\127\164\006\312
\234\352\050\350\070\147\046\053\361\325\265\077\145\223\370\066
\135\216\215\215\100\040\207\031\352\357\047\300\075\264\071\017
\045\173\150\120\164\125\234\014\131\175\132\075\101\224\045\122
\010\340\107\054\025\061\031\325\277\007\125\306\273\022\265\227
\364\137\203\205\272\161\301\331\154\201\021\166\012\012\260\277
\202\227\367\352\075\372\372\354\055\251\050\224\073\126\335\322
\121\056\256\300\275\010\025\214\167\122\064\226\326\233\254\323
\035\216\141\017\065\173\233\256\071\151\013\142\140\100\040\066
\217\257\373\066\356\055\010\112\035\270\277\233\134\370\352\245
\033\240\163\246\330\370\156\340\063\004\137\150\252\047\207\355
\331\301\220\234\355\275\343\152\065\257\143\337\253\030\331\272
\346\351\112\352\120\212\017\141\223\036\342\055\031\342\060\224
\065\222\135\016\266\007\257\031\200\217\107\220\121\113\056\115
\335\205\342\322\012\122\012\027\232\374\032\260\120\002\345\001
\243\143\067\041\114\104\304\233\121\231\021\016\163\234\006\217
\124\056\247\050\136\104\071\207\126\055\067\275\205\104\224\341
\014\113\054\234\303\222\205\064\141\313\017\270\233\112\103\122
\376\064\072\175\270\351\051\334\166\251\310\060\370\024\161\200
\306\036\066\110\164\042\101\134\207\202\350\030\161\213\101\211
\104\347\176\130\133\250\270\215\023\351\247\154\303\107\355\263
\032\235\142\256\215\202\352\224\236\335\131\020\303\255\335\342
\115\343\061\325\307\354\350\362\260\376\222\036\026\012\032\374
\331\363\370\047\266\311\276\035\264\154\144\220\177\364\344\304
\133\327\067\256\102\016\335\244\032\157\174\210\124\305\026\156
\341\172\150\056\370\072\277\015\244\074\211\073\170\247\116\143
\203\004\041\010\147\215\362\202\111\320\133\375\261\315\017\203
\204\324\076\040\205\367\112\075\053\234\375\052\012\011\115\352
\201\370\021\234

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "ePKI Root Certification Authority"

Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

Serial Number: 15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d

Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

Not Valid Before: Mon Dec 20 02:31:27 2004

```

# Not Valid After : Wed Dec 20 02:31:27 2034
# Fingerprint (SHA-256):
C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5
# Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\147\145\015\361\176\216\176\133\202\100\244\364\126\113\317\342
\075\151\306\360
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\056\000\312\046\006\220\075\255\376\157\025\150\323\153\263
END
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "certSIGN ROOT CA"
#
# Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO
# Serial Number:20:06:05:16:70:02
# Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO
# Not Valid Before: Tue Jul 04 17:20:04 2006
# Not Valid After : Fri Jul 04 17:20:04 2031
# Fingerprint (SHA-256):
EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB
# Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\070\060\202\002\040\240\003\002\001\002\002\006\040
\006\005\026\160\002\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\060\073\061\013\060\011\006\003\125\004\006\023
\002\122\117\061\021\060\017\006\003\125\004\012\023\010\143\145
\162\164\123\111\107\116\061\031\060\027\006\003\125\004\013\023
\020\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103
\101\060\036\027\015\060\066\060\067\060\064\061\067\062\060\060\064
\132\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117
\061\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123
\111\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145
\162\164\123\111\107\116\040\122\117\117\124\040\103\101\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\267
\063\271\176\310\045\112\216\265\333\264\050\033\252\127\220\350
\321\042\323\144\272\323\223\350\324\254\206\141\100\152\140\127
\150\124\204\115\274\152\124\002\005\377\337\233\232\052\256\135
\007\217\112\303\050\177\357\373\053\372\171\361\307\255\360\020
\123\044\220\213\146\311\250\210\253\257\132\243\000\351\276\272
\106\356\133\163\173\054\027\202\201\136\142\054\241\002\145\263
\275\305\053\000\176\304\374\003\063\127\015\355\342\372\316\135
\105\326\070\315\065\266\262\301\320\234\201\112\252\344\262\001
\134\035\217\137\231\304\261\255\333\210\041\353\220\010\202\200
\363\060\243\103\346\220\202\256\125\050\111\355\133\327\251\020
\070\016\376\217\114\133\233\106\352\101\365\260\010\164\303\320
\210\063\266\174\327\164\337\334\204\321\103\016\165\071\241\045
\100\050\352\170\313\016\054\056\071\235\214\213\156\026\034\057
\046\202\020\342\343\145\224\012\004\300\136\367\135\133\370\020
\342\320\272\172\113\373\336\067\000\000\032\133\050\343\322\234
```

\163\076\062\207\230\241\311\121\057\327\336\254\063\263\117\002
\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\306\060\035\006\003\125\035\016
\004\026\004\024\340\214\233\333\045\111\263\361\174\206\326\262
\102\207\013\320\153\240\331\344\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\076\322\034\211
\056\065\374\370\165\335\346\177\145\210\364\162\114\311\054\327
\062\116\363\335\031\171\107\275\216\073\133\223\017\120\111\044
\023\153\024\006\162\357\011\323\241\241\343\100\204\311\347\030
\062\164\074\110\156\017\237\113\324\367\036\323\223\206\144\124
\227\143\162\120\325\125\317\372\040\223\002\242\233\303\043\223
\116\026\125\166\240\160\171\155\315\041\037\317\057\055\274\031
\343\210\061\370\131\032\201\011\310\227\246\164\307\140\304\133
\314\127\216\262\165\375\033\002\011\333\131\157\162\223\151\367
\061\101\326\210\070\277\207\262\275\026\171\371\252\344\276\210
\045\335\141\047\043\034\265\061\007\004\066\264\032\220\275\240
\164\161\120\211\155\274\024\343\017\206\256\361\253\076\307\240
\011\314\243\110\321\340\333\144\347\222\265\317\257\162\103\160
\213\371\303\204\074\023\252\176\222\233\127\123\223\372\160\302
\221\016\061\371\233\147\135\351\226\070\136\137\263\163\116\210
\025\147\336\236\166\020\142\040\276\125\151\225\103\000\071\115
\366\356\260\132\116\111\104\124\130\137\102\203

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "certSIGN ROOT CA"

Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO

Serial Number:20:06:05:16:70:02

Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO

Not Valid Before: Tue Jul 04 17:20:04 2006

Not Valid After : Fri Jul 04 17:20:04 2031

Fingerprint (SHA-256):

EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB

Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "certSIGN ROOT CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\372\267\356\066\227\046\142\373\055\260\052\366\277\003\375\350
\174\113\057\233

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\030\230\300\326\351\072\374\371\260\365\014\367\113\001\104\027

```

END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "NetLock Arany (Class Gold) Ftanúsítvány"
#
# Issuer: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Serial Number:49:41:2c:e4:00:10
# Subject: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Not Valid Before: Thu Dec 11 15:08:21 2008
# Not Valid After : Wed Dec 06 15:08:21 2028
# Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_ID UTF8 "0"

```


CKA_ISSUER MULTILINE_OCTAL

\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\006\111\101\054\344\000\020

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\025\060\202\002\375\240\003\002\001\002\002\006\111
\101\054\344\000\020\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\060\201\247\061\013\060\011\006\003\125\004\006
\023\002\110\125\061\021\060\017\006\003\125\004\007\014\010\102
\165\144\141\160\145\163\164\061\025\060\023\006\003\125\004\012
\014\014\116\145\164\114\157\143\153\040\113\146\164\056\061\067
\060\065\006\003\125\004\013\014\056\124\141\156\303\272\163\303
\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\051\061\065\060\063\006\003\125\004\003
\014\054\116\145\164\114\157\143\153\040\101\162\141\156\171\040
\050\103\154\141\163\163\040\107\157\154\144\051\040\106\305\221
\164\141\156\303\272\163\303\255\164\166\303\241\156\171\060\036
\027\015\060\070\061\062\061\061\061\065\060\070\062\061\132\027
\015\062\070\061\062\060\066\061\065\060\070\062\061\132\060\201
\247\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021
\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145\163
\164\061\025\060\023\006\003\125\004\012\014\014\116\145\164\114
\157\143\153\040\113\146\164\056\061\067\060\065\006\003\125\004
\013\014\056\124\141\156\303\272\163\303\255\164\166\303\241\156
\171\153\151\141\144\303\263\153\040\050\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163
\051\061\065\060\063\006\003\125\004\003\014\054\116\145\164\114
\157\143\153\040\101\162\141\156\171\040\050\103\154\141\163\163
\040\107\157\154\144\051\040\106\305\221\164\141\156\303\272\163
\303\255\164\166\303\241\156\171\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\304\044\136\163\276\113\155
\024\303\241\364\343\227\220\156\322\060\105\036\074\356\147\331
\144\340\032\212\177\312\060\312\203\343\040\301\343\364\072\323
\224\137\032\174\133\155\277\060\117\204\047\366\237\037\111\274

\306\231\012\220\362\017\365\177\103\204\067\143\121\213\172\245
\160\374\172\130\315\216\233\355\303\106\154\204\160\135\332\363
\001\220\043\374\116\060\251\176\341\047\143\347\355\144\074\240
\270\311\063\143\376\026\220\377\260\270\375\327\250\300\300\224
\103\013\266\325\131\246\236\126\320\044\037\160\171\257\333\071
\124\015\145\165\331\025\101\224\001\257\136\354\366\215\361\377
\255\144\376\040\232\327\134\353\376\246\037\010\144\243\213\166
\125\255\036\073\050\140\056\207\045\350\252\257\037\306\144\106
\040\267\160\177\074\336\110\333\226\123\267\071\167\344\032\342
\307\026\204\166\227\133\057\273\031\025\205\370\151\205\365\231
\247\251\362\064\247\251\266\246\003\374\157\206\075\124\174\166
\004\233\153\371\100\135\000\064\307\056\231\165\235\345\210\003
\252\115\370\003\322\102\166\300\033\002\003\000\250\213\243\105
\060\103\060\022\006\003\125\035\023\001\001\377\004\010\060\006
\001\001\377\002\001\004\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\314\372\147\223\360\266\270\320\245\300\036\363\123\375\214
\123\337\203\327\226\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\003\202\001\001\000\253\177\356\034\026\251\234
\074\121\000\240\300\021\010\005\247\231\346\157\001\210\124\141
\156\361\271\030\255\112\255\376\201\100\043\224\057\373\165\174
\057\050\113\142\044\201\202\013\365\141\361\034\156\270\141\070
\353\201\372\142\241\073\132\142\323\224\145\304\341\346\155\202
\370\057\045\160\262\041\046\301\162\121\037\214\054\303\204\220
\303\132\217\272\317\364\247\145\245\353\230\321\373\005\262\106
\165\025\043\152\157\205\143\060\200\360\325\236\037\051\034\302
\154\260\120\131\135\220\133\073\250\015\060\317\277\175\177\316
\361\235\203\275\311\106\156\040\246\371\141\121\272\041\057\173
\276\245\025\143\241\324\225\207\361\236\271\363\211\363\075\205
\270\270\333\276\265\271\051\371\332\067\005\000\111\224\003\204
\104\347\277\103\061\317\165\213\045\321\364\246\144\365\222\366
\253\005\353\075\351\245\013\066\142\332\314\006\137\066\213\266
\136\061\270\052\373\136\366\161\337\104\046\236\304\346\015\221
\264\056\165\225\200\121\152\113\060\246\260\142\241\223\361\233
\330\316\304\143\165\077\131\107\261

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "NetLock Arany (Class Gold) Ftanúsítvány"
Issuer: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
Serial Number:49:41:2c:e4:00:10
Subject: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
Not Valid Before: Thu Dec 11 15:08:21 2008
Not Valid After : Wed Dec 06 15:08:21 2028

```

# Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\006\010\077\131\077\025\241\004\240\151\244\153\251\003\320\006
\267\227\011\221
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\241\267\377\163\335\326\327\064\062\030\337\374\074\255\210
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\111\101\054\344\000\020
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Hongkong Post Root CA 1"
#
# Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
# Serial Number: 1000 (0x3e8)
# Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
# Not Valid Before: Thu May 15 05:13:14 2003
# Not Valid After : Mon May 15 04:52:29 2023
# Fingerprint (SHA-256):
F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2
# Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\003\350
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\060\060\202\002\030\240\003\002\001\002\002\002\003
\350\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061\060\036\027\015\060\063\060
\065\061\065\060\065\061\063\061\064\132\027\015\062\063\060\065
\061\065\060\064\065\062\062\071\132\060\107\061\013\060\011\006
\003\125\004\006\023\002\110\113\061\026\060\024\006\003\125\004
\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164
\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153
\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101
\040\061\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\254\377\070\266\351\146\002\111\343\242\264\341\220
\371\100\217\171\371\342\275\171\376\002\275\356\044\222\035\042
\366\332\205\162\151\376\327\077\011\324\335\221\265\002\234\320
\215\132\341\125\303\120\206\271\051\046\302\343\331\240\361\151
\003\050\040\200\105\042\055\126\247\073\124\225\126\042\131\037
\050\337\037\040\075\155\242\066\276\043\240\261\156\265\261\047
\077\071\123\011\352\253\152\350\164\262\302\145\134\216\277\174
\303\170\204\315\236\026\374\365\056\117\040\052\010\237\167\363
\305\036\304\232\122\146\036\110\136\343\020\006\217\042\230\341
```

\145\216\033\135\043\146\073\270\245\062\121\310\206\252\241\251
\236\177\166\224\302\246\154\267\101\360\325\310\006\070\346\324
\014\342\363\073\114\155\120\214\304\203\047\301\023\204\131\075
\236\165\164\266\330\002\136\072\220\172\300\102\066\162\354\152
\115\334\357\304\000\337\023\030\127\137\046\170\310\326\012\171
\167\277\367\257\267\166\271\245\013\204\027\135\020\352\157\341
\253\225\021\137\155\074\243\134\115\203\133\362\263\031\212\200
\213\013\207\002\003\001\000\001\243\046\060\044\060\022\006\003
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\003
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\306
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\016\106\325\074\256\342\207\331\136\201\213\002
\230\101\010\214\114\274\332\333\356\047\033\202\347\152\105\354
\026\213\117\205\240\363\262\160\275\132\226\272\312\156\155\356
\106\213\156\347\052\056\226\263\031\063\353\264\237\250\262\067
\356\230\250\227\266\056\266\147\047\324\246\111\375\034\223\145
\166\236\102\057\334\042\154\232\117\362\132\025\071\261\161\327
\053\121\350\155\034\230\300\331\052\364\241\202\173\325\311\101
\242\043\001\164\070\125\213\017\271\056\147\242\040\004\067\332
\234\013\323\027\041\340\217\227\171\064\157\204\110\002\040\063
\033\346\064\104\237\221\160\364\200\136\204\103\302\051\322\154
\022\024\344\141\215\254\020\220\236\204\120\273\360\226\157\105
\237\212\363\312\154\117\372\021\072\025\025\106\303\315\037\203
\133\055\101\022\355\120\147\101\023\075\041\253\224\212\252\116
\174\301\261\373\247\326\265\047\057\227\253\156\340\035\342\321
\034\054\037\104\342\374\276\221\241\234\373\326\051\123\163\206
\237\123\330\103\016\135\326\143\202\161\035\200\164\312\366\342
\002\153\331\132

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Hongkong Post Root CA 1"

Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK

Serial Number: 1000 (0x3e8)

Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK

Not Valid Before: Thu May 15 05:13:14 2003

Not Valid After : Mon May 15 04:52:29 2023

Fingerprint (SHA-256):

F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2

Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Hongkong Post Root CA 1"

CKA_CERT_SHA1_HASH MULTILINE OCTAL

\326\332\250\040\215\011\322\025\115\044\265\057\313\064\156\262

\130\262\212\130

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\250\015\157\071\170\271\103\155\167\102\155\230\132\314\043\312

END

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061

\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157

\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003

\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040

\122\157\157\164\040\103\101\040\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\002\003\350

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "SecureSign RootCA11"

#

Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

Serial Number: 1 (0x1)

Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

Not Valid Before: Wed Apr 08 04:56:47 2009

Not Valid After : Sun Apr 08 04:56:47 2029

Fingerprint (SHA-256):

BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12

Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SecureSign RootCA11"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061

\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040

\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145

\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032

\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147

\156\040\122\157\157\164\103\101\061\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\155\060\202\002\125\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061\053
\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145\162
\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032\006
\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147\156
\040\122\157\157\164\103\101\061\061\060\036\027\015\060\071\060
\064\060\070\060\064\065\066\064\067\132\027\015\062\071\060\064
\060\070\060\064\065\066\064\067\132\060\130\061\013\060\011\006
\003\125\004\006\023\002\112\120\061\053\060\051\006\003\125\004
\012\023\042\112\141\160\141\156\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163\054
\040\111\156\143\056\061\034\060\032\006\003\125\004\003\023\023
\123\145\143\165\162\145\123\151\147\156\040\122\157\157\164\103
\101\061\061\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\375\167\252\245\034\220\005\073\313\114\233\063
\213\132\024\105\244\347\220\026\321\337\127\322\041\020\244\027
\375\337\254\326\037\247\344\333\174\367\354\337\270\003\332\224
\130\375\135\162\174\214\077\137\001\147\164\025\226\343\002\074
\207\333\256\313\001\216\302\363\146\306\205\105\364\002\306\072
\265\142\262\257\372\234\277\244\346\324\200\060\230\363\015\266
\223\217\251\324\330\066\362\260\374\212\312\054\241\025\063\225
\061\332\300\033\362\356\142\231\206\143\077\277\335\223\052\203
\250\166\271\023\037\267\316\116\102\205\217\042\347\056\032\362
\225\011\262\005\265\104\116\167\241\040\275\251\362\116\012\175
\120\255\365\005\015\105\117\106\161\375\050\076\123\373\004\330
\055\327\145\035\112\033\372\317\073\260\061\232\065\156\310\213
\006\323\000\221\362\224\010\145\114\261\064\006\000\172\211\342
\360\307\003\131\317\325\326\350\247\062\263\346\230\100\206\305
\315\047\022\213\314\173\316\267\021\074\142\140\007\043\076\053
\100\156\224\200\011\155\266\263\157\167\157\065\010\120\373\002
\207\305\076\211\002\003\001\000\001\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\133\370\115\117\262\245\206\324
\072\322\361\143\232\240\276\011\366\127\267\336\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003

```
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\240\241\070\026\146\056\247\126\037\041\234\006\372\035\355
\271\042\305\070\046\330\116\117\354\243\177\171\336\106\041\241
\207\167\217\007\010\232\262\244\305\257\017\062\230\013\174\146
\051\266\233\175\045\122\111\103\253\114\056\053\156\172\160\257
\026\016\343\002\154\373\102\346\030\235\105\330\125\310\350\073
\335\347\341\364\056\013\034\064\134\154\130\112\373\214\210\120
\137\225\034\277\355\253\042\265\145\263\205\272\236\017\270\255
\345\172\033\212\120\072\035\275\015\274\173\124\120\013\271\102
\257\125\240\030\201\255\145\231\357\276\344\234\277\304\205\253
\101\262\124\157\334\045\315\355\170\342\216\014\215\011\111\335
\143\173\132\151\226\002\041\250\275\122\131\351\175\065\313\310
\122\312\177\201\376\331\153\323\367\021\355\045\337\370\347\371
\244\372\162\227\204\123\015\245\320\062\030\121\166\131\024\154
\017\353\354\137\200\214\165\103\203\303\205\230\377\114\236\055
\015\344\167\203\223\116\265\226\007\213\050\023\233\214\031\215
\101\047\111\100\356\336\346\043\104\071\334\241\042\326\272\003
\362
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SecureSign RootCA11"
```

```
# Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
```

```
# Serial Number: 1 (0x1)
```

```
# Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
```

```
# Not Valid Before: Wed Apr 08 04:56:47 2009
```

```
# Not Valid After : Sun Apr 08 04:56:47 2029
```

```
# Fingerprint (SHA-256):
```

```
BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12
```

```
# Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SecureSign RootCA11"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\073\304\237\110\370\363\163\240\234\036\275\370\133\261\303\145
\307\330\021\263
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\267\122\164\342\222\264\200\223\362\165\344\314\327\362\352\046
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
```



```
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\001
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Microsec e-Szigno Root CA 2009"

#

Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

Serial Number:00:c2:7e:43:04:4e:47:3f:19

Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

Not Valid Before: Tue Jun 16 11:30:18 2009

Not Valid After : Sun Dec 30 11:30:18 2029

Fingerprint (SHA-256):

```
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
```

Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
```

\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\302\176\103\004\116\107\077\031

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\012\060\202\002\362\240\003\002\001\002\002\011\000
\302\176\103\004\116\107\077\031\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003
\125\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007
\014\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003
\125\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164
\144\056\061\047\060\045\006\003\125\004\003\014\036\115\151\143
\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040\122
\157\157\164\040\103\101\040\062\060\060\071\061\037\060\035\006
\011\052\206\110\206\367\015\001\011\001\026\020\151\156\146\157
\100\145\055\163\172\151\147\156\157\056\150\165\060\036\027\015
\060\071\060\066\061\066\061\061\063\060\061\070\132\027\015\062
\071\061\062\063\060\061\061\063\060\061\070\132\060\201\202\061
\013\060\011\006\003\125\004\006\023\002\110\125\061\021\060\017
\006\003\125\004\007\014\010\102\165\144\141\160\145\163\164\061
\026\060\024\006\003\125\004\012\014\015\115\151\143\162\157\163
\145\143\040\114\164\144\056\061\047\060\045\006\003\125\004\003
\014\036\115\151\143\162\157\163\145\143\040\145\055\123\172\151
\147\156\157\040\122\157\157\164\040\103\101\040\062\060\060\071
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026
\020\151\156\146\157\100\145\055\163\172\151\147\156\157\056\150
\165\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\351\370\217\363\143\255\332\206\330\247\340\102\373\317
\221\336\246\046\370\231\245\143\160\255\233\256\312\063\100\175
\155\226\156\241\016\104\356\341\023\235\224\102\122\232\275\165
\205\164\054\250\016\035\223\266\030\267\214\054\250\317\373\134
\161\271\332\354\376\350\176\217\344\057\035\262\250\165\207\330
\267\241\345\073\317\231\112\106\320\203\031\175\300\241\022\034
\225\155\112\364\330\307\245\115\063\056\205\071\100\165\176\024
\174\200\022\230\120\307\101\147\270\240\200\141\124\246\154\116
\037\340\235\016\007\351\311\272\063\347\376\300\125\050\054\002
\200\247\031\365\236\334\125\123\003\227\173\007\110\377\231\373
\067\212\044\304\131\314\120\020\143\216\252\251\032\260\204\032
\206\371\137\273\261\120\156\244\321\012\314\325\161\176\037\247
\033\174\365\123\156\042\137\313\053\346\324\174\135\256\326\302
\306\114\345\005\001\331\355\127\374\301\043\171\374\372\310\044
\203\225\363\265\152\121\001\320\167\326\351\022\241\371\032\203
\373\202\033\271\260\227\364\166\006\063\103\111\240\377\013\265

\372\265\002\003\001\000\001\243\201\200\060\176\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006
\003\125\035\016\004\026\004\024\313\017\306\337\102\103\314\075
\313\265\110\043\241\032\172\246\052\273\064\150\060\037\006\003
\125\035\043\004\030\060\026\200\024\313\017\306\337\102\103\314
\075\313\265\110\043\241\032\172\246\052\273\064\150\060\033\006
\003\125\035\021\004\024\060\022\201\020\151\156\146\157\100\145
\055\163\172\151\147\156\157\056\150\165\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\311\321
\016\136\056\325\314\263\174\076\313\374\075\377\015\050\225\223
\004\310\277\332\315\171\270\103\220\360\244\276\357\362\357\041
\230\274\324\324\135\006\366\356\102\354\060\154\240\252\251\312
\361\257\212\372\077\013\163\152\076\352\056\100\176\037\256\124
\141\171\353\056\010\067\327\043\363\214\237\276\035\261\341\244
\165\333\240\342\124\024\261\272\034\051\244\030\366\022\272\242
\024\024\343\061\065\310\100\377\267\340\005\166\127\301\034\131
\362\370\277\344\355\045\142\134\204\360\176\176\037\263\276\371
\267\041\021\314\003\001\126\160\247\020\222\036\033\064\201\036
\255\234\032\303\004\074\355\002\141\326\036\006\363\137\072\207
\362\053\361\105\207\345\075\254\321\307\127\204\275\153\256\334
\330\371\266\033\142\160\013\075\066\311\102\362\062\327\172\141
\346\322\333\075\317\310\251\311\233\334\333\130\104\327\157\070
\257\177\170\323\243\255\032\165\272\034\301\066\174\217\036\155
\034\303\165\106\256\065\005\246\366\134\075\041\356\126\360\311
\202\042\055\172\124\253\160\303\175\042\145\202\160\226

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "Microsec e-Szigno Root CA 2009"

Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

Serial Number:00:c2:7e:43:04:4e:47:3f:19

Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

Not Valid Before: Tue Jun 16 11:30:18 2009

Not Valid After : Sun Dec 30 11:30:18 2029

Fingerprint (SHA-256):

3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78

Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\211\337\164\376\134\364\017\112\200\371\343\067\175\124\332\221

\341\001\061\216

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\111\364\003\274\104\055\203\276\110\151\175\051\144\374\261
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\302\176\103\004\116\107\077\031
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root CA - R3"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
# Serial Number:04:00:00:00:00:01:21:58:53:08:a2
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
# Not Valid Before: Wed Mar 18 10:00:00 2009
# Not Valid After : Sun Mar 18 10:00:00 2029
# Fingerprint (SHA-256):
CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
# Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_ID UTF8 "0"

```

CKA_ISSUER MULTILINE_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\013\004\000\000\000\000\001\041\130\123\010\242

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\137\060\202\002\107\240\003\002\001\002\002\013\004
\000\000\000\000\001\041\130\123\010\242\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\114\061\040\060\036\006
\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147\156
\040\122\157\157\164\040\103\101\040\055\040\122\063\061\023\060
\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123\151
\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154\157
\142\141\154\123\151\147\156\060\036\027\015\060\071\060\063\061
\070\061\060\060\060\060\060\132\027\015\062\071\060\063\061\070
\061\060\060\060\060\060\132\060\114\061\040\060\036\006\003\125
\004\013\023\027\107\154\157\142\141\154\123\151\147\156\040\122
\157\157\164\040\103\101\040\055\040\122\063\061\023\060\021\006
\003\125\004\012\023\012\107\154\157\142\141\154\123\151\147\156
\061\023\060\021\006\003\125\004\003\023\012\107\154\157\142\141
\154\123\151\147\156\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\314\045\166\220\171\006\170\042\026\365
\300\203\266\204\312\050\236\375\005\166\021\305\255\210\162\374
\106\002\103\307\262\212\235\004\137\044\313\056\113\341\140\202
\106\341\122\253\014\201\107\160\154\335\144\321\353\365\054\243
\017\202\075\014\053\256\227\327\266\024\206\020\171\273\073\023
\200\167\214\010\341\111\322\152\142\057\037\136\372\226\150\337
\211\047\225\070\237\006\327\076\311\313\046\131\015\163\336\260
\310\351\046\016\203\025\306\357\133\213\322\004\140\312\111\246
\050\366\151\073\366\313\310\050\221\345\235\212\141\127\067\254
\164\024\334\164\340\072\356\162\057\056\234\373\320\273\277\365
\075\000\341\006\063\350\202\053\256\123\246\072\026\163\214\335
\101\016\040\072\300\264\247\241\351\262\117\220\056\062\140\351
\127\313\271\004\222\150\150\345\070\046\140\165\262\237\167\377
\221\024\357\256\040\111\374\255\100\025\110\321\002\061\141\031
\136\270\227\357\255\167\267\144\232\172\277\137\301\023\357\233
\142\373\015\154\340\124\151\026\251\003\332\156\351\203\223\161
\166\306\151\205\202\027\002\003\001\000\001\243\102\060\100\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\217\360\113\177\250
\056\105\044\256\115\120\372\143\232\213\336\342\335\033\274\060

```
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\001\001\000\113\100\333\300\120\252\376\310\014\357\367\226\124
\105\111\273\226\000\011\101\254\263\023\206\206\050\007\063\312
\153\346\164\271\272\000\055\256\244\012\323\365\361\361\017\212
\277\163\147\112\203\307\104\173\170\340\257\156\154\157\003\051
\216\063\071\105\303\216\344\271\127\154\252\374\022\226\354\123
\306\055\344\044\154\271\224\143\373\334\123\150\147\126\076\203
\270\317\065\041\303\311\150\376\316\332\302\123\252\314\220\212
\351\360\135\106\214\225\335\172\130\050\032\057\035\336\315\000
\067\101\217\355\104\155\327\123\050\227\176\363\147\004\036\025
\327\212\226\264\323\336\114\047\244\114\033\163\163\166\364\027
\231\302\037\172\016\343\055\010\255\012\034\054\377\074\253\125
\016\017\221\176\066\353\303\127\111\276\341\056\055\174\140\213
\303\101\121\023\043\235\316\367\062\153\224\001\250\231\347\054
\063\037\072\073\045\322\206\100\316\073\054\206\170\311\141\057
\024\272\356\333\125\157\337\204\356\005\011\115\275\050\330\162
\316\323\142\120\145\036\353\222\227\203\061\331\263\265\312\107
\130\077\137
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Root CA - R3"
```

```
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
```

```
# Serial Number:04:00:00:00:00:01:21:58:53:08:a2
```

```
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
```

```
# Not Valid Before: Wed Mar 18 10:00:00 2009
```

```
# Not Valid After : Sun Mar 18 10:00:00 2029
```

```
# Fingerprint (SHA-256):
```

```
CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
```

```
# Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root CA - R3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\326\233\126\021\110\360\034\167\305\105\170\301\011\046\337\133
\205\151\166\255
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\305\337\270\111\312\005\023\125\356\055\272\032\303\076\260\050
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
```

```

\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\041\130\123\010\242
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Serial Number:53:ec:3b:ee:fb:b2:48:5f
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Not Valid Before: Wed May 20 08:38:15 2009
# Not Valid After : Tue Dec 31 08:38:15 2030
# Fingerprint (SHA-256):
04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF
# Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\123\354\073\356\373\262\110\137
END

```

CKA_VALUE MULTILINE_OCTAL

\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\123
\354\073\356\373\262\110\137\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\121\061\013\060\011\006\003\125\004
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040
\101\066\062\066\063\064\060\066\070\060\036\027\015\060\071\060
\065\062\060\060\070\063\070\061\065\132\027\015\063\060\061\062
\063\061\060\070\063\070\061\065\132\060\121\061\013\060\011\006
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143

\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001
\000\001\243\201\357\060\201\354\060\022\006\003\125\035\023\001
\001\377\004\010\060\006\001\001\377\002\001\001\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\145\315\353\253\065\036\000\076\176
\325\164\300\034\264\163\107\016\032\144\057\060\201\246\006\003
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060
\000\061\000\067\060\015\006\011\052\206\110\206\367\015\001\001
\005\005\000\003\202\002\001\000\027\175\240\371\264\335\305\305
\353\255\113\044\265\241\002\253\335\245\210\112\262\017\125\113
\053\127\214\073\345\061\335\376\304\062\361\347\133\144\226\066
\062\030\354\245\062\167\327\343\104\266\300\021\052\200\271\075
\152\156\174\233\323\255\374\303\326\243\346\144\051\174\321\341
\070\036\202\053\377\047\145\257\373\026\025\304\056\161\204\345
\265\377\372\244\107\275\144\062\273\366\045\204\242\047\102\365
\040\260\302\023\020\021\315\020\025\272\102\220\052\322\104\341
\226\046\353\061\110\022\375\052\332\311\006\317\164\036\251\113
\325\207\050\371\171\064\222\076\056\104\350\366\217\117\217\065
\077\045\263\071\334\143\052\220\153\040\137\304\122\022\116\227
\054\052\254\235\227\336\110\362\243\146\333\302\322\203\225\246
\146\247\236\045\017\351\013\063\221\145\012\132\303\331\124\022
\335\257\303\116\016\037\046\136\015\334\263\215\354\325\201\160
\336\322\117\044\005\363\154\116\365\114\111\146\215\321\377\322
\013\045\101\110\376\121\204\306\102\257\200\004\317\320\176\144
\111\344\362\337\242\354\261\114\300\052\035\347\264\261\145\242
\304\274\361\230\364\252\160\007\143\264\270\332\073\114\372\100
\042\060\133\021\246\360\005\016\306\002\003\110\253\206\233\205
\335\333\335\352\242\166\200\163\175\365\234\004\304\105\215\347
\271\034\213\236\352\327\165\321\162\261\336\165\104\347\102\175
\342\127\153\175\334\231\274\075\203\050\352\200\223\215\305\114
\145\301\160\201\270\070\374\103\061\262\366\003\064\107\262\254
\373\042\006\313\036\335\027\107\034\137\146\271\323\032\242\332
\021\261\244\274\043\311\344\276\207\377\271\224\266\370\135\040
\112\324\137\347\275\150\173\145\362\025\036\322\072\251\055\351
\330\153\044\254\227\130\104\107\255\131\030\361\041\145\160\336
\316\064\140\250\100\361\363\074\244\303\050\043\214\376\047\063
\103\100\240\027\074\353\352\073\260\162\246\243\271\112\113\136
\026\110\364\262\274\310\214\222\305\235\237\254\162\066\274\064

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\200\064\153\251\213\222\300\270\027\355\354\166\123\365\044\001
\214\263\042\350\113\174\125\306\235\372\243\024\273\145\205\156
\156\117\022\176\012\074\235\225
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"
# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Serial Number:53:ec:3b:ee:fb:b2:48:5f
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Not Valid Before: Wed May 20 08:38:15 2009
# Not Valid After : Tue Dec 31 08:38:15 2030
# Fingerprint (SHA-256):
04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF
# Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\256\305\373\077\310\341\277\304\345\117\003\007\132\232\350\000
\267\367\266\372
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\163\072\164\172\354\273\243\226\246\302\344\342\310\233\300\303
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\123\354\073\356\373\262\110\137
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Izenpe.com"
#

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# Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
# Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Not Valid Before: Thu Dec 13 13:08:28 2007
# Not Valid After : Sun Dec 13 08:27:25 2037
# Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
# Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\361\060\202\003\331\240\003\002\001\002\002\020\000
\260\267\132\026\110\137\277\341\313\365\213\327\031\346\175\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\070
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\024\060
\022\006\003\125\004\012\014\013\111\132\105\116\120\105\040\123
\056\101\056\061\023\060\021\006\003\125\004\003\014\012\111\172
\145\156\160\145\056\143\157\155\060\036\027\015\060\067\061\062
\061\063\061\063\060\070\062\070\132\027\015\063\067\061\062\061
\063\060\070\062\067\062\065\132\060\070\061\013\060\011\006\003
\125\004\006\023\002\105\123\061\024\060\022\006\003\125\004\012
\014\013\111\132\105\116\120\105\040\123\056\101\056\061\023\060
\021\006\003\125\004\003\014\012\111\172\145\156\160\145\056\143
\157\155\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\311\323\172\312\017\036\254\247\206\350\026\145\152
\261\302\033\105\062\161\225\331\376\020\133\314\257\347\245\171
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\001\217\211\303\312\362\125\161\367\167\276\167\224\363\162\244
\054\104\330\236\222\233\024\072\241\347\044\220\012\012\126\216
\305\330\046\224\341\331\110\341\055\076\332\012\162\335\243\231
\025\332\201\242\207\364\173\156\046\167\211\130\255\326\353\014
\262\101\172\163\156\155\333\172\170\101\351\010\210\022\176\207
\056\146\021\143\154\124\373\074\235\162\300\274\056\377\302\267
\335\015\166\343\072\327\367\264\150\276\242\365\343\201\156\301
\106\157\135\215\340\115\306\124\125\211\032\063\061\012\261\127
\271\243\212\230\303\354\073\064\305\225\101\151\176\165\302\074
\040\305\141\272\121\107\240\040\220\223\241\220\113\363\116\174
\205\105\124\232\321\005\046\101\260\265\115\035\063\276\304\003
\310\045\174\301\160\333\073\364\011\055\124\047\110\254\057\341
\304\254\076\310\313\222\114\123\071\067\043\354\323\001\371\340
\011\104\115\115\144\300\341\015\132\207\042\274\255\033\243\376
\046\265\025\363\247\374\204\031\351\354\241\210\264\104\151\204
\203\363\211\321\164\006\251\314\013\326\302\336\047\205\120\046
\312\027\270\311\172\207\126\054\032\001\036\154\276\023\255\020
\254\265\044\365\070\221\241\326\113\332\361\273\322\336\107\265
\361\274\201\366\131\153\317\031\123\351\215\025\313\112\313\251
\157\104\345\033\101\317\341\206\247\312\320\152\237\274\114\215
\006\063\132\242\205\345\220\065\240\142\134\026\116\360\343\242
\372\003\032\264\054\161\263\130\054\336\173\013\333\032\017\353
\336\041\037\006\167\006\003\260\311\357\231\374\300\271\117\013
\206\050\376\322\271\352\343\332\245\303\107\151\022\340\333\360
\366\031\213\355\173\160\327\002\326\355\207\030\050\054\004\044
\114\167\344\110\212\032\306\073\232\324\017\312\372\165\322\001
\100\132\215\171\277\213\317\113\317\252\026\301\225\344\255\114
\212\076\027\221\324\261\142\345\202\345\200\004\244\003\176\215
\277\332\177\242\017\227\117\014\323\015\373\327\321\345\162\176
\034\310\167\377\133\232\017\267\256\005\106\345\361\250\026\354
\107\244\027\002\003\001\000\001\243\201\366\060\201\363\060\201
\260\006\003\125\035\021\004\201\250\060\201\245\201\017\151\156
\146\157\100\151\172\145\156\160\145\056\143\157\155\244\201\221
\060\201\216\061\107\060\105\006\003\125\004\012\014\076\111\132
\105\116\120\105\040\123\056\101\056\040\055\040\103\111\106\040
\101\060\061\063\063\067\062\066\060\055\122\115\145\162\143\056
\126\151\164\157\162\151\141\055\107\141\163\164\145\151\172\040
\124\061\060\065\065\040\106\066\062\040\123\070\061\103\060\101
\006\003\125\004\011\014\072\101\166\144\141\040\144\145\154\040
\115\145\144\151\164\145\162\162\141\156\145\157\040\105\164\157
\162\142\151\144\145\141\040\061\064\040\055\040\060\061\060\061
\060\040\126\151\164\157\162\151\141\055\107\141\163\164\145\151
\172\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\035\006\003\125\035\016\004\026\004\024\035\034\145
\016\250\362\045\173\264\221\317\344\261\261\346\275\125\164\154
\005\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\002\001\000\170\246\014\026\112\237\114\210\072\300\313

\016\245\026\175\237\271\110\137\030\217\015\142\066\366\315\031
\153\254\253\325\366\221\175\256\161\363\077\263\016\170\205\233
\225\244\047\041\107\102\112\174\110\072\365\105\174\263\014\216
\121\170\254\225\023\336\306\375\175\270\032\220\114\253\222\003
\307\355\102\001\316\017\330\261\372\242\222\341\140\155\256\172
\153\011\252\306\051\356\150\111\147\060\200\044\172\061\026\071
\133\176\361\034\056\335\154\011\255\362\061\301\202\116\271\273
\371\276\277\052\205\077\300\100\243\072\131\374\131\113\074\050
\044\333\264\025\165\256\015\210\272\056\163\300\275\130\207\345
\102\362\353\136\356\036\060\042\231\313\067\321\304\041\154\201
\354\276\155\046\346\034\344\102\040\236\107\260\254\203\131\160
\054\065\326\257\066\064\264\315\073\370\062\250\357\343\170\211
\373\215\105\054\332\234\270\176\100\034\141\347\076\242\222\054
\113\362\315\372\230\266\051\377\363\362\173\251\037\056\240\223
\127\053\336\205\003\371\151\067\313\236\170\152\005\264\305\061
\170\211\354\172\247\205\341\271\173\074\336\276\036\171\204\316
\237\160\016\131\302\065\056\220\052\061\331\344\105\172\101\244
\056\023\233\064\016\146\173\111\253\144\227\320\106\303\171\235
\162\120\143\246\230\133\006\275\110\155\330\071\203\160\350\065
\360\005\321\252\274\343\333\310\002\352\174\375\202\332\302\133
\122\065\256\230\072\255\272\065\223\043\247\037\110\335\065\106
\230\262\020\150\344\245\061\302\012\130\056\031\201\020\311\120
\165\374\352\132\026\316\021\327\356\357\120\210\055\141\377\077
\102\163\005\224\103\325\216\074\116\001\072\031\245\037\106\116
\167\320\135\345\201\042\041\207\376\224\175\204\330\223\255\326
\150\103\110\262\333\353\163\044\347\221\177\124\244\266\200\076
\235\243\074\114\162\302\127\304\240\324\314\070\047\316\325\006
\236\242\110\331\351\237\316\202\160\066\223\232\073\337\226\041
\343\131\267\014\332\221\067\360\375\131\132\263\231\310\151\154
\103\046\001\065\143\140\125\211\003\072\165\330\272\112\331\124
\377\356\336\200\330\055\321\070\325\136\055\013\230\175\076\154
\333\374\046\210\307

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Izenpe.com"

Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES

Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d

Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES

Not Valid Before: Thu Dec 13 13:08:28 2007

Not Valid After : Sun Dec 13 08:27:25 2037

Fingerprint (SHA-256):

25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F

Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\170\075\045\122\030\247\112\145\071\161\265\054\242\234\105
\025\157\351\031
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\246\260\315\205\200\332\134\120\064\243\071\220\057\125\147\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Chambers of Commerce Root - 2008"
#
# Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
# Serial Number:00:a3:da:42:7e:a4:b1:ae:da
# Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
# Not Valid Before: Fri Aug 01 12:29:50 2008
# Not Valid After : Sat Jul 31 12:29:50 2038
# Fingerprint (SHA-256):
06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0
# Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141

```

\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\243\332\102\176\244\261\256\332

END

CKA_VALUE MULTILINE_OCTAL

\060\202\007\117\060\202\005\067\240\003\002\001\002\002\011\000
\243\332\102\176\244\261\256\332\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\201\256\061\013\060\011\006\003
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056
\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020
\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067
\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141
\155\145\162\146\151\162\155\141\040\123\056\101\056\061\051\060
\047\006\003\125\004\003\023\040\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164\040\055\040\062\060\060\070\060\036\027\015\060\070\060\070
\060\061\061\062\062\071\065\060\132\027\015\063\070\060\067\063
\061\061\062\062\071\065\060\132\060\201\256\061\013\060\011\006
\003\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004
\007\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143
\165\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141

\164\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141
\056\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060
\020\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070
\067\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103
\141\155\145\162\146\151\162\155\141\040\123\056\101\056\061\051
\060\047\006\003\125\004\003\023\040\103\150\141\155\142\145\162
\163\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157
\157\164\040\055\040\062\060\060\070\060\202\002\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017
\000\060\202\002\012\002\202\002\001\000\257\000\313\160\067\053
\200\132\112\072\154\170\224\175\243\177\032\037\366\065\325\275
\333\313\015\104\162\076\046\262\220\122\272\143\073\050\130\157
\245\263\155\224\246\363\335\144\014\125\366\366\347\362\042\042
\200\136\341\142\306\266\051\341\201\154\362\277\345\175\062\152
\124\240\062\031\131\376\037\213\327\075\140\206\205\044\157\343
\021\263\167\076\040\226\065\041\153\263\010\331\160\056\144\367
\204\222\123\326\016\260\220\212\212\343\207\215\006\323\275\220
\016\342\231\241\033\206\016\332\232\012\273\013\141\120\006\122
\361\236\177\166\354\313\017\320\036\015\317\231\060\075\034\304
\105\020\130\254\326\323\350\327\345\352\305\001\007\167\326\121
\346\003\177\212\110\245\115\150\165\271\351\274\236\116\031\161
\365\062\113\234\155\140\031\013\373\314\235\165\334\277\046\315
\217\223\170\071\171\163\136\045\016\312\134\353\167\022\007\313
\144\101\107\162\223\253\120\303\353\011\166\144\064\322\071\267
\166\021\011\015\166\105\304\251\256\075\152\257\265\175\145\057
\224\130\020\354\134\174\257\176\342\266\030\331\320\233\116\132
\111\337\251\146\013\314\074\306\170\174\247\234\035\343\316\216
\123\276\005\336\140\017\153\345\032\333\077\343\341\041\311\051
\301\361\353\007\234\122\033\001\104\121\074\173\045\327\304\345
\122\124\135\045\007\312\026\040\270\255\344\101\356\172\010\376
\231\157\203\246\221\002\260\154\066\125\152\347\175\365\226\346
\312\201\326\227\361\224\203\351\355\260\261\153\022\151\036\254
\373\135\251\305\230\351\264\133\130\172\276\075\242\104\072\143
\131\324\013\045\336\033\117\275\345\001\236\315\322\051\325\237
\027\031\012\157\277\014\220\323\011\137\331\343\212\065\314\171
\132\115\031\067\222\267\304\301\255\257\364\171\044\232\262\001
\013\261\257\134\226\363\200\062\373\134\075\230\361\240\077\112
\336\276\257\224\056\331\125\232\027\156\140\235\143\154\270\143
\311\256\201\134\030\065\340\220\273\276\074\117\067\042\271\176
\353\317\236\167\041\246\075\070\201\373\110\332\061\075\053\343
\211\365\320\265\275\176\340\120\304\022\211\263\043\232\020\061
\205\333\256\157\357\070\063\030\166\021\002\003\001\000\001\243
\202\001\154\060\202\001\150\060\022\006\003\125\035\023\001\001
\377\004\010\060\006\001\001\377\002\001\014\060\035\006\003\125
\035\016\004\026\004\024\371\044\254\017\262\265\370\171\300\372
\140\210\033\304\331\115\002\236\027\031\060\201\343\006\003\125
\035\043\004\201\333\060\201\330\200\024\371\044\254\017\262\265
\370\171\300\372\140\210\033\304\331\115\002\236\027\031\241\201

\264\244\201\261\060\201\256\061\013\060\011\006\003\125\004\006
\023\002\105\125\061\103\060\101\006\003\125\004\007\023\072\115
\141\144\162\151\144\040\050\163\145\145\040\143\165\162\162\145
\156\164\040\141\144\144\162\145\163\163\040\141\164\040\167\167
\167\056\143\141\155\145\162\146\151\162\155\141\056\143\157\155
\057\141\144\144\162\145\163\163\051\061\022\060\020\006\003\125
\004\005\023\011\101\070\062\067\064\063\062\070\067\061\033\060
\031\006\003\125\004\012\023\022\101\103\040\103\141\155\145\162
\146\151\162\155\141\040\123\056\101\056\061\051\060\047\006\003
\125\004\003\023\040\103\150\141\155\142\145\162\163\040\157\146
\040\103\157\155\155\145\162\143\145\040\122\157\157\164\040\055
\040\062\060\060\070\202\011\000\243\332\102\176\244\261\256\332
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\075\006\003\125\035\040\004\066\060\064\060\062\006\004\125
\035\040\000\060\052\060\050\006\010\053\006\001\005\005\007\002
\001\026\034\150\164\164\160\072\057\057\160\157\154\151\143\171
\056\143\141\155\145\162\146\151\162\155\141\056\143\157\155\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\002\001\000\220\022\257\042\065\302\243\071\360\056\336\351\265
\351\170\174\110\276\077\175\105\222\136\351\332\261\031\374\026
\074\237\264\133\146\236\152\347\303\271\135\210\350\017\255\317
\043\017\336\045\072\136\314\117\245\301\265\055\254\044\322\130
\007\336\242\317\151\204\140\063\350\020\015\023\251\043\320\205
\345\216\173\246\236\075\162\023\162\063\365\252\175\306\143\037
\010\364\376\001\177\044\317\053\054\124\011\336\342\053\155\222
\306\071\117\026\352\074\176\172\106\324\105\152\106\250\353\165
\202\126\247\253\240\174\150\023\063\366\235\060\360\157\047\071
\044\043\052\220\375\220\051\065\362\223\337\064\245\306\367\370
\357\214\017\142\112\174\256\323\365\124\370\215\266\232\126\207
\026\202\072\063\253\132\042\010\367\202\272\352\056\340\107\232
\264\265\105\243\005\073\331\334\056\105\100\073\352\334\177\350
\073\353\321\354\046\330\065\244\060\305\072\254\127\236\263\166
\245\040\173\371\036\112\005\142\001\246\050\165\140\227\222\015
\156\076\115\067\103\015\222\025\234\030\042\315\121\231\240\051
\032\074\137\212\062\063\133\060\307\211\057\107\230\017\243\003
\306\366\361\254\337\062\360\331\201\032\344\234\275\366\200\024
\360\321\054\271\205\365\330\243\261\310\245\041\345\034\023\227
\356\016\275\337\051\251\357\064\123\133\323\344\152\023\204\006
\266\062\002\304\122\256\042\322\334\262\041\102\032\332\100\360
\051\311\354\012\014\134\342\320\272\314\110\323\067\012\314\022
\012\212\171\260\075\003\177\151\113\364\064\040\175\263\064\352
\216\113\144\365\076\375\263\043\147\025\015\004\270\360\055\301
\011\121\074\262\154\025\360\245\043\327\203\164\344\345\056\311
\376\230\047\102\306\253\306\236\260\320\133\070\245\233\120\336
\176\030\230\265\105\073\366\171\264\350\367\032\173\006\203\373
\320\213\332\273\307\275\030\253\010\157\074\200\153\100\077\031
\031\272\145\212\346\276\325\134\323\066\327\357\100\122\044\140
\070\147\004\061\354\217\363\202\306\336\271\125\363\073\061\221

```
\132\334\265\010\025\255\166\045\012\015\173\056\207\342\014\246
\006\274\046\020\155\067\235\354\335\170\214\174\200\305\360\331
\167\110\320
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Chambers of Commerce Root - 2008"

Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU

Serial Number:00:a3:da:42:7e:a4:b1:ae:da

Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU

Not Valid Before: Fri Aug 01 12:29:50 2008

Not Valid After : Sat Jul 31 12:29:50 2038

Fingerprint (SHA-256):

06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0

Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\170\152\164\254\166\253\024\177\234\152\060\120\272\236\250\176
\376\232\316\074
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\136\200\236\204\132\016\145\013\027\002\363\125\030\052\076\327
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\011\000\243\332\102\176\244\261\256\332
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Global Chambersign Root - 2008"

#

Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at www.camerfirma.com/address),C=EU

Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce

Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at www.camerfirma.com/address),C=EU

Not Valid Before: Fri Aug 01 12:31:40 2008

Not Valid After : Sat Jul 31 12:31:40 2038

Fingerprint (SHA-256):

13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA

Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Global Chambersign Root - 2008"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023

\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\311\315\323\351\325\175\043\316
END
CKA_VALUE MULTILINE_OCTAL
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\367\015\001\001\005\005\000\060\201\254\061\013\060\011\006\003
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056
\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020
\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067
\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141
\155\145\162\146\151\162\155\141\040\123\056\101\056\061\047\060
\045\006\003\125\004\003\023\036\107\154\157\142\141\154\040\103
\150\141\155\142\145\162\163\151\147\156\040\122\157\157\164\040
\055\040\062\060\060\070\060\036\027\015\060\070\060\070\060\061
\061\062\063\061\064\060\132\027\015\063\070\060\067\063\061\061
\062\063\061\064\060\132\060\201\254\061\013\060\011\006\003\125
\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007\023
\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165\162
\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164\040
\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056\143
\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020\006
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\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\056\101\056\061\047\060\045
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\141\155\142\145\162\163\151\147\156\040\122\157\157\164\040\055
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\023\333\377\301\266\031\213\067\101\030\225\122\107\353\027\235
\051\210\216\065\154\006\062\056\107\142\363\111\004\277\175\104
\066\261\161\314\275\132\011\163\325\331\205\104\377\221\127\045
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\033\275\072\265\313\255\243\314\104\247\015\256\041\025\077\271
\172\133\222\165\330\244\022\070\211\031\212\267\200\322\342\062
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\317\030\117\140\262\043\320\307\073\316\141\113\231\217\302\014
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\165\323\301\376\000\125\260\207\124\350\047\220\065\035\114\063
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\041\335\324\300\075\245\237\237\037\103\120\311\273\274\154\172
\227\230\356\315\214\037\373\234\121\256\213\160\275\047\237\161
\300\153\254\175\220\146\350\327\135\072\015\260\325\302\215\325
\310\235\235\301\155\320\320\277\121\344\343\370\303\070\066\256
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\230\042\326\254\301\065\333\243\240\045\377\162\265\166\035\336
\155\351\054\146\054\122\204\320\105\222\316\034\345\345\063\035
\334\007\123\124\243\252\202\073\232\067\057\334\335\240\144\351
\346\335\275\256\374\144\205\035\074\247\311\006\336\204\377\153
\350\153\032\074\305\242\263\102\373\213\011\076\137\010\122\307
\142\304\324\005\161\277\304\144\344\370\241\203\350\076\022\233
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\103\130\240\126\143\312\075\075\345\065\126\131\351\016\312\040
\314\053\113\223\051\017\002\003\001\000\001\243\202\001\152\060
\202\001\146\060\022\006\003\125\035\023\001\001\377\004\010\060
\006\001\001\377\002\001\014\060\035\006\003\125\035\016\004\026
\004\024\271\011\312\234\036\333\323\154\072\153\256\355\124\361
\133\223\006\065\056\136\060\201\341\006\003\125\035\043\004\201
\331\060\201\326\200\024\271\011\312\234\036\333\323\154\072\153
\256\355\124\361\133\223\006\065\056\136\241\201\262\244\201\257
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070\202
\011\000\311\315\323\351\325\175\043\316\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\075\006\003\125\035
\040\004\066\060\064\060\062\006\004\125\035\040\000\060\052\060
\050\006\010\053\006\001\005\005\007\002\001\026\034\150\164\164
\160\072\057\057\160\157\154\151\143\171\056\143\141\155\145\162
\146\151\162\155\141\056\143\157\155\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\002\001\000\200\210\177
\160\336\222\050\331\005\224\106\377\220\127\251\361\057\337\032
\015\153\372\174\016\034\111\044\171\047\330\106\252\157\051\131
\122\210\160\022\352\335\075\365\233\123\124\157\341\140\242\250
\011\271\354\353\131\174\306\065\361\334\030\351\361\147\345\257

\272\105\340\011\336\312\104\017\302\027\016\167\221\105\172\063
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\325\202\222\204\065\321\276\066\070\126\162\061\133\107\055\252
\027\244\143\121\353\012\001\255\177\354\165\236\313\241\037\361
\177\022\261\271\344\144\177\147\326\043\052\364\270\071\135\230
\350\041\247\341\275\075\102\032\164\232\160\257\150\154\120\135
\111\317\377\373\016\135\346\054\107\327\201\072\131\000\265\163
\153\143\040\366\061\105\010\071\016\364\160\176\100\160\132\077
\320\153\102\251\164\075\050\057\002\155\165\162\225\011\215\110
\143\306\306\043\127\222\223\136\065\301\215\371\012\367\054\235
\142\034\366\255\174\335\246\061\036\266\261\307\176\205\046\372
\244\152\265\332\143\060\321\357\223\067\262\146\057\175\005\367
\347\267\113\230\224\065\300\331\072\051\301\235\262\120\063\035
\112\251\132\246\311\003\357\355\364\347\250\156\212\264\127\204
\353\244\077\320\356\252\252\207\133\143\350\223\342\153\250\324
\270\162\170\153\033\355\071\344\135\313\233\252\207\325\117\116
\000\376\331\152\237\074\061\017\050\002\001\175\230\350\247\260
\242\144\236\171\370\110\362\025\251\314\346\310\104\353\077\170
\231\362\173\161\076\074\361\230\247\305\030\022\077\346\273\050
\063\102\351\105\012\174\155\362\206\171\057\305\202\031\175\011
\211\174\262\124\166\210\256\336\301\363\314\341\156\333\061\326
\223\256\231\240\357\045\152\163\230\211\133\072\056\023\210\036
\277\300\222\224\064\033\343\047\267\213\036\157\102\377\347\351
\067\233\120\035\055\242\371\002\356\313\130\130\072\161\274\150
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\323\330\060\317\023\015\117\025\311\204\274\247\110\055\370\060
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\351\233\256\325\124\300\164\200\321\013\102\237\301

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Global Chambersign Root - 2008"

Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at www.camerfirma.com/address),C=EU

Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce

Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at www.camerfirma.com/address),C=EU

Not Valid Before: Fri Aug 01 12:31:40 2008

Not Valid After : Sat Jul 31 12:31:40 2038

Fingerprint (SHA-256):

13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA

Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "Global Chambersign Root - 2008"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\112\275\356\354\225\015\065\234\211\256\307\122\241\054\133\051
\366\326\252\014
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\236\200\377\170\001\014\056\301\066\275\376\226\220\156\010\363
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\311\315\323\351\325\175\043\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Go Daddy Root Certificate Authority - G2"
#
# Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA
# Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
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\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

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\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

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\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012\023
\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157\040
\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062\060\036\027\015\060\071\060\071\060\061\060
\060\060\060\060\060\132\027\015\063\067\061\062\063\061\062\063
\065\071\065\071\132\060\201\203\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\020\060\016\006\003\125\004\010\023\007
\101\162\151\172\157\156\141\061\023\060\021\006\003\125\004\007
\023\012\123\143\157\164\164\163\144\141\154\145\061\032\060\030
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\157\155\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\023\050\107\157\040\104\141\144\144\171\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202

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\356\364\372\117\057\131\060\042\347\253\031\126\153\342\200\007
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\202\023\344\266\077\251\003\203\372\242\276\212\025\152\177\336
\013\303\266\031\024\005\312\352\303\250\004\224\073\106\174\062
\015\363\000\146\042\310\215\151\155\066\214\021\030\267\323\262
\034\140\264\070\372\002\214\316\323\335\106\007\336\012\076\353
\135\174\310\174\373\260\053\123\244\222\142\151\121\045\005\141
\032\104\201\214\054\251\103\226\043\337\254\072\201\232\016\051
\305\034\251\351\135\036\266\236\236\060\012\071\316\361\210\200
\373\113\135\314\062\354\205\142\103\045\064\002\126\047\001\221
\264\073\160\052\077\156\261\350\234\210\001\175\237\324\371\333
\123\155\140\235\277\054\347\130\253\270\137\106\374\316\304\033
\003\074\011\353\111\061\134\151\106\263\340\107\002\003\001\000
\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\072\232\205\007\020\147\050\266\357\366\275\005\101\156\040
\301\224\332\017\336\060\015\006\011\052\206\110\206\367\015\001
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\207\264\367\246\234\274\330\351\057\320\333\132\356\317\164\214
\163\264\070\102\332\005\173\370\002\165\270\375\245\261\327\256
\366\327\336\023\313\123\020\176\212\106\321\227\372\267\056\053
\021\253\220\260\047\200\371\350\237\132\351\067\237\253\344\337
\154\263\205\027\235\075\331\044\117\171\221\065\326\137\004\353
\200\203\253\232\002\055\265\020\364\330\220\307\004\163\100\355
\162\045\240\251\237\354\236\253\150\022\231\127\306\217\022\072
\011\244\275\104\375\006\025\067\301\233\344\062\243\355\070\350
\330\144\363\054\176\024\374\002\352\237\315\377\007\150\027\333
\042\220\070\055\172\215\321\124\361\151\343\137\063\312\172\075
\173\012\343\312\177\137\071\345\342\165\272\305\166\030\063\316
\054\360\057\114\255\367\261\347\316\117\250\304\233\112\124\006
\305\177\175\325\010\017\342\034\376\176\027\270\254\136\366\324
\026\262\103\011\014\115\366\247\153\264\231\204\145\312\172\210
\342\342\104\276\134\367\352\034\365

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Go Daddy Root Certificate Authority - G2"

Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

Serial Number: 0 (0x0)

Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com,

```

Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA
# Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\107\276\253\311\042\352\350\016\170\170\064\142\247\237\105\302
\124\375\346\213
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\200\072\274\042\301\346\373\215\233\073\047\112\062\033\232\001
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Starfield Root Certificate Authority - G2"
#
# Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):

```

```
2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5
# Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\335\060\202\002\305\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062\060
\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145\154
\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040\107
```

\062\060\036\027\015\060\071\060\071\060\061\060\060\060\060\060\060
\060\132\027\015\063\067\061\062\063\061\062\063\065\071\065\071
\132\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172
\157\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143
\157\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061
\062\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151
\145\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055
\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\275\355\301\003\374\366\217\374\002\261\157\133
\237\110\331\235\171\342\242\267\003\141\126\030\303\107\266\327
\312\075\065\056\211\103\367\241\151\233\336\212\032\375\023\040
\234\264\111\167\062\051\126\375\271\354\214\335\042\372\162\334
\047\141\227\356\366\132\204\354\156\031\271\211\054\334\204\133
\325\164\373\153\137\305\211\245\020\122\211\106\125\364\270\165
\034\346\177\344\124\256\113\370\125\162\127\002\031\370\027\161
\131\353\036\050\007\164\305\235\110\276\154\264\364\244\260\363
\144\067\171\222\300\354\106\136\177\341\155\123\114\142\257\315
\037\013\143\273\072\235\373\374\171\000\230\141\164\317\046\202
\100\143\363\262\162\152\031\015\231\312\324\016\165\314\067\373
\213\211\301\131\361\142\177\137\263\137\145\060\370\247\267\115
\166\132\036\166\136\064\300\350\226\126\231\212\263\360\177\244
\315\275\334\062\061\174\221\317\340\137\021\370\153\252\111\134
\321\231\224\321\242\343\143\133\011\166\265\126\142\341\113\164
\035\226\324\046\324\010\004\131\320\230\016\016\346\336\374\303
\354\037\220\361\002\003\001\000\001\243\102\060\100\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\174\014\062\037\247\331\060
\177\304\175\150\243\142\250\241\316\253\007\133\047\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001
\000\021\131\372\045\117\003\157\224\231\073\232\037\202\205\071
\324\166\005\224\136\341\050\223\155\142\135\011\302\240\250\324
\260\165\070\361\064\152\235\344\237\212\206\046\121\346\054\321
\306\055\156\225\040\112\222\001\354\270\212\147\173\061\342\147
\056\214\225\003\046\056\103\235\112\061\366\016\265\014\273\267
\342\067\177\042\272\000\243\016\173\122\373\153\273\073\304\323
\171\121\116\315\220\364\147\007\031\310\074\106\172\015\001\175
\305\130\347\155\346\205\060\027\232\044\304\020\340\004\367\340
\362\177\324\252\012\377\102\035\067\355\224\345\144\131\022\040
\167\070\323\062\076\070\201\165\226\163\372\150\217\261\313\316
\037\305\354\372\234\176\317\176\261\361\007\055\266\374\277\312
\244\277\320\227\005\112\274\352\030\050\002\220\275\124\170\011
\041\161\323\321\175\035\331\026\260\251\141\075\320\012\000\042

```
\374\307\173\313\011\144\105\013\073\100\201\367\175\174\062\365
\230\312\130\216\175\052\356\220\131\163\144\371\066\164\136\045
\241\365\146\005\056\177\071\025\251\052\373\120\213\216\205\151
\364
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Starfield Root Certificate Authority - G2"

Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

Serial Number: 0 (0x0)

Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

Not Valid Before: Tue Sep 01 00:00:00 2009

Not Valid After : Thu Dec 31 23:59:59 2037

Fingerprint (SHA-256):

2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5

Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\265\034\006\174\356\053\014\075\370\125\253\055\222\364\376\071
\324\347\017\016
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\326\071\201\306\122\176\226\151\374\374\312\146\355\005\362\226
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\000
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Starfield Services Root Certificate Authority - G2"

#

Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

Serial Number: 0 (0x0)

Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

Not Valid Before: Tue Sep 01 00:00:00 2009

Not Valid After : Thu Dec 31 23:59:59 2037

Fingerprint (SHA-256):

56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5

Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\357\060\202\002\327\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073\060
\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145\154
\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164\040
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150
\157\162\151\164\171\040\055\040\107\062\060\036\027\015\060\071
\060\071\060\061\060\060\060\060\060\060\132\027\015\063\067\061
\062\063\061\062\063\065\071\065\071\132\060\201\230\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\020\060\016\006\003
\125\004\010\023\007\101\162\151\172\157\156\141\061\023\060\021
\006\003\125\004\007\023\012\123\143\157\164\164\163\144\141\154
\145\061\045\060\043\006\003\125\004\012\023\034\123\164\141\162
\146\151\145\154\144\040\124\145\143\150\156\157\154\157\147\151
\145\163\054\040\111\156\143\056\061\073\060\071\006\003\125\004
\003\023\062\123\164\141\162\146\151\145\154\144\040\123\145\162
\166\151\143\145\163\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\325\014\072\304\052\371\116\342\365\276
\031\227\137\216\210\123\261\037\077\313\317\237\040\023\155\051
\072\310\017\175\074\367\153\166\070\143\331\066\140\250\233\136
\134\000\200\262\057\131\177\366\207\371\045\103\206\347\151\033
\122\232\220\341\161\343\330\055\015\116\157\366\310\111\331\266
\363\032\126\256\053\266\164\024\353\317\373\046\343\032\272\035
\226\056\152\073\130\224\211\107\126\377\045\240\223\160\123\203
\332\204\164\024\303\147\236\004\150\072\337\216\100\132\035\112
\116\317\103\221\073\347\126\326\000\160\313\122\356\173\175\256
\072\347\274\061\371\105\366\302\140\317\023\131\002\053\200\314
\064\107\337\271\336\220\145\155\002\317\054\221\246\246\347\336
\205\030\111\174\146\116\243\072\155\251\265\356\064\056\272\015
\003\270\063\337\107\353\261\153\215\045\331\233\316\201\321\105
\106\062\226\160\207\336\002\016\111\103\205\266\154\163\273\144
\352\141\101\254\311\324\124\337\207\057\307\042\262\046\314\237
\131\124\150\237\374\276\052\057\304\125\034\165\100\140\027\205
\002\125\071\213\177\005\002\003\001\000\001\243\102\060\100\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006

```
\060\035\006\003\125\035\016\004\026\004\024\234\137\000\337\252
\001\327\060\053\070\210\242\270\155\112\234\362\021\221\203\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\001\001\000\113\066\246\204\167\151\335\073\031\237\147\043\010
\157\016\141\311\375\204\334\137\330\066\201\315\330\033\101\055
\237\140\335\307\032\150\331\321\156\206\341\210\043\317\023\336
\103\317\342\064\263\004\235\037\051\325\277\370\136\310\325\301
\275\356\222\157\062\164\362\221\202\057\275\202\102\172\255\052
\267\040\175\115\274\172\125\022\302\025\352\275\367\152\225\056
\154\164\237\317\034\264\362\305\001\243\205\320\162\076\255\163
\253\013\233\165\014\155\105\267\216\224\254\226\067\265\240\320
\217\025\107\016\343\350\203\335\217\375\357\101\001\167\314\047
\251\142\205\063\362\067\010\357\161\317\167\006\336\310\031\035
\210\100\317\175\106\035\377\036\307\341\316\377\043\333\306\372
\215\125\116\251\002\347\107\021\106\076\364\375\275\173\051\046
\273\251\141\142\067\050\266\055\052\366\020\206\144\311\160\247
\322\255\267\051\160\171\352\074\332\143\045\237\375\150\267\060
\354\160\373\165\212\267\155\140\147\262\036\310\271\351\330\250
\157\002\213\147\015\115\046\127\161\332\040\374\301\112\120\215
\261\050\272
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Starfield Services Root Certificate Authority - G2"

Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies, Inc.",L=Scottsdale,ST=Arizona,C=US

Serial Number: 0 (0x0)

Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies, Inc.",L=Scottsdale,ST=Arizona,C=US

Not Valid Before: Tue Sep 01 00:00:00 2009

Not Valid After : Thu Dec 31 23:59:59 2037

Fingerprint (SHA-256):

56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5

Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\222\132\217\215\054\155\004\340\146\137\131\152\377\042\330\143
\350\045\157\077
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\027\065\164\257\173\141\034\353\364\371\074\342\356\100\371\242
```

END


```

CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AffirmTrust Commercial"
#
# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
# Serial Number:77:77:06:27:26:a9:b1:7c
# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:06:06 2010
# Not Valid After : Tue Dec 31 14:06:06 2030
# Fingerprint (SHA-256):
03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7
# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Commercial"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155

```

\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\167\167\006\047\046\251\261\174
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\167
\167\006\047\046\251\261\174\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\104\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163
\164\040\103\157\155\155\145\162\143\151\141\154\060\036\027\015
\061\060\060\061\062\071\061\064\060\066\060\066\132\027\015\063
\060\061\062\063\061\061\064\060\066\060\066\132\060\104\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151
\162\155\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\366\033\117\147\007\053\241\025\365\006\042\313\037
\001\262\343\163\105\006\104\111\054\273\111\045\024\326\316\303
\267\253\054\117\306\101\062\224\127\372\022\247\133\016\342\217
\037\036\206\031\247\252\265\055\271\137\015\212\302\257\205\065
\171\062\055\273\034\142\067\362\261\133\112\075\312\315\161\137
\351\102\276\224\350\310\336\371\042\110\144\306\345\253\306\053
\155\255\005\360\372\325\013\317\232\345\360\120\244\213\073\107
\245\043\133\172\172\370\063\077\270\357\231\227\343\040\301\326
\050\211\317\224\373\271\105\355\343\100\027\021\324\164\360\013
\061\342\053\046\152\233\114\127\256\254\040\076\272\105\172\005
\363\275\233\151\025\256\175\116\040\143\304\065\166\072\007\002
\311\067\375\307\107\356\350\361\166\035\163\025\362\227\244\265
\310\172\171\331\102\252\053\177\134\376\316\046\117\243\146\201
\065\257\104\272\124\036\034\060\062\145\235\346\074\223\136\120
\116\172\343\072\324\156\314\032\373\371\322\067\256\044\052\253
\127\003\042\050\015\111\165\177\267\050\332\165\277\216\343\334
\016\171\061\002\003\001\000\001\243\102\060\100\060\035\006\003
\125\035\016\004\026\004\024\235\223\306\123\213\136\312\257\077
\237\036\017\345\231\225\274\044\366\224\217\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011
\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001\000
\130\254\364\004\016\315\300\015\377\012\375\324\272\026\137\051
\275\173\150\231\130\111\322\264\035\067\115\177\047\175\106\006
\135\103\306\206\056\076\163\262\046\175\117\223\251\266\304\052

```
\232\253\041\227\024\261\336\214\323\253\211\025\330\153\044\324
\361\026\256\330\244\134\324\177\121\216\355\030\001\261\223\143
\275\274\370\141\200\232\236\261\316\102\160\342\251\175\006\045
\175\047\241\376\157\354\263\036\044\332\343\113\125\032\000\073
\065\264\073\331\327\135\060\375\201\023\211\362\302\006\053\355
\147\304\216\311\103\262\134\153\025\211\002\274\142\374\116\362
\265\063\252\262\157\323\012\242\120\343\366\073\350\056\104\302
\333\146\070\251\063\126\110\361\155\033\063\215\015\214\077\140
\067\235\323\312\155\176\064\176\015\237\162\166\213\033\237\162
\375\122\065\101\105\002\226\057\034\262\232\163\111\041\261\111
\107\105\107\264\357\152\064\021\311\115\232\314\131\267\326\002
\236\132\116\145\265\224\256\033\337\051\260\026\361\277\000\236
\007\072\027\144\265\004\265\043\041\231\012\225\073\227\174\357
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "AffirmTrust Commercial"
```

```
# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
```

```
# Serial Number:77:77:06:27:26:a9:b1:7c
```

```
# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
```

```
# Not Valid Before: Fri Jan 29 14:06:06 2010
```

```
# Not Valid After : Tue Dec 31 14:06:06 2030
```

```
# Fingerprint (SHA-256):
```

```
03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7
```

```
# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AffirmTrust Commercial"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\371\265\266\062\105\137\234\276\354\127\137\200\334\351\156\054
\307\262\170\267
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\202\222\272\133\357\315\212\157\246\075\125\371\204\366\326\267
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\167\167\006\047\046\251\261\174
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AffirmTrust Networking"
#
# Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US
# Serial Number:7c:4f:04:39:1c:d4:99:2d
# Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:08:24 2010
# Not Valid After : Tue Dec 31 14:08:24 2030
# Fingerprint (SHA-256):
0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B
# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Networking"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\174\117\004\071\034\324\231\055
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\174
\117\004\071\034\324\231\055\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\104\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163

```

\164\040\116\145\164\167\157\162\153\151\156\147\060\036\027\015
\061\060\060\061\062\071\061\064\060\070\062\064\132\027\015\063
\060\061\062\063\061\061\064\060\070\062\064\132\060\104\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151
\162\155\124\162\165\163\164\040\116\145\164\167\157\162\153\151
\156\147\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\264\204\314\063\027\056\153\224\154\153\141\122\240
\353\243\317\171\224\114\345\224\200\231\313\125\144\104\145\217
\147\144\342\006\343\134\067\111\366\057\233\204\204\036\055\362
\140\235\060\116\314\204\205\342\054\317\036\236\376\066\253\063
\167\065\104\330\065\226\032\075\066\350\172\016\330\325\107\241
\152\151\213\331\374\273\072\256\171\132\325\364\326\161\273\232
\220\043\153\232\267\210\164\207\014\036\137\271\236\055\372\253
\123\053\334\273\166\076\223\114\010\010\214\036\242\043\034\324
\152\255\042\272\231\001\056\155\145\313\276\044\146\125\044\113
\100\104\261\033\327\341\302\205\300\336\020\077\075\355\270\374
\361\361\043\123\334\277\145\227\157\331\371\100\161\215\175\275
\225\324\316\276\240\136\047\043\336\375\246\320\046\016\000\051
\353\074\106\360\075\140\277\077\120\322\334\046\101\121\236\024
\067\102\004\243\160\127\250\033\207\355\055\372\173\356\214\012
\343\251\146\211\031\313\101\371\335\104\066\141\317\342\167\106
\310\175\366\364\222\201\066\375\333\064\361\162\176\363\014\026
\275\264\025\002\003\001\000\001\243\102\060\100\060\035\006\003
\125\035\016\004\026\004\024\007\037\322\347\234\332\302\156\242
\100\264\260\172\120\020\120\164\304\310\275\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\211\127\262\026\172\250\302\375\326\331\233\233\064\302\234\264
\062\024\115\247\244\337\354\276\247\276\370\103\333\221\067\316
\264\062\056\120\125\032\065\116\166\103\161\040\357\223\167\116
\025\160\056\207\303\301\035\155\334\313\265\047\324\054\126\321
\122\123\072\104\322\163\310\304\033\005\145\132\142\222\234\356
\101\215\061\333\347\064\352\131\041\325\001\172\327\144\270\144
\071\315\311\355\257\355\113\003\110\247\240\231\001\200\334\145
\243\066\256\145\131\110\117\202\113\310\145\361\127\035\345\131
\056\012\077\154\330\321\365\345\011\264\154\124\000\012\340\025
\115\207\165\155\267\130\226\132\335\155\322\000\240\364\233\110
\276\303\067\244\272\066\340\174\207\205\227\032\025\242\336\056
\242\133\275\257\030\371\220\120\315\160\131\370\047\147\107\313
\307\240\007\072\175\321\054\135\154\031\072\146\265\175\375\221
\157\202\261\276\010\223\333\024\107\361\242\067\307\105\236\074
\307\167\257\144\250\223\337\366\151\203\202\140\362\111\102\064
\355\132\000\124\205\034\026\066\222\014\134\372\246\255\277\333
END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "AffirmTrust Networking"

Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US

Serial Number:7c:4f:04:39:1c:d4:99:2d

Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US

Not Valid Before: Fri Jan 29 14:08:24 2010

Not Valid After : Tue Dec 31 14:08:24 2030

Fingerprint (SHA-256):

0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B

Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "AffirmTrust Networking"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\051\066\041\002\213\040\355\002\365\146\305\062\321\326\355\220
\237\105\000\057

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\102\145\312\276\001\232\232\114\251\214\101\111\315\300\325\177

END

CKA_ISSUER MULTILINE_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\174\117\004\071\034\324\231\055

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "AffirmTrust Premium"

#

Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US

Serial Number:6d:8c:14:46:b1:a6:0a:ee

Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US

Not Valid Before: Fri Jan 29 14:10:36 2010

Not Valid After : Mon Dec 31 14:10:36 2040

```
# Fingerprint (SHA-256):
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\010\155
\214\024\106\261\246\012\356\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\060\101\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\034\060\032\006
\003\125\004\003\014\023\101\146\146\151\162\155\124\162\165\163
\164\040\120\162\145\155\151\165\155\060\036\027\015\061\060\060
\061\062\071\061\064\061\060\063\066\132\027\015\064\060\061\062
\063\061\061\064\061\060\063\066\132\060\101\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125\004
\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061\034
\060\032\006\003\125\004\003\014\023\101\146\146\151\162\155\124
\162\165\163\164\040\120\162\145\155\151\165\155\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\304\022\337
\251\137\376\101\335\335\365\237\212\343\366\254\341\074\170\232
\274\330\360\177\172\240\063\052\334\215\040\133\256\055\157\347
\223\331\066\160\152\150\317\216\121\243\205\133\147\004\240\020
\044\157\135\050\202\301\227\127\330\110\051\023\266\341\276\221
\115\337\205\014\123\030\232\036\044\242\117\217\360\242\205\013
```

\313\364\051\177\322\244\130\356\046\115\311\252\250\173\232\331
\372\070\336\104\127\025\345\370\214\310\331\110\342\015\026\047
\035\036\310\203\205\045\267\272\252\125\101\314\003\042\113\055
\221\215\213\346\211\257\146\307\351\377\053\351\074\254\332\322
\263\303\341\150\234\211\370\172\000\126\336\364\125\225\154\373
\272\144\335\142\213\337\013\167\062\353\142\314\046\232\233\273
\252\142\203\114\264\006\172\060\310\051\277\355\006\115\227\271
\034\304\061\053\325\137\274\123\022\027\234\231\127\051\146\167
\141\041\061\007\056\045\111\235\030\362\356\363\053\161\214\265
\272\071\007\111\167\374\357\056\222\220\005\215\055\057\167\173
\357\103\277\065\273\232\330\371\163\247\054\362\320\127\356\050
\116\046\137\217\220\150\011\057\270\370\334\006\351\056\232\076
\121\247\321\042\304\012\247\070\110\154\263\371\377\175\253\206
\127\343\272\326\205\170\167\272\103\352\110\177\366\330\276\043
\155\036\277\321\066\154\130\134\361\356\244\031\124\032\365\003
\322\166\346\341\214\275\074\263\323\110\113\342\310\370\177\222
\250\166\106\234\102\145\076\244\036\301\007\003\132\106\055\270
\227\363\267\325\262\125\041\357\272\334\114\000\227\373\024\225
\047\063\277\350\103\107\106\322\010\231\026\140\073\232\176\322
\346\355\070\352\354\001\036\074\110\126\111\011\307\114\067\000
\236\210\016\300\163\341\157\146\351\162\107\060\076\020\345\013
\003\311\232\102\000\154\305\224\176\141\304\212\337\177\202\032
\013\131\304\131\062\167\263\274\140\151\126\071\375\264\006\173
\054\326\144\066\331\275\110\355\204\037\176\245\042\217\052\270
\102\364\202\267\324\123\220\170\116\055\032\375\201\157\104\327
\073\001\164\226\102\340\000\342\056\153\352\305\356\162\254\273
\277\376\352\252\250\370\334\366\262\171\212\266\147\002\003\001
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\235\300\147\246\014\042\331\046\365\105\253\246\145\122\021
\047\330\105\254\143\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015
\001\001\014\005\000\003\202\002\001\000\263\127\115\020\142\116
\072\344\254\352\270\034\257\062\043\310\263\111\132\121\234\166
\050\215\171\252\127\106\027\325\365\122\366\267\104\350\010\104
\277\030\204\322\013\200\315\305\022\375\000\125\005\141\207\101
\334\265\044\236\074\304\330\310\373\160\236\057\170\226\203\040
\066\336\174\017\151\023\210\245\165\066\230\010\246\306\337\254
\316\343\130\326\267\076\336\272\363\353\064\100\330\242\201\365
\170\077\057\325\245\374\331\242\324\136\004\016\027\255\376\101
\360\345\262\162\372\104\202\063\102\350\055\130\367\126\214\142
\077\272\102\260\234\014\134\176\056\145\046\134\123\117\000\262
\170\176\241\015\231\055\215\270\035\216\242\304\260\375\140\320
\060\244\216\310\004\142\251\304\355\065\336\172\227\355\016\070
\136\222\057\223\160\245\251\234\157\247\175\023\035\176\306\010
\110\261\136\147\353\121\010\045\351\346\045\153\122\051\221\234
\322\071\163\010\127\336\231\006\264\133\235\020\006\341\302\000
\250\270\034\112\002\012\024\320\301\101\312\373\214\065\041\175


```
\202\070\362\251\124\221\031\065\223\224\155\152\072\305\262\320
\273\211\206\223\350\233\311\017\072\247\172\270\241\360\170\106
\372\374\067\057\345\212\204\363\337\376\004\331\241\150\240\057
\044\342\011\225\006\325\225\312\341\044\226\353\174\366\223\005
\273\355\163\351\055\321\165\071\327\347\044\333\330\116\137\103
\217\236\320\024\071\277\125\160\110\231\127\061\264\234\356\112
\230\003\226\060\037\140\006\356\033\043\376\201\140\043\032\107
\142\205\245\314\031\064\200\157\263\254\032\343\237\360\173\110
\255\325\001\331\147\266\251\162\223\352\055\146\265\262\270\344
\075\074\262\357\114\214\352\353\007\277\253\065\232\125\206\274
\030\246\265\250\136\264\203\154\153\151\100\323\237\334\361\303
\151\153\271\341\155\011\364\361\252\120\166\012\172\175\172\027
\241\125\226\102\231\061\011\335\140\021\215\005\060\176\346\216
\106\321\235\024\332\307\027\344\005\226\214\304\044\265\033\317
\024\007\262\100\370\243\236\101\206\274\004\320\153\226\310\052
\200\064\375\277\357\006\243\335\130\305\205\075\076\217\376\236
\051\340\266\270\011\150\031\034\030\103
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "AffirmTrust Premium"
```

```
# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US
```

```
# Serial Number:6d:8c:14:46:b1:a6:0a:ee
```

```
# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US
```

```
# Not Valid Before: Fri Jan 29 14:10:36 2010
```

```
# Not Valid After : Mon Dec 31 14:10:36 2040
```

```
# Fingerprint (SHA-256):
```

```
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
```

```
# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AffirmTrust Premium"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\330\246\063\054\340\003\157\261\205\366\143\117\175\152\006\145
\046\062\050\047
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\304\135\016\110\266\254\050\060\116\012\274\371\070\026\207\127
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
```

```

\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AffirmTrust Premium ECC"
#
# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
# Serial Number:74:97:25:8a:c7:3f:7a:54
# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:20:24 2010
# Not Valid After : Mon Dec 31 14:20:24 2040
# Fingerprint (SHA-256):
BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23
# Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\164\227\045\212\307\077\172\124
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\376\060\202\001\205\240\003\002\001\002\002\010\164
\227\045\212\307\077\172\124\060\012\006\010\052\206\110\316\075

```

\004\003\003\060\105\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\024\060\022\006\003\125\004\012\014\013\101\146\146
\151\162\155\124\162\165\163\164\061\040\060\036\006\003\125\004
\003\014\027\101\146\146\151\162\155\124\162\165\163\164\040\120
\162\145\155\151\165\155\040\105\103\103\060\036\027\015\061\060
\060\061\062\071\061\064\062\060\062\064\132\027\015\064\060\061
\062\063\061\061\064\062\060\062\064\132\060\105\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125
\004\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061
\040\060\036\006\003\125\004\003\014\027\101\146\146\151\162\155
\124\162\165\163\164\040\120\162\145\155\151\165\155\040\105\103
\103\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\015\060\136\033\025\235\003
\320\241\171\065\267\072\074\222\172\312\025\034\315\142\363\234
\046\134\007\075\345\124\372\243\326\314\022\352\364\024\137\350
\216\031\253\057\056\110\346\254\030\103\170\254\320\067\303\275
\262\315\054\346\107\342\032\346\143\270\075\056\057\170\304\117
\333\364\017\244\150\114\125\162\153\225\035\116\030\102\225\170
\314\067\074\221\342\233\145\053\051\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\232\257\051\172\300\021\065\065
\046\121\060\000\303\152\376\100\325\256\326\074\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006
\010\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060
\027\011\363\207\210\120\132\257\310\300\102\277\107\137\365\154
\152\206\340\304\047\164\344\070\123\327\005\177\033\064\343\306
\057\263\312\011\074\067\235\327\347\270\106\361\375\241\342\161
\002\060\102\131\207\103\324\121\337\272\323\011\062\132\316\210
\176\127\075\234\137\102\153\365\007\055\265\360\202\223\371\131
\157\256\144\372\130\345\213\036\343\143\276\265\201\315\157\002
\214\171

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "AffirmTrust Premium ECC"

Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

Serial Number:74:97:25:8a:c7:3f:7a:54

Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

Not Valid Before: Fri Jan 29 14:20:24 2010

Not Valid After : Mon Dec 31 14:20:24 2040

Fingerprint (SHA-256):

BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23

Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\043\153\000\057\035\026\206\123\001\125\154\021\244\067\312
\353\377\303\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\144\260\011\125\317\261\325\231\342\276\023\253\246\135\352\115
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\164\227\045\212\307\077\172\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Trusted Network CA"
#
# Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Serial Number: 279744 (0x444c0)
# Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Not Valid Before: Wed Oct 22 12:07:37 2008
# Not Valid After : Mon Dec 31 12:07:37 2029
# Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
# Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145

```

\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\004\104\300

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\273\060\202\002\243\240\003\002\001\002\002\003\004
\104\300\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\060\036\027\015\060\070\061\060\062\062\061\062\060\067\063
\067\132\027\015\062\071\061\062\063\061\061\062\060\067\063\067
\132\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\343\373\175\243\162\272\302\360\311\024\207\365\153\001
\116\341\156\100\007\272\155\047\135\177\367\133\055\263\132\307
\121\137\253\244\062\246\141\207\266\156\017\206\322\060\002\227
\370\327\151\127\241\030\071\135\152\144\171\306\001\131\254\074
\061\112\070\174\322\004\322\113\050\350\040\137\073\007\242\314
\115\163\333\363\256\117\307\126\325\132\247\226\211\372\363\253

\150\324\043\206\131\047\317\011\047\274\254\156\162\203\034\060
\162\337\340\242\351\322\341\164\165\031\275\052\236\173\025\124
\004\033\327\103\071\255\125\050\305\342\032\273\364\300\344\256
\070\111\063\314\166\205\237\071\105\322\244\236\362\022\214\121
\370\174\344\055\177\365\254\137\353\026\237\261\055\321\272\314
\221\102\167\114\045\311\220\070\157\333\360\314\373\216\036\227
\131\076\325\140\116\346\005\050\355\111\171\023\113\272\110\333
\057\371\162\323\071\312\376\037\330\064\162\365\264\100\317\061
\001\303\354\336\021\055\027\135\037\270\120\321\136\031\247\151
\336\007\063\050\312\120\225\371\247\124\313\124\206\120\105\251
\371\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\010\166\315\313\007\377\044\366\305
\315\355\273\220\274\342\204\067\106\165\367\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\246
\250\255\042\316\001\075\246\243\377\142\320\110\235\213\136\162
\260\170\104\343\334\034\257\011\375\043\110\372\275\052\304\271
\125\004\265\020\243\215\047\336\013\202\143\320\356\336\014\067
\171\101\133\042\262\260\232\101\134\246\160\340\324\320\167\313
\043\323\000\340\154\126\057\341\151\015\015\331\252\277\041\201
\120\331\006\245\250\377\225\067\320\252\376\342\263\365\231\055
\105\204\212\345\102\011\327\164\002\057\367\211\330\231\351\274
\047\324\107\215\272\015\106\034\167\317\024\244\034\271\244\061
\304\234\050\164\003\064\377\063\031\046\245\351\015\164\267\076
\227\306\166\350\047\226\243\146\335\341\256\362\101\133\312\230
\126\203\163\160\344\206\032\322\061\101\272\057\276\055\023\132
\166\157\116\350\116\201\016\077\133\003\042\240\022\276\146\130
\021\112\313\003\304\264\052\052\055\226\027\340\071\124\274\110
\323\166\047\235\232\055\006\246\311\354\071\322\253\333\237\232
\013\047\002\065\051\261\100\225\347\371\350\234\125\210\031\106
\326\267\064\365\176\316\071\232\331\070\361\121\367\117\054

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certum Trusted Network CA"

Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL

Serial Number: 279744 (0x444c0)

Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL

Not Valid Before: Wed Oct 22 12:07:37 2008

Not Valid After : Mon Dec 31 12:07:37 2029

Fingerprint (SHA-256):

5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E

Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\007\340\062\340\040\267\054\077\031\057\006\050\242\131\072\031
\247\017\006\236
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\325\351\201\100\305\030\151\374\106\054\211\165\142\017\252\170
END
CKA_ISSUER MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TWCA Root Certification Authority"
#
# Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
# Serial Number: 1 (0x1)
# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
# Not Valid Before: Thu Aug 28 07:24:33 2008
# Not Valid After : Tue Dec 31 15:59:59 2030
# Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
# Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\173\060\202\002\143\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061\022
\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116\055
\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157\157
\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041\124
\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\036\027\015\060\070\060\070\062\070\060\067\062\064\063\063
\132\027\015\063\060\061\062\063\061\061\065\065\071\065\071\132
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\260\176\162\270\244\003\224\346\247\336\011\070\221\112
\021\100\207\247\174\131\144\024\173\265\021\020\335\376\277\325
\300\273\126\342\205\045\364\065\162\017\370\123\320\101\341\104
\001\302\264\034\303\061\102\026\107\205\063\042\166\262\012\157
\017\345\045\120\117\205\206\276\277\230\056\020\147\036\276\021
\005\206\005\220\304\131\320\174\170\020\260\200\134\267\341\307
\053\165\313\174\237\256\265\321\235\043\067\143\247\334\102\242
\055\222\004\033\120\301\173\270\076\033\311\126\004\213\057\122

\233\255\251\126\351\301\377\255\251\130\207\060\266\201\367\227
\105\374\031\127\073\053\157\344\107\364\231\105\376\035\361\370
\227\243\210\035\067\034\134\217\340\166\045\232\120\370\240\124
\377\104\220\166\043\322\062\306\303\253\006\277\374\373\277\363
\255\175\222\142\002\133\051\323\065\243\223\232\103\144\140\135
\262\372\062\377\073\004\257\115\100\152\371\307\343\357\043\375
\153\313\345\017\213\070\015\356\012\374\376\017\230\237\060\061
\335\154\122\145\371\213\201\276\042\341\034\130\003\272\221\033
\211\007\002\003\001\000\001\243\102\060\100\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\152\070\133\046\215\336\213\132\362
\117\172\124\203\031\030\343\010\065\246\272\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\074
\325\167\075\332\337\211\272\207\014\010\124\152\040\120\222\276
\260\101\075\271\046\144\203\012\057\350\100\300\227\050\047\202
\060\112\311\223\377\152\347\246\000\177\211\102\232\326\021\345
\123\316\057\314\362\332\005\304\376\342\120\304\072\206\175\314
\332\176\020\011\073\222\065\052\123\262\376\353\053\005\331\154
\135\346\320\357\323\152\146\236\025\050\205\172\350\202\000\254
\036\247\011\151\126\102\323\150\121\030\276\124\232\277\104\101
\272\111\276\040\272\151\134\356\270\167\315\316\154\037\255\203
\226\030\175\016\265\024\071\204\361\050\351\055\243\236\173\036
\172\162\132\203\263\171\157\357\264\374\320\012\245\130\117\106
\337\373\155\171\131\362\204\042\122\256\017\314\373\174\073\347
\152\312\107\141\303\172\370\323\222\004\037\270\040\204\341\066
\124\026\307\100\336\073\212\163\334\337\306\011\114\337\354\332
\377\324\123\102\241\311\362\142\035\042\203\074\227\305\371\031
\142\047\254\145\042\327\323\074\306\345\216\262\123\314\111\316
\274\060\376\173\016\063\220\373\355\322\024\221\037\007\257

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "TWCA Root Certification Authority"

Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

Serial Number: 1 (0x1)

Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

Not Valid Before: Thu Aug 28 07:24:33 2008

Not Valid After : Tue Dec 31 15:59:59 2030

Fingerprint (SHA-256):

BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44

Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\317\236\207\155\323\353\374\102\046\227\243\265\243\172\240\166
\251\006\043\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\010\217\366\371\173\267\362\261\247\036\233\352\275\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Explicitly Distrust DigiNotar Root CA"
#
# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff
# Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Not Valid Before: Fri Jul 27 17:19:37 2007
# Not Valid After : Mon Mar 31 18:19:22 2025
# Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E
# Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156

```

```
\154
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377
\377\377
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\212\060\202\003\162\240\003\002\001\002\002\020\017
\377\377\377\377\377\377\377\377\377\377\377\377\377\377\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\137
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022\060
\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164\141
\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147\151
\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040\060
\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156
\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154\060
\036\027\015\060\067\060\067\062\067\061\067\061\071\063\067\132
\027\015\062\065\060\063\063\061\061\070\061\071\062\062\132\060
\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022
\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164
\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147
\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040
\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151
\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\254\260\130\301\000\275\330\041\010\013\053\232\376\156\126
\060\005\237\033\167\220\020\101\134\303\015\207\021\167\216\201
\361\312\174\351\214\152\355\070\164\065\273\332\337\371\273\300
\011\067\264\226\163\201\175\063\032\230\071\367\223\157\225\177
\075\271\261\165\207\272\121\110\350\213\160\076\225\004\305\330
\266\303\026\331\210\260\261\207\035\160\332\206\264\017\024\213
\172\317\020\321\164\066\242\022\173\167\206\112\171\346\173\337
\002\021\150\245\116\206\256\064\130\233\044\023\170\126\042\045
\036\001\213\113\121\161\373\202\314\131\226\151\210\132\150\123
\305\271\015\002\067\313\113\274\146\112\220\176\052\013\005\007
\355\026\137\125\220\165\330\106\311\033\203\342\010\276\361\043
\314\231\035\326\052\017\203\040\025\130\047\202\056\372\342\042
```

\302\111\261\271\001\201\152\235\155\235\100\167\150\166\116\041
\052\155\204\100\205\116\166\231\174\202\363\363\267\002\131\324
\046\001\033\216\337\255\123\006\321\256\030\335\342\262\072\313
\327\210\070\216\254\133\051\271\031\323\230\371\030\003\317\110
\202\206\146\013\033\151\017\311\353\070\210\172\046\032\005\114
\222\327\044\324\226\362\254\122\055\243\107\325\122\366\077\376
\316\204\006\160\246\252\076\242\362\266\126\064\030\127\242\344
\201\155\347\312\360\152\323\307\221\153\002\203\101\174\025\357
\153\232\144\136\343\320\074\345\261\353\173\135\206\373\313\346
\167\111\315\243\145\334\367\271\234\270\344\013\137\223\317\314
\060\032\062\034\316\034\143\225\245\371\352\341\164\213\236\351
\053\251\060\173\240\030\037\016\030\013\345\133\251\323\321\154
\036\007\147\217\221\113\251\212\274\322\146\252\223\001\210\262
\221\372\061\134\325\246\301\122\010\011\315\012\143\242\323\042
\246\350\241\331\071\006\227\365\156\215\002\220\214\024\173\077
\200\315\033\234\272\304\130\162\043\257\266\126\237\306\172\102
\063\051\007\077\202\311\346\037\005\015\315\114\050\066\213\323
\310\076\034\306\210\357\136\356\211\144\351\035\353\332\211\176
\062\246\151\321\335\314\210\237\321\320\311\146\041\334\006\147
\305\224\172\232\155\142\114\175\314\340\144\200\262\236\107\216
\243\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125
\035\016\004\026\004\024\210\150\277\340\216\065\304\073\070\153
\142\367\050\073\204\201\310\014\327\115\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\073\002
\215\313\074\060\350\156\240\255\362\163\263\137\236\045\023\004
\005\323\366\343\213\273\013\171\316\123\336\344\226\305\321\257
\163\274\325\303\320\100\125\174\100\177\315\033\137\011\325\362
\174\237\150\035\273\135\316\172\071\302\214\326\230\173\305\203
\125\250\325\175\100\312\340\036\367\211\136\143\135\241\023\302
\135\212\266\212\174\000\363\043\303\355\205\137\161\166\360\150
\143\252\105\041\071\110\141\170\066\334\361\103\223\324\045\307
\362\200\145\341\123\002\165\121\374\172\072\357\067\253\204\050
\127\014\330\324\324\231\126\154\343\242\376\131\204\264\061\350
\063\370\144\224\224\121\227\253\071\305\113\355\332\335\200\013
\157\174\051\015\304\216\212\162\015\347\123\024\262\140\101\075
\204\221\061\150\075\047\104\333\345\336\364\372\143\105\310\114
\076\230\365\077\101\272\116\313\067\015\272\146\230\361\335\313
\237\134\367\124\066\202\153\054\274\023\141\227\102\370\170\273
\314\310\242\237\312\360\150\275\153\035\262\337\215\157\007\235
\332\216\147\307\107\036\312\271\277\052\102\221\267\143\123\146
\361\102\243\341\364\132\115\130\153\265\344\244\063\255\134\160
\035\334\340\362\353\163\024\221\232\003\301\352\000\145\274\007
\374\317\022\021\042\054\256\240\275\072\340\242\052\330\131\351
\051\323\030\065\244\254\021\137\031\265\265\033\377\042\112\134
\306\172\344\027\357\040\251\247\364\077\255\212\247\232\004\045
\235\016\312\067\346\120\375\214\102\051\004\232\354\271\317\113

```
\162\275\342\010\066\257\043\057\142\345\312\001\323\160\333\174
\202\043\054\026\061\014\306\066\007\220\172\261\037\147\130\304
\073\130\131\211\260\214\214\120\263\330\206\313\150\243\304\012
\347\151\113\040\316\301\036\126\113\225\251\043\150\330\060\330
\303\353\260\125\121\315\345\375\053\270\365\273\021\237\123\124
\366\064\031\214\171\011\066\312\141\027\045\027\013\202\230\163
\014\167\164\303\325\015\307\250\022\114\307\247\124\161\107\056
\054\032\175\311\343\053\073\110\336\047\204\247\143\066\263\175
\217\240\144\071\044\015\075\173\207\257\146\134\164\033\113\163
\262\345\214\360\206\231\270\345\305\337\204\301\267\353
END
```

```
# Trust for Certificate "Explicitly Distrust DigiNotar Root CA"
# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff
# Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Not Valid Before: Fri Jul 27 17:19:37 2007
# Not Valid After : Mon Mar 31 18:19:22 2025
# Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E
# Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\301\167\313\113\340\264\046\216\365\307\317\105\231\042\271\260
\316\272\041\057
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\012\244\325\314\272\264\373\243\131\343\346\001\335\123\331\116
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377\377
\377\377
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_NOT_TRUSTED
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_NOT_TRUSTED
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_NOT_TRUSTED
```

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Security Communication RootCA2"

#

Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

Serial Number: 0 (0x0)

Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

Not Valid Before: Fri May 29 05:00:39 2009

Not Valid After : Tue May 29 05:00:39 2029

Fingerprint (SHA-256):

51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6

Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Security Communication RootCA2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\167\060\202\002\137\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045
\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124
\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056
\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036
\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151
\143\141\164\151\157\156\040\122\157\157\164\103\101\062\060\036

\027\015\060\071\060\065\062\071\060\065\060\060\063\071\132\027
\015\062\071\060\065\062\071\060\065\060\060\063\071\132\060\135
\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045\060
\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124\162
\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056\054
\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036\123
\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151\143
\141\164\151\157\156\040\122\157\157\164\103\101\062\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\320\025
\071\122\261\122\263\272\305\131\202\304\135\122\256\072\103\145
\200\113\307\362\226\274\333\066\227\326\246\144\214\250\136\360
\343\012\034\367\337\227\075\113\256\366\135\354\041\265\101\253
\315\271\176\166\237\276\371\076\066\064\240\073\301\366\061\021
\105\164\223\075\127\200\305\371\211\231\312\345\253\152\324\265
\332\101\220\020\301\326\326\102\211\302\277\364\070\022\225\114
\124\005\367\066\344\105\203\173\024\145\326\334\014\115\321\336
\176\014\253\073\304\025\276\072\126\246\132\157\166\151\122\251
\172\271\310\353\152\232\135\122\320\055\012\153\065\026\011\020
\204\320\152\312\072\006\000\067\107\344\176\127\117\077\213\353
\147\270\210\252\305\276\123\125\262\221\304\175\271\260\205\031
\006\170\056\333\141\032\372\205\365\112\221\241\347\026\325\216
\242\071\337\224\270\160\037\050\077\213\374\100\136\143\203\074
\203\052\032\231\153\317\336\131\152\073\374\157\026\327\037\375
\112\020\353\116\202\026\072\254\047\014\123\361\255\325\044\260
\153\003\120\301\055\074\026\335\104\064\047\032\165\373\002\003
\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\012\205\251\167\145\005\230\174\100\201\370\017\227\054
\070\361\012\354\074\317\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\001\001\000\114\072\243\104\254
\271\105\261\307\223\176\310\013\012\102\337\144\352\034\356\131
\154\010\272\211\137\152\312\112\225\236\172\217\007\305\332\105
\162\202\161\016\072\322\314\157\247\264\241\043\273\366\044\237
\313\027\376\214\246\316\302\322\333\314\215\374\161\374\003\051
\301\154\135\063\137\144\266\145\073\211\157\030\166\170\365\334
\242\110\037\031\077\216\223\353\361\372\027\356\315\116\343\004
\022\125\326\345\344\335\373\076\005\174\342\035\136\306\247\274
\227\117\150\072\365\351\056\012\103\266\257\127\134\142\150\174
\267\375\243\212\204\240\254\142\276\053\011\207\064\360\152\001
\273\233\051\126\074\376\000\067\317\043\154\361\116\252\266\164
\106\022\154\221\356\064\325\354\232\221\347\104\276\220\061\162
\325\111\002\366\002\345\364\037\353\174\331\226\125\251\377\354
\212\371\231\107\377\065\132\002\252\004\313\212\133\207\161\051
\221\275\244\264\172\015\275\232\365\127\043\000\007\041\027\077
\112\071\321\005\111\013\247\266\067\201\245\135\214\252\063\136
\201\050\174\247\175\047\353\000\256\215\067

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Security Communication RootCA2"
# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number: 0 (0x0)
# Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Fri May 29 05:00:39 2009
# Not Valid After : Tue May 29 05:00:39 2029
# Fingerprint (SHA-256):
51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6
# Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\073\214\362\370\020\263\175\170\264\316\354\031\031\303\163
\064\271\307\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\154\071\175\244\016\125\131\262\077\326\101\261\022\120\336\103
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "EC-ACC"
#
# Issuer: CN=EC-ACC,OU=Jerarquia Entitats de Certificacio Catalanes,OU=Vegeu https://www.catcert.net/verarrel
(c)03,OU=Serveis Publics de Certificacio,O=Agencia Catalana de Certificacio (NIF Q-0801176-I),C=ES
# Serial Number:ee:2b:3d:eb:d4:21:de:14:a8:62:ac:04:f3:dd:c4:01

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Subject: CN=EC-ACC,OU=Jerarquia Entitats de Certificacio Catalanes,OU=Vegeu
https://www.catcert.net/verarrel (c)03,OU=Serveis Publics de Certificacio,O=Agencia Catalana de Certificacio (NIF
Q-0801176-I),C=ES

Not Valid Before: Tue Jan 07 23:00:00 2003

Not Valid After : Tue Jan 07 22:59:59 2031

Fingerprint (SHA-256):

88:49:7F:01:60:2F:31:54:24:6A:E2:8C:4D:5A:EF:10:F1:D8:7E:BB:76:62:6F:4A:E0:B7:F9:5B:A7:96:87:99

Fingerprint (SHA1): 28:90:3A:63:5B:52:80:FA:E6:77:4C:0B:6D:A7:D6:BA:A6:4A:F2:E8

For Server Distrust After: Sat Dec 28 00:00:00 2019

For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "EC-ACC"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\363\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\073\060\071\006\003\125\004\012\023\062\101\147\145\156\143
\151\141\040\103\141\164\141\154\141\156\141\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\040\050\116\111\106
\040\121\055\060\070\060\061\061\067\066\055\111\051\061\050\060
\046\006\003\125\004\013\023\037\123\145\162\166\145\151\163\040
\120\165\142\154\151\143\163\040\144\145\040\103\145\162\164\151
\146\151\143\141\143\151\157\061\065\060\063\006\003\125\004\013
\023\054\126\145\147\145\165\040\150\164\164\160\163\072\057\057
\167\167\167\056\143\141\164\143\145\162\164\056\156\145\164\057
\166\145\162\141\162\162\145\154\040\050\143\051\060\063\061\065
\060\063\006\003\125\004\013\023\054\112\145\162\141\162\161\165
\151\141\040\105\156\164\151\164\141\164\163\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\040\103\141\164\141
\154\141\156\145\163\061\017\060\015\006\003\125\004\003\023\006
\105\103\055\101\103\103

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CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\363\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\073\060\071\006\003\125\004\012\023\062\101\147\145\156\143
\151\141\040\103\141\164\141\154\141\156\141\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\040\050\116\111\106
\040\121\055\060\070\060\061\061\067\066\055\111\051\061\050\060
\046\006\003\125\004\013\023\037\123\145\162\166\145\151\163\040
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\023\054\126\145\147\145\165\040\150\164\164\160\163\072\057\057
\167\167\167\056\143\141\164\143\145\162\164\056\156\145\164\057
\166\145\162\141\162\162\145\154\040\050\143\051\060\063\061\065
\060\063\006\003\125\004\013\023\054\112\145\162\141\162\161\165

\151\141\040\105\156\164\151\164\141\164\163\040\144\145\040\103
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END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\356\053\075\353\324\041\336\024\250\142\254\004\363\335
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END

CKA_VALUE MULTILINE_OCTAL

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\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
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\060\071\006\003\125\004\012\023\062\101\147\145\156\143\151\141
\040\103\141\164\141\154\141\156\141\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\040\050\116\111\106\040\121
\055\060\070\060\061\061\067\066\055\111\051\061\050\060\046\006
\003\125\004\013\023\037\123\145\162\166\145\151\163\040\120\165
\142\154\151\143\163\040\144\145\040\103\145\162\164\151\146\151
\143\141\143\151\157\061\065\060\063\006\003\125\004\013\023\054
\126\145\147\145\165\040\150\164\164\160\163\072\057\057\167\167
\167\056\143\141\164\143\145\162\164\056\156\145\164\057\166\145
\162\141\162\162\145\154\040\050\143\051\060\063\061\065\060\063
\006\003\125\004\013\023\054\112\145\162\141\162\161\165\151\141
\040\105\156\164\151\164\141\164\163\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\040\103\141\164\141\154\141
\156\145\163\061\017\060\015\006\003\125\004\003\023\006\105\103
\055\101\103\103\060\036\027\015\060\063\060\061\060\067\062\063
\060\060\060\060\132\027\015\063\061\060\061\060\067\062\062\065
\071\065\071\132\060\201\363\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\073\060\071\006\003\125\004\012\023\062\101
\147\145\156\143\151\141\040\103\141\164\141\154\141\156\141\040
\144\145\040\103\145\162\164\151\146\151\143\141\143\151\157\040
\050\116\111\106\040\121\055\060\070\060\061\061\067\066\055\111
\051\061\050\060\046\006\003\125\004\013\023\037\123\145\162\166
\145\151\163\040\120\165\142\154\151\143\163\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\061\065\060\063\006
\003\125\004\013\023\054\126\145\147\145\165\040\150\164\164\160
\163\072\057\057\167\167\167\056\143\141\164\143\145\162\164\056
\156\145\164\057\166\145\162\141\162\162\145\154\040\050\143\051
\060\063\061\065\060\063\006\003\125\004\013\023\054\112\145\162
\141\162\161\165\151\141\040\105\156\164\151\164\141\164\163\040
\144\145\040\103\145\162\164\151\146\151\143\141\143\151\157\040
\103\141\164\141\154\141\156\145\163\061\017\060\015\006\003\125
\004\003\023\006\105\103\055\101\103\103\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\263\042\307\117\342

\227\102\225\210\107\203\100\366\035\027\363\203\163\044\036\121
\363\230\212\303\222\270\377\100\220\005\160\207\140\311\000\251
\265\224\145\031\042\025\027\302\103\154\146\104\232\015\004\076
\071\157\245\113\172\252\143\267\212\104\235\331\143\221\204\146
\340\050\017\272\102\343\156\216\367\024\047\223\151\356\221\016
\243\137\016\261\353\146\242\162\117\022\023\206\145\172\076\333
\117\007\364\247\011\140\332\072\102\231\307\262\177\263\026\225
\034\307\371\064\265\224\205\325\231\136\240\110\240\176\347\027
\145\270\242\165\270\036\363\345\102\175\257\355\363\212\110\144
\135\202\024\223\330\300\344\377\263\120\162\362\166\366\263\135
\102\120\171\320\224\076\153\014\000\276\330\153\016\116\052\354
\076\322\314\202\242\030\145\063\023\167\236\232\135\032\023\330
\303\333\075\310\227\172\356\160\355\247\346\174\333\161\317\055
\224\142\337\155\326\365\070\276\077\245\205\012\031\270\250\330
\011\165\102\160\304\352\357\313\016\310\064\250\022\042\230\014
\270\023\224\266\113\354\360\320\220\347\047\002\003\001\000\001
\243\201\343\060\201\340\060\035\006\003\125\035\021\004\026\060
\024\201\022\145\143\137\141\143\143\100\143\141\164\143\145\162
\164\056\156\145\164\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\240\303\213\104\252\067\245\105\277\227\200\132\321\361\170
\242\233\351\135\215\060\177\006\003\125\035\040\004\170\060\166
\060\164\006\013\053\006\001\004\001\365\170\001\003\001\012\060
\145\060\054\006\010\053\006\001\005\005\007\002\001\026\040\150
\164\164\160\163\072\057\057\167\167\167\056\143\141\164\143\145
\162\164\056\156\145\164\057\166\145\162\141\162\162\145\154\060
\065\006\010\053\006\001\005\005\007\002\002\060\051\032\047\126
\145\147\145\165\040\150\164\164\160\163\072\057\057\167\167\167
\056\143\141\164\143\145\162\164\056\156\145\164\057\166\145\162
\141\162\162\145\154\040\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\001\001\000\240\110\133\202\001\366
\115\110\270\071\125\065\234\200\172\123\231\325\132\377\261\161
\073\314\071\011\224\136\326\332\357\276\001\133\135\323\036\330
\375\175\117\315\240\101\340\064\223\277\313\342\206\234\067\222
\220\126\034\334\353\051\005\345\304\236\307\065\337\212\014\315
\305\041\103\351\252\210\345\065\300\031\102\143\132\002\136\244
\110\030\072\205\157\334\235\274\077\235\234\301\207\270\172\141
\010\351\167\013\177\160\253\172\335\331\227\054\144\036\205\277
\274\164\226\241\303\172\022\354\014\032\156\203\014\074\350\162
\106\237\373\110\325\136\227\346\261\241\370\344\357\106\045\224
\234\211\333\151\070\276\354\134\016\126\307\145\121\345\120\210
\210\277\102\325\053\075\345\371\272\236\056\263\312\364\163\222
\002\013\276\114\146\353\040\376\271\313\265\231\177\346\266\023
\372\312\113\115\331\356\123\106\006\073\306\116\255\223\132\201
\176\154\052\113\152\005\105\214\362\041\244\061\220\207\154\145
\234\235\245\140\225\072\122\177\365\321\253\010\156\363\356\133
\371\210\075\176\270\157\156\003\344\102

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END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER MULTILINE_OCTAL
\061\071\061\062\062\070\060\060\060\060\060\132
END
CKA_NSS_EMAIL_DISTRUST_AFTER MULTILINE_OCTAL
\062\062\060\070\063\061\060\060\060\060\060\132
END
```

```
# Trust for "EC-ACC"
# Issuer: CN=EC-ACC,OU=Jerarquia Entitats de Certificacio Catalanes,OU=Vegeu https://www.catcert.net/verarrel
(c)03,OU=Serveis Publics de Certificacio,O=Agencia Catalana de Certificacio (NIF Q-0801176-I),C=ES
# Serial Number:ee:2b:3d:eb:d4:21:de:14:a8:62:ac:04:f3:dd:c4:01
# Subject: CN=EC-ACC,OU=Jerarquia Entitats de Certificacio Catalanes,OU=Vegeu
https://www.catcert.net/verarrel (c)03,OU=Serveis Publics de Certificacio,O=Agencia Catalana de Certificacio (NIF
Q-0801176-I),C=ES
# Not Valid Before: Tue Jan 07 23:00:00 2003
# Not Valid After : Tue Jan 07 22:59:59 2031
# Fingerprint (SHA-256):
88:49:7F:01:60:2F:31:54:24:6A:E2:8C:4D:5A:EF:10:F1:D8:7E:BB:76:62:6F:4A:E0:B7:F9:5B:A7:96:87:99
# Fingerprint (SHA1): 28:90:3A:63:5B:52:80:FA:E6:77:4C:0B:6D:A7:D6:BA:A6:4A:F2:E8
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "EC-ACC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\050\220\072\143\133\122\200\372\346\167\114\013\155\247\326\272
\246\112\362\350
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\353\365\235\051\015\141\371\102\037\174\302\272\155\343\025\011
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\363\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\073\060\071\006\003\125\004\012\023\062\101\147\145\156\143
\151\141\040\103\141\164\141\154\141\156\141\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\040\050\116\111\106
\040\121\055\060\070\060\061\061\067\066\055\111\051\061\050\060
\046\006\003\125\004\013\023\037\123\145\162\166\145\151\163\040
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\146\151\143\141\143\151\157\061\065\060\063\006\003\125\004\013
\023\054\126\145\147\145\165\040\150\164\164\160\163\072\057\057
\167\167\167\056\143\141\164\143\145\162\164\056\156\145\164\057
\166\145\162\141\162\162\145\154\040\050\143\051\060\063\061\065
\060\063\006\003\125\004\013\023\054\112\145\162\141\162\161\165
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CKA_SERIAL_NUMBER MULTILINE_OCTAL

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\002\020\356\053\075\353\324\041\336\024\250\142\254\004\363\335  
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END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Hellenic Academic and Research Institutions RootCA 2011"

#

Issuer: CN=Hellenic Academic and Research Institutions RootCA 2011,O=Hellenic Academic and Research
Institutions Cert. Authority,C=GR

Serial Number: 0 (0x0)

Subject: CN=Hellenic Academic and Research Institutions RootCA 2011,O=Hellenic Academic and Research
Institutions Cert. Authority,C=GR

Not Valid Before: Tue Dec 06 13:49:52 2011

Not Valid After : Mon Dec 01 13:49:52 2031

Fingerprint (SHA-256):

BC:10:4F:15:A4:8B:E7:09:DC:A5:42:A7:E1:D4:B9:DF:6F:05:45:27:E8:02:EA:A9:2D:59:54:44:25:8A:FE:71

Fingerprint (SHA1): FE:45:65:9B:79:03:5B:98:A1:61:B5:51:2E:AC:DA:58:09:48:22:4D

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2011"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

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\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154\145  
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144  
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164  
\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165\164  
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\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145\155  
\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150\040  
\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157  
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END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

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\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144
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\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164
\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165\164
\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003\023
\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145\155
\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150\040
\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157
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END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

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\201\225\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\104\060\102\006\003\125\004\012\023\073\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\145\162\164\056\040\101\165\164\150
\157\162\151\164\171\061\100\060\076\006\003\125\004\003\023\067
\110\145\154\154\145\156\151\143\040\101\143\141\144\145\155\151
\143\040\141\156\144\040\122\145\163\145\141\162\143\150\040\111
\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157\164
\103\101\040\062\060\061\061\060\036\027\015\061\061\061\062\060
\066\061\063\064\071\065\062\132\027\015\063\061\061\062\060\061
\061\063\064\071\065\062\132\060\201\225\061\013\060\011\006\003
\125\004\006\023\002\107\122\061\104\060\102\006\003\125\004\012
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\103\145
\162\164\056\040\101\165\164\150\157\162\151\164\171\061\100\060
\076\006\003\125\004\003\023\067\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\122\157\157\164\103\101\040\062\060\061\061\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\251\123\000\343\056\246\366\216\372\140\330\055\225\076\370\054
\052\124\116\315\271\204\141\224\130\117\217\075\213\344\103\363
\165\211\215\121\344\303\067\322\212\210\115\171\036\267\022\335
\103\170\112\212\222\346\327\110\325\017\244\072\051\104\065\270
\007\366\150\035\125\315\070\121\360\214\044\061\205\257\203\311
\175\351\167\257\355\032\173\235\027\371\263\235\070\120\017\246
\132\171\221\200\257\067\256\246\323\061\373\265\046\011\235\074
\132\357\121\305\053\337\226\135\353\062\036\002\332\160\111\354
\156\014\310\232\067\215\367\361\066\140\113\046\054\202\236\320
\170\363\015\017\143\244\121\060\341\371\053\047\022\007\330\352
\275\030\142\230\260\131\067\175\276\356\363\040\121\102\132\203

\357\223\272\151\025\361\142\235\237\231\071\202\241\267\164\056
\213\324\305\013\173\057\360\310\012\332\075\171\012\232\223\034
\245\050\162\163\221\103\232\247\321\115\205\204\271\251\164\217
\024\100\307\334\336\254\101\144\154\264\031\233\002\143\155\044
\144\217\104\262\045\352\316\135\164\014\143\062\134\215\207\345
\002\003\001\000\001\243\201\211\060\201\206\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003
\125\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016
\004\026\004\024\246\221\102\375\023\141\112\043\236\010\244\051
\345\330\023\004\043\356\101\045\060\107\006\003\125\035\036\004
\100\060\076\240\074\060\005\202\003\056\147\162\060\005\202\003
\056\145\165\060\006\202\004\056\145\144\165\060\006\202\004\056
\157\162\147\060\005\201\003\056\147\162\060\005\201\003\056\145
\165\060\006\201\004\056\145\144\165\060\006\201\004\056\157\162
\147\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\037\357\171\101\341\173\156\077\262\214\206
\067\102\112\116\034\067\036\215\146\272\044\201\311\117\022\017
\041\300\003\227\206\045\155\135\323\042\051\250\154\242\015\251
\353\075\006\133\231\072\307\314\303\232\064\177\253\016\310\116
\034\341\372\344\334\315\015\276\277\044\376\154\347\153\302\015
\310\006\236\116\215\141\050\246\152\375\345\366\142\352\030\074
\116\240\123\235\262\072\234\353\245\234\221\026\266\115\202\340
\014\005\110\251\154\365\314\370\313\235\111\264\360\002\245\375
\160\003\355\212\041\245\256\023\206\111\303\063\163\276\207\073
\164\213\027\105\046\114\026\221\203\376\147\175\315\115\143\147
\372\363\003\022\226\170\006\215\261\147\355\216\077\276\237\117
\002\365\263\011\057\363\114\207\337\052\313\225\174\001\314\254
\066\172\277\242\163\172\367\217\301\265\232\241\024\262\217\063
\237\015\357\042\334\146\173\204\275\105\027\006\075\074\312\271
\167\064\217\312\352\317\077\061\076\343\210\343\200\111\045\310
\227\265\235\232\231\115\260\074\370\112\000\233\144\335\237\071
\113\321\047\327\270

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Hellenic Academic and Research Institutions RootCA 2011"

Issuer: CN=Hellenic Academic and Research Institutions RootCA 2011,O=Hellenic Academic and Research
Institutions Cert. Authority,C=GR

Serial Number: 0 (0x0)

Subject: CN=Hellenic Academic and Research Institutions RootCA 2011,O=Hellenic Academic and Research
Institutions Cert. Authority,C=GR

Not Valid Before: Tue Dec 06 13:49:52 2011

Not Valid After : Mon Dec 01 13:49:52 2031

Fingerprint (SHA-256):

BC:10:4F:15:A4:8B:E7:09:DC:A5:42:A7:E1:D4:B9:DF:6F:05:45:27:E8:02:EA:A9:2D:59:54:44:25:8A:FE:71

Fingerprint (SHA1): FE:45:65:9B:79:03:5B:98:A1:61:B5:51:2E:AC:DA:58:09:48:22:4D

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2011"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\376\105\145\233\171\003\133\230\241\141\265\121\056\254\332\130
\011\110\042\115
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\163\237\114\113\163\133\171\351\372\272\034\357\156\313\325\311
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\225\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154\145
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164
\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165\164
\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003\023
\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145\155
\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150\040
\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157
\164\103\101\040\062\060\061\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Actalis Authentication Root CA"
#
# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
# Serial Number:57:0a:11:97:42:c4:e3:cc
# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
# Not Valid Before: Thu Sep 22 11:22:02 2011
# Not Valid After : Sun Sep 22 11:22:02 2030
# Fingerprint (SHA-256):
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"

```


CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\127\012\021\227\102\304\343\314

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\273\060\202\003\243\240\003\002\001\002\002\010\127
\012\021\227\102\304\343\314\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\153\061\013\060\011\006\003\125\004
\006\023\002\111\124\061\016\060\014\006\003\125\004\007\014\005
\115\151\154\141\156\061\043\060\041\006\003\125\004\012\014\032
\101\143\164\141\154\151\163\040\123\056\160\056\101\056\057\060
\063\063\065\070\065\062\060\071\066\067\061\047\060\045\006\003
\125\004\003\014\036\101\143\164\141\154\151\163\040\101\165\164
\150\145\156\164\151\143\141\164\151\157\156\040\122\157\157\164
\040\103\101\060\036\027\015\061\061\060\071\062\062\061\061\062
\062\060\062\132\027\015\063\060\060\071\062\062\061\061\062\062
\060\062\132\060\153\061\013\060\011\006\003\125\004\006\023\002
\111\124\061\016\060\014\006\003\125\004\007\014\005\115\151\154
\141\156\061\043\060\041\006\003\125\004\012\014\032\101\143\164
\141\154\151\163\040\123\056\160\056\101\056\057\060\063\063\065
\070\065\062\060\071\066\067\061\047\060\045\006\003\125\004\003
\014\036\101\143\164\141\154\151\163\040\101\165\164\150\145\156
\164\151\143\141\164\151\157\156\040\122\157\157\164\040\103\101
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\247\306\304\245\051\244\054\357\345\030\305\260\120\243\157
\121\073\237\012\132\311\302\110\070\012\302\034\240\030\177\221
\265\207\271\100\077\335\035\150\037\010\203\325\055\036\210\240
\370\217\126\217\155\231\002\222\220\026\325\137\010\154\211\327

\341\254\274\040\302\261\340\203\121\212\151\115\000\226\132\157
\057\300\104\176\243\016\344\221\315\130\356\334\373\307\036\105
\107\335\047\271\010\001\237\246\041\035\365\101\055\057\114\375
\050\255\340\212\255\042\264\126\145\216\206\124\217\223\103\051
\336\071\106\170\243\060\043\272\315\360\175\023\127\300\135\322
\203\153\110\114\304\253\237\200\132\133\072\275\311\247\042\077
\200\047\063\133\016\267\212\014\135\007\067\010\313\154\322\172
\107\042\104\065\305\314\314\056\216\335\052\355\267\175\146\015
\137\141\121\042\125\033\343\106\343\343\075\320\065\142\232\333
\257\024\310\133\241\314\211\033\341\060\046\374\240\233\037\201
\247\107\037\004\353\243\071\222\006\237\231\323\277\323\352\117
\120\234\031\376\226\207\036\074\145\366\243\030\044\203\206\020
\347\124\076\250\072\166\044\117\201\041\305\343\017\002\370\223
\224\107\040\273\376\324\016\323\150\271\335\304\172\204\202\343
\123\124\171\335\333\234\322\362\007\233\056\266\274\076\355\205
\155\357\045\021\362\227\032\102\141\367\112\227\350\213\261\020
\007\372\145\201\262\242\071\317\367\074\377\030\373\306\361\132
\213\131\342\002\254\173\222\320\116\024\117\131\105\366\014\136
\050\137\260\350\077\105\317\317\257\233\157\373\204\323\167\132
\225\157\254\224\204\236\356\274\300\112\217\112\223\370\104\041
\342\061\105\141\120\116\020\330\343\065\174\114\031\264\336\005
\277\243\006\237\310\265\315\344\037\327\027\006\015\172\225\164
\125\015\150\032\374\020\033\142\144\235\155\340\225\240\303\224
\007\127\015\024\346\275\005\373\270\237\346\337\213\342\306\347
\176\226\366\123\305\200\064\120\050\130\360\022\120\161\027\060
\272\346\170\143\274\364\262\255\233\053\262\376\341\071\214\136
\272\013\040\224\336\173\203\270\377\343\126\215\267\021\351\073
\214\362\261\301\135\235\244\013\114\053\331\262\030\365\265\237
\113\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035
\016\004\026\004\024\122\330\210\072\310\237\170\146\355\211\363
\173\070\160\224\311\002\002\066\320\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035
\043\004\030\060\026\200\024\122\330\210\072\310\237\170\146\355
\211\363\173\070\160\224\311\002\002\066\320\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\013
\173\162\207\300\140\246\111\114\210\130\346\035\210\367\024\144
\110\246\330\130\012\016\117\023\065\337\065\035\324\355\006\061
\310\201\076\152\325\335\073\032\062\356\220\075\021\322\056\364
\216\303\143\056\043\146\260\147\276\157\266\300\023\071\140\252
\242\064\045\223\165\122\336\247\235\255\016\207\211\122\161\152
\026\074\031\035\203\370\232\051\145\276\364\077\232\331\360\363
\132\207\041\161\200\115\313\340\070\233\077\273\372\340\060\115
\317\206\323\145\020\031\030\321\227\002\261\053\162\102\150\254
\240\275\116\132\332\030\277\153\230\201\320\375\232\276\136\025
\110\315\021\025\271\300\051\134\264\350\210\367\076\066\256\267
\142\375\036\142\336\160\170\020\034\110\133\332\274\244\070\272
\147\355\125\076\136\127\337\324\003\100\114\201\244\322\117\143

```
\247\011\102\011\024\374\000\251\302\200\163\117\056\300\100\331
\021\173\110\352\172\002\300\323\353\050\001\046\130\164\301\300
\163\042\155\223\225\375\071\175\273\052\343\366\202\343\054\227
\137\116\037\221\224\372\376\054\243\330\166\032\270\115\262\070
\117\233\372\035\110\140\171\046\342\363\375\251\320\232\350\160
\217\111\172\326\345\275\012\016\333\055\363\215\277\353\343\244
\175\313\307\225\161\350\332\243\174\305\302\370\164\222\004\033
\206\254\244\042\123\100\266\254\376\114\166\317\373\224\062\300
\065\237\166\077\156\345\220\156\240\246\046\242\270\054\276\321
\053\205\375\247\150\310\272\001\053\261\154\164\035\270\163\225
\347\356\267\307\045\360\000\114\000\262\176\266\013\213\034\363
\300\120\236\045\271\340\010\336\066\146\377\067\245\321\273\124
\144\054\311\047\265\113\222\176\145\377\323\055\341\271\116\274
\177\244\101\041\220\101\167\246\071\037\352\236\343\237\320\146
\157\005\354\252\166\176\277\153\026\240\353\265\307\374\222\124
\057\053\021\047\045\067\170\114\121\152\260\363\314\130\135\024
\361\152\110\025\377\302\007\266\261\215\017\216\134\120\106\263
\075\277\001\230\117\262\131\124\107\076\064\173\170\155\126\223
\056\163\352\146\050\170\315\035\024\277\240\217\057\056\270\056
\216\362\024\212\314\351\265\174\373\154\235\014\245\341\226
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Actalis Authentication Root CA"
```

```
# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
```

```
# Serial Number:57:0a:11:97:42:c4:e3:cc
```

```
# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
```

```
# Not Valid Before: Thu Sep 22 11:22:02 2011
```

```
# Not Valid After : Sun Sep 22 11:22:02 2030
```

```
# Fingerprint (SHA-256):
```

```
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
```

```
# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Actalis Authentication Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\363\163\263\207\006\132\050\204\212\362\363\112\316\031\053\335
\307\216\234\254
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\151\301\015\117\007\243\033\303\376\126\075\004\274\021\366\246
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
```

```
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\010\127\012\021\227\102\304\343\314
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Buypass Class 2 Root CA"

#

Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

Serial Number: 2 (0x2)

Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

Not Valid Before: Tue Oct 26 08:38:03 2010

Not Valid After : Fri Oct 26 08:38:03 2040

Fingerprint (SHA-256):

```
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
```

Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Buypass Class 2 Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
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END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\002

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060
\036\027\015\061\060\061\060\062\066\060\070\063\070\060\063\132
\027\015\064\060\061\060\062\066\060\070\063\070\060\063\132\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\327\307\136\367\301\007\324\167\373\103\041\364\364\365\151\344
\356\062\001\333\243\206\037\344\131\015\272\347\165\203\122\353
\352\034\141\025\110\273\035\007\312\214\256\260\334\226\235\352
\303\140\222\206\202\050\163\234\126\006\377\113\144\360\014\052
\067\111\265\345\317\014\174\356\361\112\273\163\060\145\363\325
\057\203\266\176\343\347\365\236\253\140\371\323\361\235\222\164
\212\344\034\226\254\133\200\351\265\364\061\207\243\121\374\307
\176\241\157\216\123\167\324\227\301\125\063\222\076\030\057\165
\324\255\206\111\313\225\257\124\006\154\330\006\023\215\133\377
\341\046\031\131\300\044\272\201\161\171\220\104\120\150\044\224
\137\270\263\021\361\051\101\141\243\101\313\043\066\325\301\361
\062\120\020\116\177\364\206\223\354\204\323\216\274\113\277\134
\001\116\007\075\334\024\212\224\012\244\352\163\373\013\121\350
\023\007\030\372\016\361\053\321\124\025\175\074\341\367\264\031
\102\147\142\136\167\340\242\125\354\266\331\151\027\325\072\257
\104\355\112\305\236\344\172\047\174\345\165\327\252\313\045\347
\337\153\012\333\017\115\223\116\250\240\315\173\056\362\131\001
\152\267\015\270\007\201\176\213\070\033\070\346\012\127\231\075
\356\041\350\243\365\014\026\335\213\354\064\216\234\052\034\000
\025\027\215\150\203\322\160\237\030\010\315\021\150\325\311\153
\122\315\304\106\217\334\265\363\330\127\163\036\351\224\071\004
\277\323\336\070\336\264\123\354\151\034\242\176\304\217\344\033
\160\255\362\242\371\373\367\026\144\146\151\237\111\121\242\342
\025\030\147\006\112\177\325\154\265\115\263\063\340\141\353\135
\276\351\230\017\062\327\035\113\074\056\132\001\122\221\011\362
\337\352\215\330\006\100\143\252\021\344\376\303\067\236\024\122
\077\364\342\314\362\141\223\321\375\147\153\327\122\256\277\150
\253\100\103\240\127\065\123\170\360\123\370\141\102\007\144\306
\327\157\233\114\070\015\143\254\142\257\066\213\242\163\012\015

\365\041\275\164\252\115\352\162\003\111\333\307\137\035\142\143
\307\375\335\221\354\063\356\365\155\264\156\060\150\336\310\326
\046\260\165\136\173\264\007\040\230\241\166\062\270\115\154\117
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\311\200\167\340\142\222\202\365\106\234\363
\272\367\114\303\336\270\243\255\071\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\003\202\002\001\000\123\137\041
\365\272\260\072\122\071\054\222\260\154\000\311\357\316\040\357
\006\362\226\236\351\244\164\177\172\026\374\267\365\266\373\025
\033\077\253\246\300\162\135\020\261\161\356\274\117\343\255\254
\003\155\056\161\056\257\304\343\255\243\275\014\021\247\264\377
\112\262\173\020\020\037\247\127\101\262\300\256\364\054\131\326
\107\020\210\363\041\121\051\060\312\140\206\257\106\253\035\355
\072\133\260\224\336\104\343\101\010\242\301\354\035\326\375\117
\266\326\107\320\024\013\312\346\312\265\173\167\176\101\037\136
\203\307\266\214\071\226\260\077\226\201\101\157\140\220\342\350
\371\373\042\161\331\175\263\075\106\277\264\204\257\220\034\017
\217\022\152\257\357\356\036\172\256\002\112\212\027\053\166\376
\254\124\211\044\054\117\077\266\262\247\116\214\250\221\227\373
\051\306\173\134\055\271\313\146\266\267\250\133\022\121\205\265
\011\176\142\170\160\376\251\152\140\266\035\016\171\014\375\312
\352\044\200\162\303\227\077\362\167\253\103\042\012\307\353\266
\014\204\202\054\200\153\101\212\010\300\353\245\153\337\231\022
\313\212\325\136\200\014\221\340\046\010\066\110\305\372\070\021
\065\377\045\203\055\362\172\277\332\375\216\376\245\313\105\054
\037\304\210\123\256\167\016\331\232\166\305\216\054\035\243\272
\325\354\062\256\300\252\254\367\321\172\115\353\324\007\342\110
\367\042\216\260\244\237\152\316\216\262\262\140\364\243\042\320
\043\353\224\132\172\151\335\017\277\100\127\254\153\131\120\331
\243\231\341\156\376\215\001\171\047\043\025\336\222\235\173\011
\115\132\347\113\110\060\132\030\346\012\155\346\217\340\322\273
\346\337\174\156\041\202\301\150\071\115\264\230\130\146\142\314
\112\220\136\303\372\047\004\261\171\025\164\231\314\276\255\040
\336\046\140\034\353\126\121\246\243\352\344\243\077\247\377\141
\334\361\132\115\154\062\043\103\356\254\250\356\356\112\022\011
\074\135\161\302\276\171\372\302\207\150\035\013\375\134\151\314
\006\320\232\175\124\231\052\311\071\032\031\257\113\052\103\363
\143\135\132\130\342\057\343\035\344\251\326\320\012\320\236\277
\327\201\011\361\311\307\046\015\254\230\026\126\240

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Buypass Class 2 Root CA"

Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

```

# Serial Number: 2 (0x2)
# Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
# Not Valid Before: Tue Oct 26 08:38:03 2010
# Not Valid After : Fri Oct 26 08:38:03 2040
# Fingerprint (SHA-256):
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\111\012\165\164\336\207\012\107\376\130\356\366\307\153\353\306
\013\022\100\231
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\106\247\322\376\105\373\144\132\250\131\220\233\170\104\233\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Buypass Class 3 Root CA"
#
# Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
# Serial Number: 2 (0x2)
# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
# Not Valid Before: Tue Oct 26 08:28:58 2010
# Not Valid After : Fri Oct 26 08:28:58 2040
# Fingerprint (SHA-256):
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Bypass Class 3 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060
\036\027\015\061\060\061\060\062\066\060\070\062\070\065\070\132
\027\015\064\060\061\060\062\066\060\070\062\070\065\070\132\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\245\332\012\225\026\120\343\225\362\136\235\166\061\006\062\172
\233\361\020\166\270\000\232\265\122\066\315\044\107\260\237\030
\144\274\232\366\372\325\171\330\220\142\114\042\057\336\070\075
\326\340\250\351\034\054\333\170\021\351\216\150\121\025\162\307
\363\063\207\344\240\135\013\134\340\127\007\052\060\365\315\304
\067\167\050\115\030\221\346\277\325\122\375\161\055\160\076\347
\306\304\212\343\360\050\013\364\166\230\241\213\207\125\262\072
\023\374\267\076\047\067\216\042\343\250\117\052\357\140\273\075
\267\071\303\016\001\107\231\135\022\117\333\103\372\127\241\355
\371\235\276\021\107\046\133\023\230\253\135\026\212\260\067\034
```


\127\235\105\377\210\226\066\277\273\312\007\173\157\207\143\327
\320\062\152\326\135\154\014\361\263\156\071\342\153\061\056\071
\000\047\024\336\070\300\354\031\146\206\022\350\235\162\026\023
\144\122\307\251\067\034\375\202\060\355\204\030\035\364\256\134
\377\160\023\000\353\261\365\063\172\113\326\125\370\005\215\113
\151\260\365\263\050\066\134\024\304\121\163\115\153\013\361\064
\007\333\027\071\327\334\050\173\153\365\237\363\056\301\117\027
\052\020\363\314\312\350\353\375\153\253\056\232\237\055\202\156
\004\324\122\001\223\055\075\206\374\176\374\337\357\102\035\246
\153\357\271\040\306\367\275\240\247\225\375\247\346\211\044\330
\314\214\064\154\342\043\057\331\022\032\041\271\125\221\157\013
\221\171\031\014\255\100\210\013\160\342\172\322\016\330\150\110
\273\202\023\071\020\130\351\330\052\007\306\022\333\130\333\322
\073\125\020\107\005\025\147\142\176\030\143\246\106\077\011\016
\124\062\136\277\015\142\172\047\357\200\350\333\331\113\006\132
\067\132\045\320\010\022\167\324\157\011\120\227\075\310\035\303
\337\214\105\060\126\306\323\144\253\146\363\300\136\226\234\303
\304\357\303\174\153\213\072\171\177\263\111\317\075\342\211\237
\240\060\113\205\271\234\224\044\171\217\175\153\251\105\150\017
\053\320\361\332\034\313\151\270\312\111\142\155\310\320\143\142
\335\140\017\130\252\217\241\274\005\245\146\242\317\033\166\262
\204\144\261\114\071\122\300\060\272\360\214\113\002\260\266\267
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\107\270\315\377\345\157\356\370\262\354\057
\116\016\371\045\260\216\074\153\303\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\003\202\002\001\000\000\040\043
\101\065\004\220\302\100\142\140\357\342\065\114\327\077\254\342
\064\220\270\241\157\166\372\026\026\244\110\067\054\351\220\302
\362\074\370\012\237\330\201\345\273\133\332\045\054\244\247\125
\161\044\062\366\310\013\362\274\152\370\223\254\262\007\302\137
\237\333\314\310\212\252\276\152\157\341\111\020\314\061\327\200
\273\273\310\330\242\016\144\127\352\242\365\302\251\061\025\322
\040\152\354\374\042\001\050\317\206\270\200\036\251\314\021\245
\074\362\026\263\107\235\374\322\200\041\304\313\320\107\160\101
\241\312\203\031\010\054\155\362\135\167\234\212\024\023\324\066
\034\222\360\345\006\067\334\246\346\220\233\070\217\134\153\033
\106\206\103\102\137\076\001\007\123\124\135\145\175\367\212\163
\241\232\124\132\037\051\103\024\047\302\205\017\265\210\173\032
\073\224\267\035\140\247\265\234\347\051\151\127\132\233\223\172
\103\060\033\003\327\142\310\100\246\252\374\144\344\112\327\221
\123\001\250\040\210\156\234\137\104\271\313\140\201\064\354\157
\323\175\332\110\137\353\264\220\274\055\251\034\013\254\034\325
\242\150\040\200\004\326\374\261\217\057\273\112\061\015\112\206
\034\353\342\066\051\046\365\332\330\304\362\165\141\317\176\256
\166\143\112\172\100\145\223\207\370\036\200\214\206\345\206\326
\217\016\374\123\054\140\350\026\141\032\242\076\103\173\315\071

```
\140\124\152\365\362\211\046\001\150\203\110\242\063\350\311\004
\221\262\021\064\021\076\352\320\103\031\037\003\223\220\014\377
\121\075\127\364\101\156\341\313\240\276\353\311\143\315\155\314
\344\370\066\252\150\235\355\275\135\227\160\104\015\266\016\065
\334\341\014\135\273\240\121\224\313\176\026\353\021\057\243\222
\105\310\114\161\331\274\311\231\122\127\106\057\120\317\275\065
\151\364\075\025\316\006\245\054\017\076\366\201\272\224\273\303
\273\277\145\170\322\206\171\377\111\073\032\203\014\360\336\170
\354\310\362\115\114\032\336\202\051\370\301\132\332\355\356\346
\047\136\350\105\320\235\034\121\250\150\253\104\343\320\213\152
\343\370\073\273\334\115\327\144\362\121\276\346\252\253\132\351
\061\356\006\274\163\277\023\142\012\237\307\271\227
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Buypass Class 3 Root CA"
```

```
# Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
```

```
# Serial Number: 2 (0x2)
```

```
# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
```

```
# Not Valid Before: Tue Oct 26 08:28:58 2010
```

```
# Not Valid After : Fri Oct 26 08:28:58 2040
```

```
# Fingerprint (SHA-256):
```

```
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
```

```
# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Buypass Class 3 Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\332\372\367\372\146\204\354\006\217\024\120\275\307\302\201\245
\274\251\144\127
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\075\073\030\236\054\144\132\350\325\210\316\016\371\067\302\354
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\002
```

END

```

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "T-TeleSec GlobalRoot Class 3"
#
# Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
# Serial Number: 1 (0x1)
# Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
# Not Valid Before: Wed Oct 01 10:29:56 2008
# Not Valid After : Sat Oct 01 23:59:59 2033
# Fingerprint (SHA-256):
FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD
# Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141
\163\163\040\063\060\036\027\015\060\070\061\060\060\061\061\060
\062\071\065\066\132\027\015\063\063\061\060\060\061\062\063\065
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157
\164\040\103\154\141\163\163\040\063\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\275\165\223\360\142\042
\157\044\256\340\172\166\254\175\275\331\044\325\270\267\374\315
\360\102\340\353\170\210\126\136\233\232\124\035\115\014\212\366
\323\317\160\364\122\265\330\223\004\343\106\206\161\101\112\053
\360\052\054\125\003\326\110\303\340\071\070\355\362\134\074\077
\104\274\223\075\141\253\116\315\015\276\360\040\047\130\016\104
\177\004\032\207\245\327\226\024\066\220\320\111\173\241\165\373
\032\153\163\261\370\316\251\011\054\362\123\325\303\024\104\270
\206\245\366\213\053\071\332\243\063\124\331\372\162\032\367\042
\025\034\210\221\153\177\146\345\303\152\200\260\044\363\337\206
\105\210\375\031\177\165\207\037\037\261\033\012\163\044\133\271
\145\340\054\124\310\140\323\146\027\077\341\314\124\063\163\221
\002\072\246\177\173\166\071\242\037\226\266\070\256\265\310\223
\164\035\236\271\264\345\140\235\057\126\321\340\353\136\133\114
\022\160\014\154\104\040\253\021\330\364\031\366\322\234\122\067
\347\372\266\302\061\073\112\324\024\231\255\307\032\365\135\137
\372\007\270\174\015\037\326\203\036\263\002\003\001\000\001\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\265
\003\367\166\073\141\202\152\022\252\030\123\353\003\041\224\277
\376\316\312\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\126\075\357\224\325\275\332\163\262

```
\130\276\256\220\255\230\047\227\376\001\261\260\122\000\270\115
\344\033\041\164\033\176\300\356\136\151\052\045\257\134\326\035
\332\322\171\311\363\227\051\340\206\207\336\004\131\017\361\131
\324\144\205\113\231\257\045\004\036\311\106\251\227\336\202\262
\033\160\237\234\366\257\161\061\335\173\005\245\054\323\271\312
\107\366\312\362\366\347\255\271\110\077\274\026\267\301\155\364
\352\011\257\354\363\265\347\005\236\246\036\212\123\121\326\223
\201\314\164\223\366\271\332\246\045\005\164\171\132\176\100\076
\202\113\046\021\060\156\341\077\101\307\107\000\065\325\365\323
\367\124\076\201\075\332\111\152\232\263\357\020\075\346\353\157
\321\310\042\107\313\314\317\001\061\222\331\030\343\042\276\011
\036\032\076\132\262\344\153\014\124\172\175\103\116\270\211\245
\173\327\242\075\226\206\314\362\046\064\055\152\222\235\232\032
\320\060\342\135\116\004\260\137\213\040\176\167\301\075\225\202
\321\106\232\073\074\170\270\157\241\320\015\144\242\170\036\051
\116\223\303\244\124\024\133
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "T-TeleSec GlobalRoot Class 3"

Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE

Serial Number: 1 (0x1)

Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE

Not Valid Before: Wed Oct 01 10:29:56 2008

Not Valid After : Sat Oct 01 23:59:59 2033

Fingerprint (SHA-256):

FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD

Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\125\246\162\076\313\362\354\315\303\043\164\160\031\235\052\276
\021\343\201\321
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\312\373\100\250\116\071\222\212\035\376\216\057\304\047\352\357
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
```

```
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\001
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "D-TRUST Root Class 3 CA 2 2009"

#

Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

Serial Number: 623603 (0x983f3)

Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

Not Valid Before: Thu Nov 05 08:35:58 2009

Not Valid After : Mon Nov 05 08:35:58 2029

Fingerprint (SHA-256):

49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1

Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\011\203\363

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\063\060\202\003\033\240\003\002\001\002\002\003\011
\203\363\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003
\014\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
\060\036\027\015\060\071\061\061\060\065\060\070\063\065\065\070
\132\027\015\062\071\061\061\060\065\060\070\063\065\065\070\132
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\323\262\112\317\172\107\357\165\233\043\372\072\057\326\120\105
\211\065\072\306\153\333\376\333\000\150\250\340\003\021\035\067
\120\010\237\115\112\150\224\065\263\123\321\224\143\247\040\126
\257\336\121\170\354\052\075\363\110\110\120\076\012\337\106\125
\213\047\155\303\020\115\015\221\122\103\330\207\340\135\116\066
\265\041\312\137\071\100\004\137\133\176\314\243\306\053\251\100
\036\331\066\204\326\110\363\222\036\064\106\040\044\301\244\121
\216\112\032\357\120\077\151\135\031\177\105\303\307\001\217\121
\311\043\350\162\256\264\274\126\011\177\022\313\034\261\257\051
\220\012\311\125\314\017\323\264\032\355\107\065\132\112\355\234
\163\004\041\320\252\275\014\023\265\000\312\046\154\304\153\014
\224\132\225\224\332\120\232\361\377\245\053\146\061\244\311\070
\240\337\035\037\270\011\056\363\247\350\147\122\253\225\037\340
\106\076\330\244\303\312\132\305\061\200\350\110\232\237\224\151
\376\031\335\330\163\174\201\312\226\336\216\355\263\062\005\145
\204\064\346\346\375\127\020\265\137\166\277\057\260\020\015\305
\002\003\001\000\001\243\202\001\032\060\202\001\026\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035
\006\003\125\035\016\004\026\004\024\375\332\024\304\237\060\336
\041\275\036\102\071\374\253\143\043\111\340\361\204\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\323
\006\003\125\035\037\004\201\313\060\201\310\060\201\200\240\176
\240\174\206\172\154\144\141\160\072\057\057\144\151\162\145\143
\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164
\057\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157
\157\164\045\062\060\103\154\141\163\163\045\062\060\063\045\062
\060\103\101\045\062\060\062\045\062\060\062\060\060\071\054\117
\075\104\055\124\162\165\163\164\045\062\060\107\155\142\110\054
\103\075\104\105\077\143\145\162\164\151\146\151\143\141\164\145

\162\145\166\157\143\141\164\151\157\156\154\151\163\164\060\103
\240\101\240\077\206\075\150\164\164\160\072\057\057\167\167\167
\056\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154
\057\144\055\164\162\165\163\164\137\162\157\157\164\137\143\154
\141\163\163\137\063\137\143\141\137\062\137\062\060\060\071\056
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\177\227\333\060\310\337\244\234\175
\041\172\200\160\316\024\022\151\210\024\225\140\104\001\254\262
\351\060\117\233\120\302\146\330\176\215\060\265\160\061\351\342
\151\307\363\160\333\040\025\206\320\015\360\276\254\001\165\204
\316\176\237\115\277\267\140\073\234\363\312\035\342\136\150\330
\243\235\227\345\100\140\322\066\041\376\320\264\270\027\332\164
\243\177\324\337\260\230\002\254\157\153\153\054\045\044\162\241
\145\356\045\132\345\346\062\347\362\337\253\111\372\363\220\151
\043\333\004\331\347\134\130\374\145\324\227\276\314\374\056\012
\314\045\052\065\004\370\140\221\025\165\075\101\377\043\037\031
\310\154\353\202\123\004\246\344\114\042\115\215\214\272\316\133
\163\354\144\124\120\155\321\234\125\373\151\303\066\303\214\274
\074\205\246\153\012\046\015\340\223\230\140\256\176\306\044\227
\212\141\137\221\216\146\222\011\207\066\315\213\233\055\076\366
\121\324\120\324\131\050\275\203\362\314\050\173\123\206\155\330
\046\210\160\327\352\221\315\076\271\312\300\220\156\132\306\136
\164\145\327\134\376\243\342

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST Root Class 3 CA 2 2009"

Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

Serial Number: 623603 (0x983f3)

Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

Not Valid Before: Thu Nov 05 08:35:58 2009

Not Valid After : Mon Nov 05 08:35:58 2029

Fingerprint (SHA-256):

49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1

Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\130\350\253\260\066\025\063\373\200\367\233\033\155\051\323\377
\215\137\000\360

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\315\340\045\151\215\107\254\234\211\065\220\367\375\121\075\057


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END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root Class 3 CA 2 EV 2009"
#
# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
# Serial Number: 623604 (0x983f4)
# Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
# Not Valid Before: Thu Nov 05 08:50:46 2009
# Not Valid After : Mon Nov 05 08:50:46 2029
# Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
# Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060

```

\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\364
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\103\060\202\003\053\240\003\002\001\002\002\003\011
\203\364\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003
\014\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062
\060\060\071\060\036\027\015\060\071\061\061\060\065\060\070\065
\060\064\066\132\027\015\062\071\061\061\060\065\060\070\065\060
\064\066\132\060\120\061\013\060\011\006\003\125\004\006\023\002
\104\105\061\025\060\023\006\003\125\004\012\014\014\104\055\124
\162\165\163\164\040\107\155\142\110\061\052\060\050\006\003\125
\004\003\014\041\104\055\124\122\125\123\124\040\122\157\157\164
\040\103\154\141\163\163\040\063\040\103\101\040\062\040\105\126
\040\062\060\060\071\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\231\361\204\064\160\272\057\267\060\240
\216\275\174\004\317\276\142\274\231\375\202\227\322\172\012\147
\226\070\011\366\020\116\225\042\163\231\215\332\025\055\347\005
\374\031\163\042\267\216\230\000\274\074\075\254\241\154\373\326
\171\045\113\255\360\314\144\332\210\076\051\270\017\011\323\064
\335\063\365\142\321\341\315\031\351\356\030\117\114\130\256\342
\036\326\014\133\025\132\330\072\270\304\030\144\036\343\063\262
\265\211\167\116\014\277\331\224\153\023\227\157\022\243\376\231
\251\004\314\025\354\140\150\066\355\010\173\267\365\277\223\355
\146\061\203\214\306\161\064\207\116\027\352\257\213\221\215\034
\126\101\256\042\067\136\067\362\035\331\321\055\015\057\151\121
\247\276\146\246\212\072\052\275\307\032\261\341\024\360\276\072
\035\271\317\133\261\152\376\264\261\106\040\242\373\036\073\160
\357\223\230\175\214\163\226\362\305\357\205\160\255\051\046\374
\036\004\076\034\240\330\017\313\122\203\142\174\356\213\123\225
\220\251\127\242\352\141\005\330\371\115\304\047\372\156\255\355
\371\327\121\367\153\245\002\003\001\000\001\243\202\001\044\060
\202\001\040\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\323
\224\212\114\142\023\052\031\056\314\257\162\212\175\066\327\232
\034\334\147\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\201\335\006\003\125\035\037\004\201\325\060\201
\322\060\201\207\240\201\204\240\201\201\206\177\154\144\141\160
\072\057\057\144\151\162\145\143\164\157\162\171\056\144\055\164
\162\165\163\164\056\156\145\164\057\103\116\075\104\055\124\122
\125\123\124\045\062\060\122\157\157\164\045\062\060\103\154\141

\163\163\045\062\060\063\045\062\060\103\101\045\062\060\062\045
\062\060\105\126\045\062\060\062\060\060\071\054\117\075\104\055
\124\162\165\163\164\045\062\060\107\155\142\110\054\103\075\104
\105\077\143\145\162\164\151\146\151\143\141\164\145\162\145\166
\157\143\141\164\151\157\156\154\151\163\164\060\106\240\104\240
\102\206\100\150\164\164\160\072\057\057\167\167\167\056\144\055
\164\162\165\163\164\056\156\145\164\057\143\162\154\057\144\055
\164\162\165\163\164\137\162\157\157\164\137\143\154\141\163\163
\137\063\137\143\141\137\062\137\145\166\137\062\060\060\071\056
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\064\355\173\132\074\244\224\210\357
\032\021\165\007\057\263\376\074\372\036\121\046\353\207\366\051
\336\340\361\324\306\044\011\351\301\317\125\033\264\060\331\316
\032\376\006\121\246\025\244\055\357\262\113\277\040\050\045\111
\321\246\066\167\064\350\144\337\122\261\021\307\163\172\315\071
\236\302\255\214\161\041\362\132\153\257\337\074\116\125\257\262
\204\145\024\211\271\167\313\052\061\276\317\243\155\317\157\110
\224\062\106\157\347\161\214\240\246\204\031\067\007\362\003\105
\011\053\206\165\174\337\137\151\127\000\333\156\330\246\162\042
\113\120\324\165\230\126\337\267\030\377\103\103\120\256\172\104
\173\360\171\121\327\103\075\247\323\201\323\360\311\117\271\332
\306\227\206\320\202\303\344\102\155\376\260\342\144\116\016\046
\347\100\064\046\265\010\211\327\010\143\143\070\047\165\036\063
\352\156\250\335\237\231\117\164\115\201\211\200\113\335\232\227
\051\134\057\276\201\101\271\214\377\352\175\140\006\236\315\327
\075\323\056\243\025\274\250\346\046\345\157\303\334\270\003\041
\352\237\026\361\054\124\265

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST Root Class 3 CA 2 EV 2009"
Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
Serial Number: 623604 (0x983f4)
Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
Not Valid Before: Thu Nov 05 08:50:46 2009
Not Valid After : Mon Nov 05 08:50:46 2029
Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\226\311\033\013\225\264\020\230\102\372\320\330\042\171\376\140

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\372\271\026\203
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\306\103\054\136\055\315\304\064\300\120\117\021\002\117\266
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "CA Disig Root R2"
#
# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Serial Number:00:92:b8:88:db:b0:8a:c1:63
# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Not Valid Before: Thu Jul 19 09:15:30 2012
# Not Valid After : Sat Jul 19 09:15:30 2042
# Fingerprint (SHA-256):
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

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\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\222\270\210\333\260\212\301\143

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\151\060\202\003\121\240\003\002\001\002\002\011\000
\222\270\210\333\260\212\301\143\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\122\061\013\060\011\006\003\125
\004\006\023\002\123\113\061\023\060\021\006\003\125\004\007\023
\012\102\162\141\164\151\163\154\141\166\141\061\023\060\021\006
\003\125\004\012\023\012\104\151\163\151\147\040\141\056\163\056
\061\031\060\027\006\003\125\004\003\023\020\103\101\040\104\151
\163\151\147\040\122\157\157\164\040\122\062\060\036\027\015\061
\062\060\067\061\071\060\071\061\065\063\060\132\027\015\064\062
\060\067\061\071\060\071\061\065\063\060\132\060\122\061\013\060
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040
\141\056\163\056\061\031\060\027\006\003\125\004\003\023\020\103
\101\040\104\151\163\151\147\040\122\157\157\164\040\122\062\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\242\243\304\000\011\326\205\135\055\155\024\366\302\303\163\236
\065\302\161\125\176\201\373\253\106\120\340\301\174\111\170\346
\253\171\130\074\332\377\174\034\237\330\227\002\170\076\153\101
\004\351\101\275\276\003\054\105\366\057\144\324\253\135\243\107
\075\144\233\351\150\232\306\314\033\077\272\276\262\213\064\002
\056\230\125\031\374\214\157\252\137\332\114\316\115\003\041\243
\330\322\064\223\126\226\313\114\014\000\026\074\137\032\315\310
\307\154\246\255\323\061\247\274\350\345\341\146\326\322\373\003
\264\101\145\311\020\256\016\005\143\306\200\152\151\060\375\322
\356\220\357\015\047\337\237\225\163\364\341\045\332\154\026\336
\101\070\064\352\213\374\321\350\004\024\141\055\101\176\254\307
\167\116\313\121\124\373\136\222\030\033\004\132\150\306\311\304
\372\267\023\240\230\267\021\053\267\326\127\314\174\236\027\321
\313\045\376\206\116\044\056\126\014\170\115\236\001\022\246\053
\247\001\145\156\174\142\035\204\204\337\352\300\153\265\245\052
\225\203\303\123\021\014\163\035\013\262\106\220\321\102\072\316
\100\156\225\255\377\306\224\255\156\227\204\216\175\157\236\212
\200\015\111\155\163\342\173\222\036\303\363\301\363\353\056\005
\157\331\033\317\067\166\004\310\264\132\344\027\247\313\335\166
\037\320\031\166\350\054\005\263\326\234\064\330\226\334\141\207

\221\005\344\104\010\063\301\332\271\010\145\324\256\262\066\015
\353\272\070\272\014\345\233\236\353\215\146\335\231\317\326\211
\101\366\004\222\212\051\051\155\153\072\034\347\165\175\002\161
\016\363\300\347\275\313\031\335\235\140\262\302\146\140\266\261
\004\356\311\346\206\271\232\146\100\250\347\021\355\201\105\003
\213\366\147\131\350\301\006\021\275\335\317\200\002\117\145\100
\170\134\107\120\310\233\346\037\201\173\344\104\250\133\205\232
\342\336\132\325\307\371\072\104\146\113\344\062\124\174\344\154
\234\263\016\075\027\242\262\064\022\326\176\262\250\111\273\321
\172\050\100\276\242\026\037\337\344\067\037\021\163\373\220\012
\145\103\242\015\174\370\006\001\125\063\175\260\015\270\364\365
\256\245\102\127\174\066\021\214\173\136\304\003\235\214\171\235
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125\035
\016\004\026\004\024\265\231\370\257\260\224\365\343\040\326\012
\255\316\116\126\244\056\156\102\355\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\003\202\002\001\000\046\006\136
\160\347\145\063\310\202\156\331\234\027\072\033\172\146\262\001
\366\170\073\151\136\057\352\377\116\371\050\303\230\052\141\114
\264\044\022\212\175\155\021\024\367\234\265\312\346\274\236\047
\216\114\031\310\251\275\172\300\327\066\016\155\205\162\156\250
\306\242\155\366\372\163\143\177\274\156\171\010\034\235\212\237
\032\212\123\246\330\273\331\065\125\261\021\305\251\003\263\126
\073\271\204\223\042\136\176\301\366\022\122\213\352\054\147\274
\376\066\114\365\270\317\321\263\111\222\073\323\051\016\231\033
\226\367\141\270\073\304\053\266\170\154\264\043\157\360\375\323
\262\136\165\037\231\225\250\254\366\332\341\305\061\173\373\321
\106\263\322\274\147\264\142\124\272\011\367\143\260\223\242\232
\371\351\122\056\213\140\022\253\374\365\140\126\357\020\134\213
\304\032\102\334\203\133\144\016\313\265\274\326\117\301\174\074
\156\215\023\155\373\173\353\060\320\334\115\257\305\325\266\245
\114\133\161\311\350\061\276\350\070\006\110\241\032\342\352\322
\336\022\071\130\032\377\200\016\202\165\346\267\311\007\154\016
\357\377\070\361\230\161\304\267\177\016\025\320\045\151\275\042
\235\053\355\005\366\106\107\254\355\300\360\324\073\342\354\356
\226\133\220\023\116\036\126\072\353\260\357\226\273\226\043\021
\272\362\103\206\164\144\225\310\050\165\337\035\065\272\322\067
\203\070\123\070\066\073\317\154\351\371\153\016\320\373\004\350
\117\167\327\145\001\170\206\014\172\076\041\142\361\177\143\161
\014\311\237\104\333\250\047\242\165\276\156\201\076\327\300\353
\033\230\017\160\134\064\262\212\314\300\205\030\353\156\172\263
\367\132\241\007\277\251\102\222\363\140\042\227\344\024\241\007
\233\116\166\300\216\175\375\244\045\307\107\355\377\037\163\254
\314\303\245\351\157\012\216\233\145\302\120\205\265\243\240\123
\022\314\125\207\141\363\201\256\020\106\141\275\104\041\270\302
\075\164\317\176\044\065\372\034\007\016\233\075\042\312\357\061
\057\214\254\022\275\357\100\050\374\051\147\237\262\023\117\146

```

\044\304\123\031\351\036\051\025\357\346\155\260\177\055\147\375
\363\154\033\165\106\243\345\112\027\351\244\327\013
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "CA Disig Root R2"
# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Serial Number:00:92:b8:88:db:b0:8a:c1:63
# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Not Valid Before: Thu Jul 19 09:15:30 2012
# Not Valid After : Sat Jul 19 09:15:30 2042
# Fingerprint (SHA-256):
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig Root R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\265\141\353\352\244\336\344\045\113\151\032\230\245\127\107\302
\064\307\331\161
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\001\373\330\047\247\027\232\105\124\070\032\103\001\073\003
END
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\222\270\210\333\260\212\301\143
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ACCVRAIZ1"
#
# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

```

```
# Serial Number:5e:c3:b7:a6:43:7f:a4:e0
# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
# Not Valid Before: Thu May 05 09:37:37 2011
# Not Valid After : Tue Dec 31 09:37:37 2030
# Fingerprint (SHA-256):
9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
# Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACCVRAIZ1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\136\303\267\246\103\177\244\340
END
CKA_VALUE MULTILINE_OCTAL
\060\202\007\323\060\202\005\273\240\003\002\001\002\002\010\136
\303\267\246\103\177\244\340\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\102\061\022\060\020\006\003\125\004
\003\014\011\101\103\103\126\122\101\111\132\061\061\020\060\016
\006\003\125\004\013\014\007\120\113\111\101\103\103\126\061\015
\060\013\006\003\125\004\012\014\004\101\103\103\126\061\013\060
\011\006\003\125\004\006\023\002\105\123\060\036\027\015\061\061
\060\065\060\065\060\071\063\067\063\067\132\027\015\063\060\061
\062\063\061\060\071\063\067\063\067\132\060\102\061\022\060\020
\006\003\125\004\003\014\011\101\103\103\126\122\101\111\132\061
\061\020\060\016\006\003\125\004\013\014\007\120\113\111\101\103
\103\126\061\015\060\013\006\003\125\004\012\014\004\101\103\103
\126\061\013\060\011\006\003\125\004\006\023\002\105\123\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\233
\251\253\277\141\112\227\257\057\227\146\232\164\137\320\331\226
```


\375\317\342\344\146\357\037\037\107\063\302\104\243\337\232\336
\037\265\124\335\025\174\151\065\021\157\273\310\014\216\152\030
\036\330\217\331\026\274\020\110\066\134\360\143\263\220\132\134
\044\067\327\243\326\313\011\161\271\361\001\162\204\260\175\333
\115\200\315\374\323\157\311\370\332\266\016\202\322\105\205\250
\033\150\250\075\350\364\104\154\275\241\302\313\003\276\214\076
\023\000\204\337\112\110\300\343\042\012\350\351\067\247\030\114
\261\011\015\043\126\177\004\115\331\027\204\030\245\310\332\100
\224\163\353\316\016\127\074\003\201\072\235\012\241\127\103\151
\254\127\155\171\220\170\345\265\264\073\330\274\114\215\050\241
\247\243\247\272\002\116\045\321\052\256\355\256\003\042\270\153
\040\017\060\050\124\225\177\340\356\316\012\146\235\321\100\055
\156\042\257\235\032\301\005\031\322\157\300\362\237\370\173\263
\002\102\373\120\251\035\055\223\017\043\253\306\301\017\222\377
\320\242\025\365\123\011\161\034\377\105\023\204\346\046\136\370
\340\210\034\012\374\026\266\250\163\006\270\360\143\204\002\240
\306\132\354\347\164\337\160\256\243\203\045\352\326\307\227\207
\223\247\306\212\212\063\227\140\067\020\076\227\076\156\051\025
\326\241\017\321\210\054\022\237\157\252\244\306\102\353\101\242
\343\225\103\323\001\205\155\216\273\073\363\043\066\307\376\073
\340\241\045\007\110\253\311\211\164\377\010\217\200\277\300\226
\145\363\356\354\113\150\275\235\210\303\061\263\100\361\350\317
\366\070\273\234\344\321\177\324\345\130\233\174\372\324\363\016
\233\165\221\344\272\122\056\031\176\321\365\315\132\031\374\272
\006\366\373\122\250\113\231\004\335\370\371\264\213\120\243\116
\142\211\360\207\044\372\203\102\301\207\372\325\055\051\052\132
\161\172\144\152\327\047\140\143\015\333\316\111\365\215\037\220
\211\062\027\370\163\103\270\322\132\223\206\141\326\341\165\012
\352\171\146\166\210\117\161\353\004\045\326\012\132\172\223\345
\271\113\027\100\017\261\266\271\365\336\117\334\340\263\254\073
\021\160\140\204\112\103\156\231\040\300\051\161\012\300\145\002
\003\001\000\001\243\202\002\313\060\202\002\307\060\175\006\010
\053\006\001\005\005\007\001\001\004\161\060\157\060\114\006\010
\053\006\001\005\005\007\060\002\206\100\150\164\164\160\072\057
\057\167\167\167\056\141\143\143\166\056\145\163\057\146\151\154
\145\141\144\155\151\156\057\101\162\143\150\151\166\157\163\057
\143\145\162\164\151\146\151\143\141\144\157\163\057\162\141\151
\172\141\143\143\166\061\056\143\162\164\060\037\006\010\053\006
\001\005\005\007\060\001\206\023\150\164\164\160\072\057\057\157
\143\163\160\056\141\143\143\166\056\145\163\060\035\006\003\125
\035\016\004\026\004\024\322\207\264\343\337\067\047\223\125\366
\126\352\201\345\066\314\214\036\077\275\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\322\207\264\343\337\067\047\223
\125\366\126\352\201\345\066\314\214\036\077\275\060\202\001\163
\006\003\125\035\040\004\202\001\152\060\202\001\146\060\202\001
\142\006\004\125\035\040\000\060\202\001\130\060\202\001\042\006
\010\053\006\001\005\005\007\002\002\060\202\001\024\036\202\001

\020\000\101\000\165\000\164\000\157\000\162\000\151\000\144\000
\141\000\144\000\040\000\144\000\145\000\040\000\103\000\145\000
\162\000\164\000\151\000\146\000\151\000\143\000\141\000\143\000
\151\000\363\000\156\000\040\000\122\000\141\000\355\000\172\000
\040\000\144\000\145\000\040\000\154\000\141\000\040\000\101\000
\103\000\103\000\126\000\040\000\050\000\101\000\147\000\145\000
\156\000\143\000\151\000\141\000\040\000\144\000\145\000\040\000
\124\000\145\000\143\000\156\000\157\000\154\000\157\000\147\000
\355\000\141\000\040\000\171\000\040\000\103\000\145\000\162\000
\164\000\151\000\146\000\151\000\143\000\141\000\143\000\151\000
\363\000\156\000\040\000\105\000\154\000\145\000\143\000\164\000
\162\000\363\000\156\000\151\000\143\000\141\000\054\000\040\000
\103\000\111\000\106\000\040\000\121\000\064\000\066\000\060\000
\061\000\061\000\065\000\066\000\105\000\051\000\056\000\040\000
\103\000\120\000\123\000\040\000\145\000\156\000\040\000\150\000
\164\000\164\000\160\000\072\000\057\000\057\000\167\000\167\000
\167\000\056\000\141\000\143\000\143\000\166\000\056\000\145\000
\163\060\060\006\010\053\006\001\005\005\007\002\001\026\044\150
\164\164\160\072\057\057\167\167\167\056\141\143\143\166\056\145
\163\057\154\145\147\151\163\154\141\143\151\157\156\137\143\056
\150\164\155\060\125\006\003\125\035\037\004\116\060\114\060\112
\240\110\240\106\206\104\150\164\164\160\072\057\057\167\167\167
\056\141\143\143\166\056\145\163\057\146\151\154\145\141\144\155
\151\156\057\101\162\143\150\151\166\157\163\057\143\145\162\164
\151\146\151\143\141\144\157\163\057\162\141\151\172\141\143\143
\166\061\137\144\145\162\056\143\162\154\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\027\006\003\125\035
\021\004\020\060\016\201\014\141\143\143\166\100\141\143\143\166
\056\145\163\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\003\202\002\001\000\227\061\002\237\347\375\103\147\110
\104\024\344\051\207\355\114\050\146\320\217\065\332\115\141\267
\112\227\115\265\333\220\340\005\056\016\306\171\320\362\227\151
\017\275\004\107\331\276\333\265\051\332\233\331\256\251\231\325
\323\074\060\223\365\215\241\250\374\006\215\104\364\312\026\225
\174\063\334\142\213\250\067\370\047\330\011\055\033\357\310\024
\047\040\251\144\104\377\056\326\165\252\154\115\140\100\031\111
\103\124\143\332\342\314\272\146\345\117\104\172\133\331\152\201
\053\100\325\177\371\001\047\130\054\310\355\110\221\174\077\246
\000\317\304\051\163\021\066\336\206\031\076\235\356\031\212\033
\325\260\355\216\075\234\052\300\015\330\075\146\343\074\015\275
\325\224\134\342\342\247\065\033\004\000\366\077\132\215\352\103
\275\137\211\035\251\301\260\314\231\342\115\000\012\332\311\047
\133\347\023\220\134\344\365\063\242\125\155\334\340\011\115\057
\261\046\133\047\165\000\011\304\142\167\051\010\137\236\131\254
\266\176\255\237\124\060\042\003\301\036\161\144\376\371\070\012
\226\030\335\002\024\254\043\313\006\034\036\244\175\215\015\336
\047\101\350\255\332\025\267\260\043\335\053\250\323\332\045\207
\355\350\125\104\115\210\364\066\176\204\232\170\254\367\016\126

```
\111\016\326\063\045\326\204\120\102\154\040\022\035\052\325\276
\274\362\160\201\244\160\140\276\005\265\233\236\004\104\276\141
\043\254\351\245\044\214\021\200\224\132\242\242\271\111\322\301
\334\321\247\355\061\021\054\236\031\246\356\341\125\341\300\352
\317\015\204\344\027\267\242\174\245\336\125\045\006\356\314\300
\207\134\100\332\314\225\077\125\340\065\307\270\204\276\264\135
\315\172\203\001\162\356\207\346\137\035\256\265\205\306\046\337
\346\301\232\351\036\002\107\237\052\250\155\251\133\317\354\105
\167\177\230\047\232\062\135\052\343\204\356\305\230\146\057\226
\040\035\335\330\303\047\327\260\371\376\331\175\315\320\237\217
\013\024\130\121\237\057\213\303\070\055\336\350\217\326\215\207
\244\365\126\103\026\231\054\364\244\126\264\064\270\141\067\311
\302\130\200\033\240\227\241\374\131\215\351\021\366\321\017\113
\125\064\106\052\213\206\073
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "ACCVRAIZ1"
```

```
# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
```

```
# Serial Number:5e:c3:b7:a6:43:7f:a4:e0
```

```
# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
```

```
# Not Valid Before: Thu May 05 09:37:37 2011
```

```
# Not Valid After : Tue Dec 31 09:37:37 2030
```

```
# Fingerprint (SHA-256):
```

```
9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
```

```
# Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "ACCVRAIZ1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\223\005\172\210\025\306\117\316\210\057\372\221\026\122\050\170
\274\123\144\027
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\320\240\132\356\005\266\011\224\041\241\175\361\262\051\202\002
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```

\002\010\136\303\267\246\103\177\244\340
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TWCA Global Root CA"
#
# Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
# Serial Number: 3262 (0xcbe)
# Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
# Not Valid Before: Wed Jun 27 06:28:33 2012
# Not Valid After : Tue Dec 31 15:59:59 2030
# Fingerprint (SHA-256):
59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B
# Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\014\276
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\101\060\202\003\051\240\003\002\001\002\002\002\014
\276\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061

```

\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101\060\036\027\015\061\062\060\066\062\067\060\066\062
\070\063\063\132\027\015\063\060\061\062\063\061\061\065\065\071
\065\071\132\060\121\061\013\060\011\006\003\125\004\006\023\002
\124\127\061\022\060\020\006\003\125\004\012\023\011\124\101\111
\127\101\116\055\103\101\061\020\060\016\006\003\125\004\013\023
\007\122\157\157\164\040\103\101\061\034\060\032\006\003\125\004
\003\023\023\124\127\103\101\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\260\005\333\310\353\214\304\156\212
\041\357\216\115\234\161\012\037\122\160\355\155\202\234\227\305
\327\114\116\105\111\313\100\102\265\022\064\154\031\302\164\244
\061\137\205\002\227\354\103\063\012\123\322\234\214\216\267\270
\171\333\053\325\152\362\216\146\304\356\053\001\007\222\324\263
\320\002\337\120\366\125\257\146\016\313\340\107\140\057\053\062
\071\065\122\072\050\203\370\173\026\306\030\270\142\326\107\045
\221\316\360\031\022\115\255\143\365\323\077\165\137\051\360\241
\060\034\052\240\230\246\025\275\356\375\031\066\360\342\221\103
\217\372\312\326\020\047\111\114\357\335\301\361\205\160\233\312
\352\250\132\103\374\155\206\157\163\351\067\105\251\360\066\307
\314\210\165\036\273\154\006\377\233\153\076\027\354\141\252\161
\174\306\035\242\367\111\351\025\265\074\326\241\141\365\021\367
\005\157\035\375\021\276\320\060\007\302\051\260\011\116\046\334
\343\242\250\221\152\037\302\221\105\210\134\345\230\270\161\245
\025\031\311\174\165\021\314\160\164\117\055\233\035\221\104\375
\126\050\240\376\273\206\152\310\372\134\013\130\334\306\113\166
\310\253\042\331\163\017\245\364\132\002\211\077\117\236\042\202
\356\242\164\123\052\075\123\047\151\035\154\216\062\054\144\000
\046\143\141\066\116\243\106\267\077\175\263\055\254\155\220\242
\225\242\316\317\332\202\347\007\064\031\226\351\270\041\252\051
\176\246\070\276\216\051\112\041\146\171\037\263\303\265\011\147
\336\326\324\007\106\363\052\332\346\042\067\140\313\201\266\017
\240\017\351\310\225\177\277\125\221\005\172\317\075\025\300\157
\336\011\224\001\203\327\064\033\314\100\245\360\270\233\147\325
\230\221\073\247\204\170\225\046\244\132\010\370\053\164\264\000
\004\074\337\270\024\216\350\337\251\215\154\147\222\063\035\300
\267\322\354\222\310\276\011\277\054\051\005\157\002\153\236\357
\274\277\052\274\133\300\120\217\101\160\161\207\262\115\267\004
\251\204\243\062\257\256\356\153\027\213\262\261\376\154\341\220
\214\210\250\227\110\316\310\115\313\363\006\317\137\152\012\102
\261\036\036\167\057\216\240\346\222\016\006\374\005\042\322\046
\341\061\121\175\062\334\017\002\003\001\000\001\243\043\060\041
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001

\377\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\002\001\000\137\064\201\166\357\226\035\325\345\265\331
\002\143\204\026\301\256\240\160\121\247\367\114\107\065\310\013
\327\050\075\211\161\331\252\063\101\352\024\033\154\041\000\300
\154\102\031\176\237\151\133\040\102\337\242\322\332\304\174\227
\113\215\260\350\254\310\356\245\151\004\231\012\222\246\253\047
\056\032\115\201\277\204\324\160\036\255\107\376\375\112\235\063
\340\362\271\304\105\010\041\012\332\151\151\163\162\015\276\064
\376\224\213\255\303\036\065\327\242\203\357\345\070\307\245\205
\037\253\317\064\354\077\050\376\014\361\127\206\116\311\125\367
\034\324\330\245\175\006\172\157\325\337\020\337\201\116\041\145
\261\266\341\027\171\225\105\006\316\137\314\334\106\211\143\150
\104\215\223\364\144\160\240\075\235\050\005\303\071\160\270\142
\173\040\375\344\333\351\010\241\270\236\075\011\307\117\373\054
\370\223\166\101\336\122\340\341\127\322\235\003\274\167\236\376
\236\051\136\367\301\121\140\037\336\332\013\262\055\165\267\103
\110\223\347\366\171\306\204\135\200\131\140\224\374\170\230\217
\074\223\121\355\100\220\007\337\144\143\044\313\116\161\005\241
\327\224\032\210\062\361\042\164\042\256\245\246\330\022\151\114
\140\243\002\356\053\354\324\143\222\013\136\276\057\166\153\243
\266\046\274\217\003\330\012\362\114\144\106\275\071\142\345\226
\353\064\143\021\050\314\225\361\255\357\357\334\200\130\110\351
\113\270\352\145\254\351\374\200\265\265\310\105\371\254\301\237
\331\271\352\142\210\216\304\361\113\203\022\255\346\213\204\326
\236\302\353\203\030\237\152\273\033\044\140\063\160\314\354\367
\062\363\134\331\171\175\357\236\244\376\311\043\303\044\356\025
\222\261\075\221\117\046\206\275\146\163\044\023\352\244\256\143
\301\255\175\204\003\074\020\170\206\033\171\343\304\363\362\004
\225\040\256\043\202\304\263\072\000\142\277\346\066\044\341\127
\272\307\036\220\165\325\137\077\225\141\053\301\073\315\345\263
\150\141\320\106\046\251\041\122\151\055\353\056\307\353\167\316
\246\072\265\003\063\117\166\321\347\134\124\001\135\313\170\364
\311\014\277\317\022\216\027\055\043\150\224\347\253\376\251\262
\053\006\320\004\315

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TWCA Global Root CA"

Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

Serial Number: 3262 (0xcbe)

Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

Not Valid Before: Wed Jun 27 06:28:33 2012

Not Valid After : Tue Dec 31 15:59:59 2030

Fingerprint (SHA-256):

59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B

Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Global Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\234\273\110\123\366\244\366\323\122\244\350\062\122\125\140\023
\365\255\257\145
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\371\003\176\317\346\236\074\163\172\052\220\007\151\377\053\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\014\276
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TeliaSonera Root CA v1"
#
# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
# Not Valid Before: Thu Oct 18 12:00:50 2007
# Not Valid After : Mon Oct 18 12:00:50 2032
# Fingerprint (SHA-256):
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004

```

\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
\213\315\226
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\070\060\202\003\040\240\003\002\001\002\002\021\000
\225\276\026\240\367\056\106\361\173\071\202\162\372\213\315\226
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154\151
\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004\003
\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122\157
\157\164\040\103\101\040\166\061\060\036\027\015\060\067\061\060
\061\070\061\062\060\060\065\060\132\027\015\063\062\061\060\061
\070\061\062\060\060\065\060\132\060\067\061\024\060\022\006\003
\125\004\012\014\013\124\145\154\151\141\123\157\156\145\162\141
\061\037\060\035\006\003\125\004\003\014\026\124\145\154\151\141
\123\157\156\145\162\141\040\122\157\157\164\040\103\101\040\166
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\302\276\353\047\360\041\243\363\151\046\125\176\235\305
\125\026\221\134\375\357\041\277\123\200\172\055\322\221\214\143
\061\360\354\044\360\303\245\322\162\174\020\155\364\067\267\345
\346\174\171\352\214\265\202\213\256\110\266\254\000\334\145\165
\354\052\115\137\301\207\365\040\145\053\201\250\107\076\211\043
\225\060\026\220\177\350\127\007\110\347\031\256\277\105\147\261
\067\033\006\052\376\336\371\254\175\203\373\136\272\344\217\227
\147\276\113\216\215\144\007\127\070\125\151\064\066\075\023\110
\357\117\342\323\146\036\244\317\032\267\136\066\063\324\264\006
\275\030\001\375\167\204\120\000\105\365\214\135\350\043\274\176
\376\065\341\355\120\173\251\060\215\031\323\011\216\150\147\135
\277\074\227\030\123\273\051\142\305\312\136\162\301\307\226\324
\333\055\240\264\037\151\003\354\352\342\120\361\014\074\360\254
\363\123\055\360\034\365\355\154\071\071\163\200\026\310\122\260
\043\315\340\076\334\335\074\107\240\273\065\212\342\230\150\213
\276\345\277\162\356\322\372\245\355\022\355\374\230\030\251\046
\166\334\050\113\020\040\034\323\177\026\167\055\355\157\200\367
\111\273\123\005\273\135\150\307\324\310\165\026\077\211\132\213
\367\027\107\324\114\361\322\211\171\076\115\075\230\250\141\336

\072\036\322\370\136\003\340\301\311\034\214\323\215\115\323\225
\066\263\067\137\143\143\233\063\024\360\055\046\153\123\174\211
\214\062\302\156\354\075\041\000\071\311\241\150\342\120\203\056
\260\072\053\363\066\240\254\057\344\157\141\302\121\011\071\076
\213\123\271\273\147\332\334\123\271\166\131\066\235\103\345\040
\340\075\062\140\205\042\121\267\307\063\273\335\025\057\244\170
\246\007\173\201\106\066\004\206\335\171\065\307\225\054\073\260
\243\027\065\345\163\037\264\134\131\357\332\352\020\145\173\172
\320\177\237\263\264\052\067\073\160\213\233\133\271\053\267\354
\262\121\022\227\123\051\132\324\360\022\020\334\117\002\273\022
\222\057\142\324\077\151\103\174\015\326\374\130\165\001\210\235
\130\026\113\336\272\220\377\107\001\211\006\152\366\137\262\220
\152\263\002\246\002\210\277\263\107\176\052\331\325\372\150\170
\065\115\002\003\001\000\001\243\077\060\075\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003
\125\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016
\004\026\004\024\360\217\131\070\000\263\365\217\232\226\014\325
\353\372\173\252\027\350\023\022\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\002\001\000\276\344\134\142
\116\044\364\014\010\377\360\323\014\150\344\223\111\042\077\104
\047\157\273\155\336\203\146\316\250\314\015\374\365\232\006\345
\167\024\221\353\235\101\173\231\052\204\345\377\374\041\301\135
\360\344\037\127\267\165\251\241\137\002\046\377\327\307\367\116
\336\117\370\367\034\106\300\172\117\100\054\042\065\360\031\261
\320\153\147\054\260\250\340\300\100\067\065\366\204\134\134\343
\257\102\170\376\247\311\015\120\352\015\204\166\366\121\357\203
\123\306\172\377\016\126\111\056\217\172\326\014\346\047\124\343
\115\012\140\162\142\315\221\007\326\245\277\310\231\153\355\304
\031\346\253\114\021\070\305\157\061\342\156\111\310\077\166\200
\046\003\046\051\340\066\366\366\040\123\343\027\160\064\027\235
\143\150\036\153\354\303\115\206\270\023\060\057\135\106\015\107
\103\325\033\252\131\016\271\134\215\006\110\255\164\207\137\307
\374\061\124\101\023\342\307\041\016\236\340\036\015\341\300\173
\103\205\220\305\212\130\306\145\012\170\127\362\306\043\017\001
\331\040\113\336\017\373\222\205\165\052\134\163\215\155\173\045
\221\312\356\105\256\006\113\000\314\323\261\131\120\332\072\210
\073\051\103\106\136\227\053\124\316\123\157\215\112\347\226\372
\277\161\016\102\213\174\375\050\240\320\110\312\332\304\201\114
\273\242\163\223\046\310\353\014\326\046\210\266\300\044\317\273
\275\133\353\165\175\351\010\216\206\063\054\171\167\011\151\245
\211\374\263\160\220\207\166\217\323\042\273\102\316\275\163\013
\040\046\052\320\233\075\160\036\044\154\315\207\166\251\027\226
\267\317\015\222\373\216\030\251\230\111\321\236\376\140\104\162
\041\271\031\355\302\365\061\361\071\110\210\220\044\165\124\026
\255\316\364\370\151\024\144\071\373\243\270\272\160\100\307\047
\034\277\304\126\123\372\143\145\320\363\034\016\026\365\153\206
\130\115\030\324\344\015\216\245\235\133\221\334\166\044\120\077
\306\052\373\331\267\234\265\326\346\320\331\350\031\213\025\161

```
\110\255\267\352\330\131\210\324\220\277\026\263\331\351\254\131
\141\124\310\034\272\312\301\312\341\271\040\114\217\072\223\211
\245\240\314\277\323\366\165\244\165\226\155\126
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "TeliaSonera Root CA v1"
```

```
# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
```

```
# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
```

```
# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
```

```
# Not Valid Before: Thu Oct 18 12:00:50 2007
```

```
# Not Valid After : Mon Oct 18 12:00:50 2032
```

```
# Fingerprint (SHA-256):
```

```
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
```

```
# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\103\023\273\226\361\325\206\233\301\116\152\222\366\317\366\064
```

```
\151\207\202\067
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\067\101\111\033\030\126\232\046\365\255\302\146\373\100\245\114
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
```

```
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
```

```
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
```

```
\157\157\164\040\103\101\040\166\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
```

```
\213\315\226
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "E-Tugra Certification Authority"
```

```
#
```

```
# Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
```

Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Serial Number:6a:68:3e:9c:51:9b:cb:53
Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu...ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Not Valid Before: Tue Mar 05 12:09:48 2013
Not Valid After : Fri Mar 03 12:09:48 2023
Fingerprint (SHA-256):
B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C
Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\152\150\076\234\121\233\313\123
END
CKA_VALUE MULTILINE_OCTAL

\060\202\006\113\060\202\004\063\240\003\002\001\002\002\010\152
\150\076\234\121\233\313\123\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\262\061\013\060\011\006\003\125
\004\006\023\002\124\122\061\017\060\015\006\003\125\004\007\014
\006\101\156\153\141\162\141\061\100\060\076\006\003\125\004\012
\014\067\105\055\124\165\304\237\162\141\040\105\102\107\040\102
\151\154\151\305\237\151\155\040\124\145\153\156\157\154\157\152
\151\154\145\162\151\040\166\145\040\110\151\172\155\145\164\154
\145\162\151\040\101\056\305\236\056\061\046\060\044\006\003\125
\004\013\014\035\105\055\124\165\147\162\141\040\123\145\162\164
\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145\172
\151\061\050\060\046\006\003\125\004\003\014\037\105\055\124\165
\147\162\141\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\063\060\063\060\065\061\062\060\071\064\070\132\027\015\062\063
\060\063\060\063\061\062\060\071\064\070\132\060\201\262\061\013
\060\011\006\003\125\004\006\023\002\124\122\061\017\060\015\006
\003\125\004\007\014\006\101\156\153\141\162\141\061\100\060\076
\006\003\125\004\012\014\067\105\055\124\165\304\237\162\141\040
\105\102\107\040\102\151\154\151\305\237\151\155\040\124\145\153
\156\157\154\157\152\151\154\145\162\151\040\166\145\040\110\151
\172\155\145\164\154\145\162\151\040\101\056\305\236\056\061\046
\060\044\006\003\125\004\013\014\035\105\055\124\165\147\162\141
\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040\115
\145\162\153\145\172\151\061\050\060\046\006\003\125\004\003\014
\037\105\055\124\165\147\162\141\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\342\365\077\223\005\121\036\205\142\124\136\172\013\365\030
\007\203\256\176\257\174\367\324\212\153\245\143\103\071\271\113
\367\303\306\144\211\075\224\056\124\200\122\071\071\007\113\113
\335\205\007\166\207\314\277\057\225\114\314\175\247\075\274\107
\017\230\160\370\214\205\036\164\216\222\155\033\100\321\231\015
\273\165\156\310\251\153\232\300\204\061\257\312\103\313\353\053
\064\350\217\227\153\001\233\325\016\112\010\252\133\222\164\205
\103\323\200\256\241\210\133\256\263\352\136\313\026\232\167\104
\310\241\366\124\150\316\336\217\227\053\272\133\100\002\014\144
\027\300\265\223\315\341\361\023\146\316\014\171\357\321\221\050
\253\137\240\022\122\060\163\031\216\217\341\214\007\242\303\273
\112\360\352\037\025\250\356\045\314\244\106\370\033\042\357\263
\016\103\272\054\044\270\305\054\134\324\034\370\135\144\275\303
\223\136\050\247\077\047\361\216\036\323\052\120\005\243\125\331
\313\347\071\123\300\230\236\214\124\142\213\046\260\367\175\215
\174\344\306\236\146\102\125\202\107\347\262\130\215\146\367\007
\174\056\066\346\120\034\077\333\103\044\305\277\206\107\171\263
\171\034\367\132\364\023\354\154\370\077\342\131\037\225\356\102
\076\271\255\250\062\205\111\227\106\376\113\061\217\132\313\255

\164\107\037\351\221\267\337\050\004\042\240\324\017\135\342\171
\117\352\154\205\206\275\250\246\316\344\372\303\341\263\256\336
\074\121\356\313\023\174\001\177\204\016\135\121\224\236\023\014
\266\056\245\114\371\071\160\066\157\226\312\056\014\104\125\305
\312\372\135\002\243\337\326\144\214\132\263\001\012\251\265\012
\107\027\377\357\221\100\052\216\241\106\072\061\230\345\021\374
\314\273\111\126\212\374\271\320\141\232\157\145\154\346\303\313
\076\165\111\376\217\247\342\211\305\147\327\235\106\023\116\061
\166\073\044\263\236\021\145\206\253\177\357\035\324\370\274\347
\254\132\134\267\132\107\134\125\316\125\264\042\161\133\133\013
\360\317\334\240\141\144\352\251\327\150\012\143\247\340\015\077
\240\257\323\252\322\176\357\121\240\346\121\053\125\222\025\027
\123\313\267\146\016\146\114\370\371\165\114\220\347\022\160\307
\105\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035
\016\004\026\004\024\056\343\333\262\111\320\234\124\171\134\372
\047\052\376\314\116\322\350\116\124\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035
\043\004\030\060\026\200\024\056\343\333\262\111\320\234\124\171
\134\372\047\052\376\314\116\322\350\116\124\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\005
\067\072\364\115\267\105\342\105\165\044\217\266\167\122\350\034
\330\020\223\145\363\362\131\006\244\076\036\051\354\135\321\320
\253\174\340\012\220\110\170\355\116\230\003\231\376\050\140\221
\035\060\035\270\143\174\250\346\065\265\372\323\141\166\346\326
\007\113\312\151\232\262\204\172\167\223\105\027\025\237\044\320
\230\023\022\377\273\240\056\375\116\114\207\370\316\134\252\230
\033\005\340\000\106\112\202\200\245\063\213\050\334\355\070\323
\337\345\076\351\376\373\131\335\141\204\117\322\124\226\023\141
\023\076\217\200\151\276\223\107\265\065\103\322\132\273\075\134
\357\263\102\107\315\073\125\023\006\260\011\333\375\143\366\072
\210\012\231\157\176\341\316\033\123\152\104\146\043\121\010\173
\274\133\122\242\375\006\067\070\100\141\217\112\226\270\220\067
\370\146\307\170\220\000\025\056\213\255\121\065\123\007\250\153
\150\256\371\116\074\007\046\315\010\005\160\314\071\077\166\275
\245\323\147\046\001\206\246\123\322\140\073\174\103\177\125\212
\274\225\032\301\050\071\114\037\103\322\221\364\162\131\212\271
\126\374\077\264\235\332\160\234\166\132\214\103\120\356\216\060
\162\115\337\377\111\367\306\251\147\331\155\254\002\021\342\072
\026\045\247\130\010\313\157\123\101\234\110\070\107\150\063\321
\327\307\217\324\164\041\324\303\005\220\172\377\316\226\210\261
\025\051\135\043\253\320\140\241\022\117\336\364\027\315\062\345
\311\277\310\103\255\375\056\216\361\257\342\364\230\372\022\037
\040\330\300\247\014\205\305\220\364\073\055\226\046\261\054\276
\114\253\353\261\322\212\311\333\170\023\017\036\011\235\155\217
\000\237\002\332\301\372\037\172\172\011\304\112\346\210\052\227
\237\211\213\375\067\137\137\072\316\070\131\206\113\257\161\013
\264\330\362\160\117\237\062\023\343\260\247\127\345\332\332\103

```
\313\204\064\362\050\304\352\155\364\052\357\301\153\166\332\373
\176\273\205\074\322\123\302\115\276\161\341\105\321\375\043\147
\015\023\165\373\317\145\147\042\235\256\260\011\321\011\377\035
\064\277\376\043\227\067\322\071\372\075\015\006\013\264\333\073
\243\253\157\134\035\266\176\350\263\202\064\355\006\134\044
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "E-Tugra Certification Authority"

Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

Serial Number:6a:68:3e:9c:51:9b:cb:53

Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

Not Valid Before: Tue Mar 05 12:09:48 2013

Not Valid After : Fri Mar 03 12:09:48 2023

Fingerprint (SHA-256):

B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C

Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "E-Tugra Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\121\306\347\010\111\006\156\363\222\324\134\240\015\155\243\142
\217\303\122\071
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\270\241\003\143\260\275\041\161\160\212\157\023\072\273\171\111
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

\002\010\152\150\076\234\121\233\313\123

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "T-TeleSec GlobalRoot Class 2"

#

Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE

Serial Number: 1 (0x1)

Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE

Not Valid Before: Wed Oct 01 10:40:14 2008

Not Valid After : Sat Oct 01 23:59:59 2033

Fingerprint (SHA-256):

91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52

Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141
\163\163\040\062\060\036\027\015\060\070\061\060\060\061\061\060
\064\060\061\064\132\027\015\063\063\061\060\060\061\062\063\065
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157
\164\040\103\154\141\163\163\040\062\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\252\137\332\033\137\350
\163\221\345\332\134\364\242\346\107\345\363\150\125\140\005\035
\002\244\263\233\131\363\036\212\257\064\255\374\015\302\331\110
\031\356\151\217\311\040\374\041\252\007\031\355\260\134\254\145
\307\137\355\002\174\173\174\055\033\326\272\271\200\302\030\202
\026\204\372\146\260\010\306\124\043\201\344\315\271\111\077\366
\117\156\067\110\050\070\017\305\276\347\150\160\375\071\227\115
\322\307\230\221\120\252\304\104\263\043\175\071\107\351\122\142
\326\022\223\136\267\061\226\102\005\373\166\247\036\243\365\302
\374\351\172\305\154\251\161\117\352\313\170\274\140\257\307\336
\364\331\313\276\176\063\245\156\224\203\360\064\372\041\253\352
\216\162\240\077\244\336\060\133\357\206\115\152\225\133\103\104
\250\020\025\034\345\001\127\305\230\361\346\006\050\221\252\040
\305\267\123\046\121\103\262\013\021\225\130\341\300\017\166\331
\300\215\174\201\363\162\160\236\157\376\032\216\331\137\065\306
\262\157\064\174\276\110\117\342\132\071\327\330\235\170\236\237
\206\076\003\136\031\213\104\242\325\307\002\003\001\000\001\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\277
\131\040\066\000\171\240\240\042\153\214\325\362\141\322\270\054


```
\313\202\112\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\061\003\242\141\013\037\164\350\162
\066\306\155\371\115\236\372\042\250\341\201\126\317\315\273\237
\352\253\221\031\070\257\252\174\025\115\363\266\243\215\245\364
\216\366\104\251\247\350\041\225\255\076\000\142\026\210\360\002
\272\374\141\043\346\063\233\060\172\153\066\142\173\255\004\043
\204\130\145\342\333\053\212\347\045\123\067\142\123\137\274\332
\001\142\051\242\246\047\161\346\072\042\176\301\157\035\225\160
\040\112\007\064\337\352\377\025\200\345\272\327\172\330\133\165
\174\005\172\051\107\176\100\250\061\023\167\315\100\073\264\121
\107\172\056\021\343\107\021\336\235\146\320\213\325\124\146\372
\203\125\352\174\302\051\211\033\351\157\263\316\342\005\204\311
\057\076\170\205\142\156\311\137\301\170\143\164\130\300\110\030
\014\231\071\353\244\314\032\265\171\132\215\025\234\330\024\015
\366\172\007\127\307\042\203\005\055\074\233\045\046\075\030\263
\251\103\174\310\310\253\144\217\016\243\277\234\033\235\060\333
\332\320\031\056\252\074\361\373\063\200\166\344\315\255\031\117
\005\047\216\023\241\156\302
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "T-TeleSec GlobalRoot Class 2"

Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

Serial Number: 1 (0x1)

Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

Not Valid Before: Wed Oct 01 10:40:14 2008

Not Valid After : Sat Oct 01 23:59:59 2033

Fingerprint (SHA-256):

91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52

Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\131\015\055\175\210\117\100\056\141\176\245\142\062\027\145\317
\027\330\224\351
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\053\233\236\344\173\154\037\000\162\032\314\301\167\171\337\152
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
```

```
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\001
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Atos TrustedRoot 2011"

#

Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011

Serial Number:5c:33:cb:62:2c:5f:b3:32

Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011

Not Valid Before: Thu Jul 07 14:58:30 2011

Not Valid After : Tue Dec 31 23:59:59 2030

Fingerprint (SHA-256):

F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74

Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Atos TrustedRoot 2011"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\134\063\313\142\054\137\263\062

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\167\060\202\002\137\240\003\002\001\002\002\010\134
\063\313\142\054\137\263\062\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\074\061\036\060\034\006\003\125\004
\003\014\025\101\164\157\163\040\124\162\165\163\164\145\144\122
\157\157\164\040\062\060\061\061\061\015\060\013\006\003\125\004
\012\014\004\101\164\157\163\061\013\060\011\006\003\125\004\006
\023\002\104\105\060\036\027\015\061\061\060\067\060\067\061\064
\065\070\063\060\132\027\015\063\060\061\062\063\061\062\063\065
\071\065\071\132\060\074\061\036\060\034\006\003\125\004\003\014
\025\101\164\157\163\040\124\162\165\163\164\145\144\122\157\157
\164\040\062\060\061\061\061\015\060\013\006\003\125\004\012\014
\004\101\164\157\163\061\013\060\011\006\003\125\004\006\023\002
\104\105\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\225\205\073\227\157\052\073\056\073\317\246\363\051
\065\276\317\030\254\076\252\331\370\115\240\076\032\107\271\274
\232\337\362\376\314\076\107\350\172\226\302\044\216\065\364\251
\014\374\202\375\155\301\162\142\047\275\352\153\353\347\212\314
\124\076\220\120\317\200\324\225\373\350\265\202\324\024\305\266
\251\125\045\127\333\261\120\366\260\140\144\131\172\151\317\003
\267\157\015\276\312\076\157\164\162\352\252\060\052\163\142\276
\111\221\141\310\021\376\016\003\052\367\152\040\334\002\025\015
\136\025\152\374\343\202\301\265\305\235\144\011\154\243\131\230
\007\047\307\033\226\053\141\164\161\154\103\361\367\065\211\020
\340\236\354\125\241\067\042\242\207\004\005\054\107\175\264\034
\271\142\051\146\050\312\267\341\223\365\244\224\003\231\271\160
\205\265\346\110\352\215\120\374\331\336\314\157\007\016\335\013
\162\235\200\060\026\007\225\077\050\016\375\305\165\117\123\326
\164\232\264\044\056\216\002\221\317\166\305\233\036\125\164\234
\170\041\261\360\055\361\013\237\302\325\226\030\037\360\124\042
\172\214\007\002\003\001\000\001\243\175\060\173\060\035\006\003
\125\035\016\004\026\004\024\247\245\006\261\054\246\011\140\356
\321\227\351\160\256\274\073\031\154\333\041\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003
\125\035\043\004\030\060\026\200\024\247\245\006\261\054\246\011
\140\356\321\227\351\160\256\274\073\031\154\333\041\060\030\006
\003\125\035\040\004\021\060\017\060\015\006\013\053\006\001\004
\001\260\055\003\004\001\001\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\001\001\000\046\167\064\333\224
\110\206\052\101\235\054\076\006\220\140\304\214\254\013\124\270
\037\271\173\323\007\071\344\372\076\173\262\075\116\355\237\043
\275\227\363\153\134\357\356\375\100\246\337\241\223\241\012\206
\254\357\040\320\171\001\275\170\367\031\330\044\061\064\004\001
\246\272\025\232\303\047\334\330\117\017\314\030\143\377\231\017

```
\016\221\153\165\026\341\041\374\330\046\307\107\267\246\317\130
\162\161\176\272\341\115\225\107\073\311\257\155\241\264\301\354
\211\366\264\017\070\265\342\144\334\045\317\246\333\353\232\134
\231\241\305\010\336\375\346\332\325\326\132\105\014\304\267\302
\265\024\357\264\021\377\016\025\265\365\365\333\306\275\353\132
\247\360\126\042\251\074\145\124\306\025\250\275\206\236\315\203
\226\150\172\161\201\211\341\013\341\352\021\033\150\010\314\151
\236\354\236\101\236\104\062\046\172\342\207\012\161\075\353\344
\132\244\322\333\305\315\306\336\140\177\271\363\117\104\222\357
\052\267\030\076\247\031\331\013\175\261\067\101\102\260\272\140
\035\362\376\011\021\260\360\207\173\247\235
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Atos TrustedRoot 2011"
```

```
# Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011
```

```
# Serial Number:5c:33:cb:62:2c:5f:b3:32
```

```
# Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011
```

```
# Not Valid Before: Thu Jul 07 14:58:30 2011
```

```
# Not Valid After : Tue Dec 31 23:59:59 2030
```

```
# Fingerprint (SHA-256):
```

```
F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74
```

```
# Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Atos TrustedRoot 2011"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\053\261\365\076\125\014\035\305\361\324\346\267\152\106\113\125
\006\002\254\041
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\256\271\304\062\113\254\177\135\146\314\167\224\273\052\167\126
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\134\063\313\142\054\137\263\062
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "QuoVadis Root CA 1 G3"

#

Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM

Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93

Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM

Not Valid Before: Thu Jan 12 17:27:44 2012

Not Valid After : Sun Jan 12 17:27:44 2042

Fingerprint (SHA-256):

8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74

Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\170
\130\137\056\255\054\031\113\343\067\007\065\064\023\050\265\226
\324\145\223\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\061\040\107\063\060\036\027\015

\061\062\060\061\061\062\061\067\062\067\064\064\132\027\015\064
\062\060\061\061\062\061\067\062\067\064\064\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\061\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\240\276\120\020\216\351\362\154\100
\264\004\234\205\271\061\312\334\055\344\021\251\004\074\033\125
\301\347\130\060\035\044\264\303\357\205\336\214\054\341\301\075
\337\202\346\117\255\107\207\154\354\133\111\301\112\325\273\217
\354\207\254\177\202\232\206\354\075\003\231\122\001\322\065\236
\254\332\360\123\311\146\074\324\254\002\001\332\044\323\073\250
\002\106\257\244\034\343\370\163\130\166\267\366\016\220\015\265
\360\317\314\372\371\306\114\345\303\206\060\012\215\027\176\065
\353\305\337\273\016\234\300\215\207\343\210\070\205\147\372\076
\307\253\340\023\234\005\030\230\317\223\365\261\222\264\374\043
\323\317\325\304\047\111\340\236\074\233\010\243\213\135\052\041
\340\374\071\252\123\332\175\176\317\032\011\123\274\135\005\004
\317\241\112\217\213\166\202\015\241\370\322\307\024\167\133\220
\066\007\201\233\076\006\372\122\136\143\305\246\000\376\245\351
\122\033\122\265\222\071\162\003\011\142\275\260\140\026\156\246
\335\045\302\003\146\335\363\004\321\100\342\116\213\206\364\157
\345\203\240\047\204\136\004\301\365\220\275\060\075\304\357\250
\151\274\070\233\244\244\226\321\142\332\151\300\001\226\256\313
\304\121\064\352\014\252\377\041\216\131\217\112\134\344\141\232
\247\322\351\052\170\215\121\075\072\025\356\242\131\216\251\134
\336\305\371\220\042\345\210\105\161\335\221\231\154\172\237\075
\075\230\174\136\366\276\026\150\240\136\256\013\043\374\132\017
\252\042\166\055\311\241\020\035\344\323\104\043\220\210\237\306
\052\346\327\365\232\263\130\036\057\060\211\010\033\124\242\265
\230\043\354\010\167\034\225\135\141\321\313\211\234\137\242\112
\221\232\357\041\252\111\026\010\250\275\141\050\061\311\164\255
\205\366\331\305\261\213\321\345\020\062\115\137\213\040\072\074
\111\037\063\205\131\015\333\313\011\165\103\151\163\373\153\161
\175\360\337\304\114\175\306\243\056\310\225\171\313\163\242\216
\116\115\044\373\136\344\004\276\162\033\246\047\055\111\132\231
\172\327\134\011\040\267\177\224\271\117\361\015\034\136\210\102
\033\021\267\347\221\333\236\154\364\152\337\214\006\230\003\255
\314\050\357\245\107\363\123\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\035\006\003\125\035\016\004\026\004\024\243\227\326\363
\136\242\020\341\253\105\237\074\027\144\074\356\001\160\234\314
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\030\372\133\165\374\076\172\307\137\167\307\312
\337\317\137\303\022\304\100\135\324\062\252\270\152\327\325\025

\025\106\230\043\245\346\220\133\030\231\114\343\255\102\243\202
\061\066\210\315\351\373\304\004\226\110\213\001\307\215\001\317
\133\063\006\226\106\146\164\035\117\355\301\266\271\264\015\141
\314\143\176\327\056\167\214\226\034\052\043\150\153\205\127\166
\160\063\023\376\341\117\246\043\167\030\372\032\214\350\275\145
\311\317\077\364\311\027\334\353\307\274\300\004\056\055\106\057
\151\146\303\033\217\376\354\076\323\312\224\277\166\012\045\015
\251\173\002\034\251\320\073\137\013\300\201\072\075\144\341\277
\247\055\116\275\115\304\330\051\306\042\030\320\305\254\162\002
\202\077\252\072\242\072\042\227\061\335\010\143\303\165\024\271
\140\050\055\133\150\340\026\251\146\202\043\121\365\353\123\330
\061\233\173\351\267\235\113\353\210\026\317\371\135\070\212\111
\060\217\355\361\353\031\364\167\032\061\030\115\147\124\154\057
\157\145\371\333\075\354\041\354\136\364\364\213\312\140\145\124
\321\161\144\364\371\246\243\201\063\066\063\161\360\244\170\137
\116\255\203\041\336\064\111\215\350\131\254\235\362\166\132\066
\362\023\364\257\340\011\307\141\052\154\367\340\235\256\273\206
\112\050\157\056\356\264\171\315\220\063\303\263\166\372\365\360
\154\235\001\220\372\236\220\366\234\162\317\107\332\303\037\344
\065\040\123\362\124\321\337\141\203\246\002\342\045\070\336\205
\062\055\136\163\220\122\135\102\304\316\075\113\341\371\031\204
\035\325\242\120\314\101\373\101\024\303\275\326\311\132\243\143
\146\002\200\275\005\072\073\107\234\354\000\046\114\365\210\121
\277\250\043\177\030\007\260\013\355\213\046\241\144\323\141\112
\353\134\237\336\263\257\147\003\263\037\335\155\135\151\150\151
\253\136\072\354\174\151\274\307\073\205\116\236\025\271\264\025
\117\303\225\172\130\327\311\154\351\154\271\363\051\143\136\264
\054\360\055\075\355\132\145\340\251\133\100\302\110\231\201\155
\236\037\006\052\074\022\264\213\017\233\242\044\360\246\215\326
\172\340\113\266\144\226\143\225\204\302\112\315\034\056\044\207
\063\140\345\303

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "QuoVadis Root CA 1 G3"

Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM

Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93

Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM

Not Valid Before: Thu Jan 12 17:27:44 2012

Not Valid After : Sun Jan 12 17:27:44 2042

Fingerprint (SHA-256):

8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74

Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\033\216\352\127\226\051\032\311\071\352\270\012\201\032\163\163
\300\223\171\147
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\274\133\077\376\067\232\372\144\360\342\372\005\075\013\253
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 2 G3"
#
# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28
# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 18:59:32 2012
# Not Valid After : Sun Jan 12 18:59:32 2042
# Fingerprint (SHA-256):
8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40
# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063

```


END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\104
\127\064\044\133\201\211\233\065\362\316\270\053\073\133\247\046
\360\165\050\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\062\040\107\063\060\036\027\015
\061\062\060\061\061\062\061\070\065\071\063\062\132\027\015\064
\062\060\061\061\062\061\070\065\071\063\062\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\062\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\241\256\045\262\001\030\334\127\210
\077\106\353\371\257\342\353\043\161\342\232\321\141\146\041\137
\252\257\047\121\345\156\033\026\324\055\175\120\260\123\167\275
\170\072\140\342\144\002\233\174\206\233\326\032\216\255\377\037
\025\177\325\225\036\022\313\346\024\204\004\301\337\066\263\026
\237\212\343\311\333\230\064\316\330\063\027\050\106\374\247\311
\360\322\264\325\115\011\162\111\371\362\207\343\251\332\175\241
\175\153\262\072\045\251\155\122\104\254\370\276\156\373\334\246
\163\221\220\141\246\003\024\040\362\347\207\243\210\255\255\240
\214\377\246\013\045\122\045\347\026\001\325\313\270\065\201\014
\243\073\360\341\341\374\132\135\316\200\161\155\370\111\253\076
\073\272\270\327\200\001\373\245\353\133\263\305\136\140\052\061
\240\257\067\350\040\072\237\250\062\054\014\314\011\035\323\236
\216\135\274\114\230\356\305\032\150\173\354\123\246\351\024\065
\243\337\315\200\237\014\110\373\034\364\361\277\112\270\372\325
\214\161\112\307\037\255\376\101\232\263\203\135\362\204\126\357
\245\127\103\316\051\255\214\253\125\277\304\373\133\001\335\043
\041\241\130\000\216\303\320\152\023\355\023\343\022\053\200\334

\147\346\225\262\315\036\042\156\052\370\101\324\362\312\024\007
\215\212\125\022\306\151\365\270\206\150\057\123\136\260\322\252
\041\301\230\346\060\343\147\125\307\233\156\254\031\250\125\246
\105\006\320\043\072\333\353\145\135\052\021\021\360\073\117\312
\155\364\064\304\161\344\377\000\132\366\134\256\043\140\205\163
\361\344\020\261\045\256\325\222\273\023\301\014\340\071\332\264
\071\127\265\253\065\252\162\041\073\203\065\347\061\337\172\041
\156\270\062\010\175\035\062\221\025\112\142\162\317\343\167\241
\274\325\021\033\166\001\147\010\340\101\013\303\353\025\156\370
\244\031\331\242\253\257\342\047\122\126\053\002\212\054\024\044
\371\277\102\002\277\046\310\306\217\340\156\070\175\123\055\345
\355\230\263\225\143\150\177\371\065\364\337\210\305\140\065\222
\300\174\151\034\141\225\026\320\353\336\013\257\076\004\020\105
\145\130\120\070\257\110\362\131\266\026\362\074\015\220\002\306
\160\056\001\255\074\025\327\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\035\006\003\125\035\016\004\026\004\024\355\347\157\166
\132\277\140\354\111\133\306\245\167\273\162\026\161\233\304\075
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\221\337\200\077\103\011\176\161\302\367\353\263
\210\217\341\121\262\274\075\165\371\050\135\310\274\231\233\173
\135\252\345\312\341\012\367\350\262\323\237\335\147\061\176\272
\001\252\307\152\101\073\220\324\010\134\262\140\152\220\360\310
\316\003\142\371\213\355\373\156\052\334\006\115\074\051\017\211
\026\212\130\114\110\017\350\204\141\352\074\162\246\167\344\102
\256\210\243\103\130\171\176\256\312\245\123\015\251\075\160\275
\040\031\141\244\154\070\374\103\062\341\301\107\377\370\354\361
\021\042\062\226\234\302\366\133\151\226\173\040\014\103\101\232
\133\366\131\031\210\336\125\210\067\121\013\170\134\012\036\243
\102\375\307\235\210\017\300\362\170\002\044\124\223\257\211\207
\210\311\112\200\035\352\320\156\076\141\056\066\273\065\016\047
\226\375\146\064\073\141\162\163\361\026\134\107\006\124\111\000
\172\130\022\260\012\357\205\375\261\270\063\165\152\223\034\022
\346\140\136\157\035\177\311\037\043\313\204\141\237\036\202\104
\371\137\255\142\125\044\232\122\230\355\121\347\241\176\227\072
\346\057\037\021\332\123\200\054\205\236\253\065\020\333\042\137
\152\305\136\227\123\362\062\002\011\060\243\130\360\015\001\325
\162\306\261\174\151\173\303\365\066\105\314\141\156\136\114\224
\305\136\256\350\016\136\213\277\367\315\340\355\241\016\033\063
\356\124\030\376\017\276\357\176\204\153\103\343\160\230\333\135
\165\262\015\131\007\205\025\043\071\326\361\337\251\046\017\326
\110\307\263\246\042\365\063\067\132\225\107\237\173\272\030\025
\157\377\326\024\144\203\111\322\012\147\041\333\017\065\143\140
\050\042\343\261\225\203\315\205\246\335\057\017\347\147\122\156
\273\057\205\174\365\112\163\347\305\076\300\275\041\022\005\077
\374\267\003\111\002\133\310\045\346\342\124\070\365\171\207\214
\035\123\262\116\205\173\006\070\307\054\370\370\260\162\215\045

```
\345\167\122\364\003\034\110\246\120\137\210\040\060\156\362\202
\103\253\075\227\204\347\123\373\041\301\117\017\042\232\206\270
\131\052\366\107\075\031\210\055\350\205\341\236\354\205\010\152
\261\154\064\311\035\354\110\053\073\170\355\146\304\216\171\151
\203\336\177\214
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "QuoVadis Root CA 2 G3"
```

```
# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
```

```
# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28
```

```
# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
```

```
# Not Valid Before: Thu Jan 12 18:59:32 2012
```

```
# Not Valid After : Sun Jan 12 18:59:32 2042
```

```
# Fingerprint (SHA-256):
```

```
8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40
```

```
# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\011\074\141\363\213\213\334\175\125\337\165\070\002\005\000\341
\045\365\310\066
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\257\014\206\156\277\100\055\177\013\076\022\120\272\022\075\006
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```

# Certificate "QuoVadis Root CA 3 G3"
#
# Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
# Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 20:26:32 2012
# Not Valid After : Sun Jan 12 20:26:32 2042
# Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\056
\365\233\002\050\247\333\172\377\325\243\251\356\275\003\240\317
\022\152\035\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\063\040\107\063\060\036\027\015
\061\062\060\061\061\062\062\060\062\066\063\062\132\027\015\064
\062\060\061\061\062\062\060\062\066\063\062\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114

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\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\063\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\263\313\016\020\147\216\352\024\227
\247\062\052\012\126\066\177\150\114\307\263\157\072\043\024\221
\377\031\177\245\312\254\356\263\166\235\172\351\213\033\253\153
\061\333\372\013\123\114\257\305\245\032\171\074\212\114\377\254
\337\045\336\116\331\202\062\013\104\336\312\333\214\254\243\156
\026\203\073\246\144\113\062\211\373\026\026\070\176\353\103\342
\323\164\112\302\142\012\163\012\335\111\263\127\322\260\012\205
\235\161\074\336\243\313\300\062\363\001\071\040\103\033\065\321
\123\263\261\356\305\223\151\202\076\026\265\050\106\241\336\352
\211\011\355\103\270\005\106\212\206\365\131\107\276\033\157\001
\041\020\271\375\251\322\050\312\020\071\011\312\023\066\317\234
\255\255\100\164\171\053\002\077\064\377\372\040\151\175\323\356
\141\365\272\263\347\060\320\067\043\206\162\141\105\051\110\131
\150\157\167\246\056\201\276\007\115\157\257\316\304\105\023\221
\024\160\006\217\037\237\370\207\151\261\016\357\303\211\031\353
\352\034\141\374\172\154\212\334\326\003\013\236\046\272\022\335
\324\124\071\253\046\243\063\352\165\201\332\055\315\017\117\344
\003\321\357\025\227\033\153\220\305\002\220\223\146\002\041\261
\107\336\213\232\112\200\271\125\217\265\242\057\300\326\063\147
\332\176\304\247\264\004\104\353\107\373\346\130\271\367\014\360
\173\053\261\300\160\051\303\100\142\055\073\110\151\334\043\074
\110\353\173\011\171\251\155\332\250\060\230\317\200\162\003\210
\246\133\106\256\162\171\174\010\003\041\145\256\267\341\034\245
\261\052\242\061\336\146\004\367\300\164\350\161\336\377\075\131
\314\226\046\022\213\205\225\127\032\253\153\165\013\104\075\021
\050\074\173\141\267\342\217\147\117\345\354\074\114\140\200\151
\127\070\036\001\133\215\125\350\307\337\300\314\167\043\064\111
\165\174\366\230\021\353\055\336\355\101\056\024\005\002\177\340
\376\040\353\065\347\021\254\042\316\127\075\336\311\060\155\020
\003\205\315\361\377\214\026\265\301\262\076\210\154\140\177\220
\117\225\367\366\055\255\001\071\007\004\372\165\200\175\277\111
\120\355\357\311\304\174\034\353\200\176\333\266\320\335\023\376
\311\323\234\327\262\227\251\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\035\006\003\125\035\016\004\026\004\024\306\027\320\274
\250\352\002\103\362\033\006\231\135\053\220\040\271\327\234\344
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\064\141\331\126\265\022\207\125\115\335\243\065
\061\106\273\244\007\162\274\137\141\142\350\245\373\013\067\261
\074\266\263\372\051\235\177\002\365\244\311\250\223\267\172\161
\050\151\217\163\341\122\220\332\325\276\072\345\267\166\152\126
\200\041\337\135\346\351\072\236\345\076\366\242\151\307\052\012
\260\030\107\334\040\160\175\122\243\076\131\174\301\272\311\310

\025\100\141\312\162\326\160\254\322\267\360\034\344\206\051\360
\316\357\150\143\320\265\040\212\025\141\232\176\206\230\264\311
\302\166\373\314\272\060\026\314\243\141\306\164\023\345\153\357
\243\025\352\003\376\023\213\144\344\323\301\322\350\204\373\111
\321\020\115\171\146\353\252\375\364\215\061\036\160\024\255\334
\336\147\023\114\201\025\141\274\267\331\221\167\161\031\201\140
\273\360\130\245\265\234\013\367\217\042\125\047\300\113\001\155
\073\231\015\324\035\233\143\147\057\320\356\015\312\146\274\224
\117\246\255\355\374\356\143\254\127\077\145\045\317\262\206\217
\320\010\377\270\166\024\156\336\345\047\354\253\170\265\123\271
\266\077\350\040\371\322\250\276\141\106\312\207\214\204\363\371
\361\240\150\233\042\036\201\046\233\020\004\221\161\300\006\037
\334\240\323\271\126\247\343\230\055\177\203\235\337\214\053\234
\062\216\062\224\360\001\074\042\052\237\103\302\056\303\230\071
\007\070\173\374\136\000\102\037\363\062\046\171\203\204\366\345
\360\301\121\022\300\013\036\004\043\014\124\245\114\057\111\305
\112\321\266\156\140\015\153\374\153\213\205\044\144\267\211\016
\253\045\107\133\074\317\176\111\275\307\351\012\306\332\367\176
\016\027\010\323\110\227\320\161\222\360\017\071\076\064\152\034
\175\330\362\042\256\273\151\364\063\264\246\110\125\321\017\016
\046\350\354\266\013\055\247\205\065\315\375\131\310\237\321\315
\076\132\051\064\271\075\204\316\261\145\324\131\221\221\126\165
\041\301\167\236\371\172\341\140\235\323\255\004\030\364\174\353
\136\223\217\123\112\042\051\370\110\053\076\115\206\254\133\177
\313\006\231\131\140\330\130\145\225\215\104\321\367\177\176\047
\177\175\256\200\365\007\114\266\076\234\161\124\231\004\113\375
\130\371\230\364

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "QuoVadis Root CA 3 G3"

Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM

Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d

Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM

Not Valid Before: Thu Jan 12 20:26:32 2012

Not Valid After : Sun Jan 12 20:26:32 2042

Fingerprint (SHA-256):

88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46

Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\110\022\275\222\074\250\304\071\006\347\060\155\047\226\346\244

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\317\042\056\175
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\337\175\271\255\124\157\150\241\337\211\127\003\227\103\260\327
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Assured ID Root G2"
#
# Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b
# Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
# Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_ID UTF8 "0"

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CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\226\060\202\002\176\240\003\002\001\002\002\020\013
\223\034\072\326\071\147\352\147\043\277\303\257\232\364\113\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157
\157\164\040\107\062\060\036\027\015\061\063\060\070\060\061\061
\062\060\060\060\060\132\027\015\063\070\060\061\061\065\061\062
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145
\144\040\111\104\040\122\157\157\164\040\107\062\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\331\347\050
\057\122\077\066\162\111\210\223\064\363\370\152\036\061\124\200
\237\255\124\101\265\107\337\226\250\324\257\200\055\271\012\317
\165\375\211\245\175\044\372\343\042\014\053\274\225\027\013\063
\277\031\115\101\006\220\000\275\014\115\020\376\007\265\347\034
\156\042\125\061\145\227\275\323\027\322\036\142\363\333\352\154
\120\214\077\204\014\226\317\267\313\003\340\312\155\241\024\114
\033\211\335\355\000\260\122\174\257\221\154\261\070\023\321\351
\022\010\300\000\260\034\053\021\332\167\160\066\233\256\316\171
\207\334\202\160\346\011\164\160\125\151\257\243\150\237\277\335
\266\171\263\362\235\160\051\125\364\253\377\225\141\363\311\100
\157\035\321\276\223\273\323\210\052\273\235\277\162\132\126\161
\073\077\324\363\321\012\376\050\357\243\356\331\231\257\003\323
\217\140\267\362\222\241\261\275\211\211\037\060\315\303\246\056
\142\063\256\026\002\167\104\132\347\201\012\074\247\104\056\171

\270\077\004\274\134\240\207\341\033\257\121\216\315\354\054\372
\370\376\155\360\072\174\252\213\344\147\225\061\215\002\003\001
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026
\004\024\316\303\112\271\231\125\362\270\333\140\277\251\176\275
\126\265\227\066\247\326\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\001\001\000\312\245\125\214\343\310
\101\156\151\047\247\165\021\357\074\206\066\157\322\235\306\170
\070\035\151\226\242\222\151\056\070\154\233\175\004\324\211\245
\261\061\067\212\311\041\314\253\154\315\213\034\232\326\277\110
\322\062\146\301\212\300\363\057\072\357\300\343\324\221\206\321
\120\343\003\333\163\167\157\112\071\123\355\336\046\307\265\175
\257\053\102\321\165\142\343\112\053\002\307\120\113\340\151\342
\226\154\016\104\146\020\104\217\255\005\353\370\171\254\246\033
\350\067\064\235\123\311\141\252\242\122\257\112\160\026\206\302
\072\310\261\023\160\066\330\317\356\364\012\064\325\133\114\375
\007\234\242\272\331\001\162\134\363\115\301\335\016\261\034\015
\304\143\276\255\364\024\373\211\354\242\101\016\114\314\310\127
\100\320\156\003\252\315\014\216\211\231\231\154\360\074\060\257
\070\337\157\274\243\276\051\040\047\253\164\377\023\042\170\336
\227\122\125\036\203\265\124\040\003\356\256\300\117\126\336\067
\314\303\177\252\004\047\273\323\167\270\142\333\027\174\234\050
\042\023\163\154\317\046\365\212\051\347

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Assured ID Root G2"

Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b

Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Thu Aug 01 12:00:00 2013

Not Valid After : Fri Jan 15 12:00:00 2038

Fingerprint (SHA-256):

7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85

Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert Assured ID Root G2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\241\113\110\331\103\356\012\016\100\220\117\074\340\244\300\221

\223\121\135\077

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\222\070\271\370\143\044\202\145\054\127\063\346\376\201\217\235

END

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "DigiCert Assured ID Root G3"

#

Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec

Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Thu Aug 01 12:00:00 2013

Not Valid After : Fri Jan 15 12:00:00 2038

Fingerprint (SHA-256):

7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2

Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert Assured ID Root G3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\106\060\202\001\315\240\003\002\001\002\002\020\013
\241\132\372\035\337\240\265\111\104\257\315\044\240\154\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\044\060\042
\006\003\125\004\003\023\033\104\151\147\151\103\145\162\164\040
\101\163\163\165\162\145\144\040\111\104\040\122\157\157\164\040
\107\063\060\036\027\015\061\063\060\070\060\061\061\062\060\060
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060
\060\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056
\143\157\155\061\044\060\042\006\003\125\004\003\023\033\104\151
\147\151\103\145\162\164\040\101\163\163\165\162\145\144\040\111
\104\040\122\157\157\164\040\107\063\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\031\347\274\254\104\145\355\315\270\077\130\373\215\261\127
\251\104\055\005\025\362\357\013\377\020\164\237\265\142\122\137
\146\176\037\345\334\033\105\171\013\314\306\123\012\235\215\135
\002\331\251\131\336\002\132\366\225\052\016\215\070\112\212\111
\306\274\306\003\070\007\137\125\332\176\011\156\342\177\136\320
\105\040\017\131\166\020\326\240\044\360\055\336\066\362\154\051
\071\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026\004
\024\313\320\275\251\341\230\005\121\241\115\067\242\203\171\316
\215\035\052\344\204\060\012\006\010\052\206\110\316\075\004\003
\003\003\147\000\060\144\002\060\045\244\201\105\002\153\022\113
\165\164\117\310\043\343\160\362\165\162\336\174\211\360\317\221
\162\141\236\136\020\222\131\126\271\203\307\020\347\070\351\130
\046\066\175\325\344\064\206\071\002\060\174\066\123\360\060\345
\142\143\072\231\342\266\243\073\233\064\372\036\332\020\222\161

\136\221\023\247\335\244\156\222\314\062\326\365\041\146\307\057
\352\226\143\152\145\105\222\225\001\264

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Assured ID Root G3"

Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec

Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Thu Aug 01 12:00:00 2013

Not Valid After : Fri Jan 15 12:00:00 2038

Fingerprint (SHA-256):

7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2

Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert Assured ID Root G3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\365\027\242\117\232\110\306\311\370\242\000\046\237\334\017\110
\054\253\060\211

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\174\177\145\061\014\201\337\215\272\076\231\342\134\255\156\373
END

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "DigiCert Global Root G2"

```
#
# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5
# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\216\060\202\002\166\240\003\002\001\002\002\020\003
\072\361\346\247\021\251\240\273\050\144\261\035\011\372\345\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107
```

\062\060\036\027\015\061\063\060\070\060\061\061\062\060\060\060
\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060\060
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157
\164\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\273\067\315\064\334\173\153\311\262\150\220
\255\112\165\377\106\272\041\012\010\215\365\031\124\311\373\210
\333\363\256\362\072\211\221\074\172\346\253\006\032\153\317\254
\055\350\136\011\044\104\272\142\232\176\326\243\250\176\340\124
\165\040\005\254\120\267\234\143\032\154\060\334\332\037\031\261
\327\036\336\375\327\340\313\224\203\067\256\354\037\103\116\335
\173\054\322\275\056\245\057\344\251\270\255\072\324\231\244\266
\045\351\233\153\000\140\222\140\377\117\041\111\030\367\147\220
\253\141\006\234\217\362\272\351\264\351\222\062\153\265\363\127
\350\135\033\315\214\035\253\225\004\225\111\363\065\055\226\343
\111\155\335\167\343\373\111\113\264\254\125\007\251\217\225\263
\264\043\273\114\155\105\360\366\251\262\225\060\264\375\114\125
\214\047\112\127\024\174\202\235\315\163\222\323\026\112\006\014
\214\120\321\217\036\011\276\027\241\346\041\312\375\203\345\020
\274\203\245\012\304\147\050\366\163\024\024\075\106\166\303\207
\024\211\041\064\115\257\017\105\014\246\111\241\272\273\234\305
\261\063\203\051\205\002\003\001\000\001\243\102\060\100\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\035\006\003\125\035\016\004\026\004\024\116\042\124\040\030\225
\346\343\156\346\017\372\372\271\022\355\006\027\217\071\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\140\147\050\224\157\016\110\143\353\061\335\352\147\030
\325\211\175\074\305\213\112\177\351\276\333\053\027\337\260\137
\163\167\052\062\023\071\201\147\102\204\043\362\105\147\065\354
\210\277\370\217\260\141\014\064\244\256\040\114\204\306\333\370
\065\341\166\331\337\246\102\273\307\104\010\206\177\066\164\044
\132\332\154\015\024\131\065\275\362\111\335\266\037\311\263\015
\107\052\075\231\057\273\134\273\265\324\040\341\231\137\123\106
\025\333\150\233\360\363\060\325\076\061\342\215\204\236\343\212
\332\332\226\076\065\023\245\137\360\371\160\120\160\107\101\021
\127\031\116\300\217\256\006\304\225\023\027\057\033\045\237\165
\362\261\216\231\241\157\023\261\101\161\376\210\052\310\117\020
\040\125\327\363\024\105\345\340\104\364\352\207\225\062\223\016
\376\123\106\372\054\235\377\213\042\271\113\331\011\105\244\336
\244\270\232\130\335\033\175\122\237\216\131\103\210\201\244\236
\046\325\157\255\335\015\306\067\175\355\003\222\033\345\167\137
\166\356\074\215\304\135\126\133\242\331\146\156\263\065\067\345

```

\062\266
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "DigiCert Global Root G2"
# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5
# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\337\074\044\371\277\326\146\166\033\046\200\163\376\006\321\314
\215\117\202\244
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\344\246\212\310\124\254\122\102\106\012\375\162\110\033\052\104
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Global Root G3"
#

```

```
# Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72
# Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0
# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\077\060\202\001\305\240\003\002\001\002\002\020\005
\125\126\274\362\136\244\065\065\303\244\017\325\253\105\162\060
\012\006\010\052\206\110\316\075\004\003\003\060\141\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\040\060\036
\006\003\125\004\003\023\027\104\151\147\151\103\145\162\164\040
\107\154\157\142\141\154\040\122\157\157\164\040\107\063\060\036
\027\015\061\063\060\070\060\061\061\062\060\060\060\060\132\027
```


\015\063\070\060\061\061\065\061\062\060\060\060\060\132\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107
\063\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\335\247\331\273\212\270\013
\373\013\177\041\322\360\276\276\163\363\063\135\032\274\064\352
\336\306\233\274\320\225\366\360\314\320\013\272\141\133\121\106
\176\236\055\237\356\216\143\014\027\354\007\160\365\317\204\056
\100\203\234\350\077\101\155\073\255\323\244\024\131\066\170\235
\003\103\356\020\023\154\162\336\256\210\247\241\153\265\103\316
\147\334\043\377\003\034\243\342\076\243\102\060\100\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035
\006\003\125\035\016\004\026\004\024\263\333\110\244\371\241\305
\330\256\066\101\314\021\143\151\142\051\274\113\306\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061
\000\255\274\362\154\077\022\112\321\055\071\303\012\011\227\163
\364\210\066\214\210\047\273\346\210\215\120\205\247\143\371\236
\062\336\146\223\017\361\314\261\011\217\335\154\253\372\153\177
\240\002\060\071\146\133\302\144\215\270\236\120\334\250\325\111
\242\355\307\334\321\111\177\027\001\270\310\206\217\116\214\210
\053\250\232\251\212\305\321\000\275\370\124\342\232\345\133\174
\263\047\027

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Global Root G3"

Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72

Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Thu Aug 01 12:00:00 2013

Not Valid After : Fri Jan 15 12:00:00 2038

Fingerprint (SHA-256):

31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0

Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert Global Root G3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\176\004\336\211\152\076\146\155\000\346\207\323\077\372\331\073

```

\350\075\064\236
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\365\135\244\120\245\373\050\176\036\017\015\314\226\127\126\312
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Trusted Root G4"
#
# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c
# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88
# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064

```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\220\060\202\003\170\240\003\002\001\002\002\020\005
\233\033\127\236\216\041\062\342\071\007\275\247\167\165\134\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\142
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\041\060\037\006\003\125\004\003\023\030\104\151\147\151\103\145
\162\164\040\124\162\165\163\164\145\144\040\122\157\157\164\040
\107\064\060\036\027\015\061\063\060\070\060\061\061\062\060\060
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060
\060\132\060\142\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056
\143\157\155\061\041\060\037\006\003\125\004\003\023\030\104\151
\147\151\103\145\162\164\040\124\162\165\163\164\145\144\040\122
\157\157\164\040\107\064\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\277\346\220\163\150\336\273\344\135
\112\074\060\042\060\151\063\354\302\247\045\056\311\041\075\362
\212\330\131\302\341\051\247\075\130\253\166\232\315\256\173\033
\204\015\304\060\037\363\033\244\070\026\353\126\306\227\155\035
\253\262\171\362\312\021\322\344\137\326\005\074\122\017\122\037
\306\236\025\245\176\276\237\251\127\026\131\125\162\257\150\223
\160\302\262\272\165\231\152\163\062\224\321\020\104\020\056\337
\202\363\007\204\346\164\073\155\161\342\055\014\033\356\040\325
\311\040\035\143\051\055\316\354\136\116\310\223\370\041\141\233
\064\353\005\306\136\354\133\032\274\353\311\317\315\254\064\100
\137\261\172\146\356\167\310\110\250\146\127\127\237\124\130\216
\014\053\267\117\247\060\331\126\356\312\173\135\343\255\311\117
\136\345\065\347\061\313\332\223\136\334\216\217\200\332\266\221

\230\100\220\171\303\170\307\266\261\304\265\152\030\070\003\020
\215\330\324\067\244\056\005\175\210\365\202\076\020\221\160\253
\125\202\101\062\327\333\004\163\052\156\221\001\174\041\114\324
\274\256\033\003\165\135\170\146\331\072\061\104\232\063\100\277
\010\327\132\111\244\302\346\251\240\147\335\244\047\274\241\117
\071\265\021\130\027\367\044\134\106\217\144\367\301\151\210\166
\230\166\075\131\135\102\166\207\211\227\151\172\110\360\340\242
\022\033\146\232\164\312\336\113\036\347\016\143\256\346\324\357
\222\222\072\236\075\334\000\344\105\045\211\266\232\104\031\053
\176\300\224\264\322\141\155\353\063\331\305\337\113\004\000\314
\175\034\225\303\217\367\041\262\262\021\267\273\177\362\325\214
\160\054\101\140\252\261\143\030\104\225\032\166\142\176\366\200
\260\373\350\144\246\063\321\211\007\341\275\267\346\103\244\030
\270\246\167\001\341\017\224\014\041\035\262\124\051\045\211\154
\345\016\122\121\107\164\276\046\254\266\101\165\336\172\254\137
\215\077\311\274\323\101\021\022\133\345\020\120\353\061\305\312
\162\026\042\011\337\174\114\165\077\143\354\041\137\304\040\121
\153\157\261\253\206\213\117\302\326\105\137\235\040\374\241\036
\305\300\217\242\261\176\012\046\231\365\344\151\057\230\035\055
\365\331\251\262\035\345\033\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\206\060\035\006\003\125\035\016\004\026\004\024\354\327\343\202
\322\161\135\144\114\337\056\147\077\347\272\230\256\034\017\117
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003
\202\002\001\000\273\141\331\175\251\154\276\027\304\221\033\303
\241\242\000\215\343\144\150\017\126\317\167\256\160\371\375\232
\112\231\271\311\170\134\014\014\137\344\346\024\051\126\013\066
\111\135\104\143\340\255\234\226\030\146\033\043\015\075\171\351
\155\153\326\124\370\322\074\301\103\100\256\035\120\365\122\374
\220\073\273\230\231\151\153\307\301\247\250\150\244\047\334\235
\371\047\256\060\205\271\366\147\115\072\076\217\131\071\042\123
\104\353\310\135\003\312\355\120\172\175\142\041\012\200\310\163
\146\321\240\005\140\137\350\245\264\247\257\250\367\155\065\234
\174\132\212\326\242\070\231\363\170\213\364\115\322\040\013\336
\004\356\214\233\107\201\162\015\300\024\062\357\060\131\056\256
\340\161\362\126\344\152\227\157\222\120\155\226\215\150\172\232
\262\066\024\172\006\362\044\271\011\021\120\327\010\261\270\211
\172\204\043\141\102\051\345\243\315\242\040\101\327\321\234\144
\331\352\046\241\213\024\327\114\031\262\120\101\161\075\077\115
\160\043\206\014\112\334\201\322\314\062\224\204\015\010\011\227
\034\117\300\356\153\040\164\060\322\340\071\064\020\205\041\025
\001\010\350\125\062\336\161\111\331\050\027\120\115\346\276\115
\321\165\254\320\312\373\101\270\103\245\252\323\303\005\104\117
\054\066\233\342\372\342\105\270\043\123\154\006\157\147\125\177
\106\265\114\077\156\050\132\171\046\322\244\250\142\227\322\036
\342\355\112\213\274\033\375\107\112\015\337\147\146\176\262\133
\101\320\073\344\364\073\364\004\143\351\357\302\124\000\121\240

```
\212\052\311\316\170\314\325\352\207\004\030\263\316\257\111\210
\257\363\222\231\266\263\346\141\017\322\205\000\347\120\032\344
\033\225\235\031\241\271\234\261\233\261\000\036\357\320\017\117
\102\154\311\012\274\356\103\372\072\161\245\310\115\046\245\065
\375\211\135\274\205\142\035\062\322\240\053\124\355\232\127\301
\333\372\020\317\031\267\213\112\033\217\001\266\047\225\123\350
\266\211\155\133\274\150\324\043\350\213\121\242\126\371\360\246
\200\240\326\036\263\274\017\017\123\165\051\252\352\023\167\344
\336\214\201\041\255\007\020\107\021\255\207\075\007\321\165\274
\317\363\146\176
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert Trusted Root G4"
```

```
# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c
```

```
# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Thu Aug 01 12:00:00 2013
```

```
# Not Valid After : Fri Jan 15 12:00:00 2038
```

```
# Fingerprint (SHA-256):
```

```
55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88
```

```
# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\335\373\026\315\111\061\311\163\242\003\175\077\310\072\115\175
\167\135\005\344
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\170\362\374\252\140\037\057\264\353\311\067\272\123\056\165\111
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "COMODO RSA Certification Authority"
#
# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Tue Jan 19 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\330\060\202\003\300\240\003\002\001\002\002\020\114
\252\371\312\333\143\157\340\037\367\116\330\133\003\206\235\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201
\205\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103
\101\040\114\151\155\151\164\145\144\061\053\060\051\006\003\125
\004\003\023\042\103\117\115\117\104\117\040\122\123\101\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\036\027\015\061\060\060\061\061\071
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062
\063\065\071\065\071\132\060\201\205\061\013\060\011\006\003\125
\004\006\023\002\107\102\061\033\060\031\006\003\125\004\010\023
\022\107\162\145\141\164\145\162\040\115\141\156\143\150\145\163
\164\145\162\061\020\060\016\006\003\125\004\007\023\007\123\141
\154\146\157\162\144\061\032\060\030\006\003\125\004\012\023\021
\103\117\115\117\104\117\040\103\101\040\114\151\155\151\164\145
\144\061\053\060\051\006\003\125\004\003\023\042\103\117\115\117
\104\117\040\122\123\101\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\221
\350\124\222\322\012\126\261\254\015\044\335\305\317\104\147\164
\231\053\067\243\175\043\160\000\161\274\123\337\304\372\052\022
\217\113\177\020\126\275\237\160\162\267\141\177\311\113\017\027
\247\075\343\260\004\141\356\377\021\227\307\364\206\076\012\372
\076\134\371\223\346\064\172\331\024\153\347\234\263\205\240\202
\172\166\257\161\220\327\354\375\015\372\234\154\372\337\260\202
\364\024\176\371\276\304\246\057\117\177\231\177\265\374\147\103
\162\275\014\000\326\211\353\153\054\323\355\217\230\034\024\253
\176\345\343\156\374\330\250\344\222\044\332\103\153\142\270\125
\375\352\301\274\154\266\213\363\016\215\232\344\233\154\151\231
\370\170\110\060\105\325\255\341\015\074\105\140\374\062\226\121
\047\274\147\303\312\056\266\153\352\106\307\307\040\240\261\037
\145\336\110\010\272\244\116\251\362\203\106\067\204\353\350\314
\201\110\103\147\116\162\052\233\134\275\114\033\050\212\134\042
\173\264\253\230\331\356\340\121\203\303\011\106\116\155\076\231
\372\225\027\332\174\063\127\101\074\215\121\355\013\266\134\257
\054\143\032\337\127\310\077\274\351\135\304\233\257\105\231\342
\243\132\044\264\272\251\126\075\317\157\252\377\111\130\276\360
\250\377\364\270\255\351\067\373\272\270\364\013\072\371\350\103

|102\036\211\330\204\313\023\361\331\273\341\211\140\270\214\050
|126\254\024\035\234\012\347\161\353\317\016\335\075\251\226\241
|110\275\074\367\257\265\015\042\114\300\021\201\354\126\073\366
|323\242\342\133\267\262\004\042\122\225\200\223\151\350\216\114
|145\361\221\003\055\160\164\002\352\213\147\025\051\151\122\002
|273\327\337\120\152\125\106\277\240\243\050\141\177\160\320\303
|242\252\054\041\252\107\316\050\234\006\105\166\277\202\030\047
|264\325\256\264\313\120\346\153\364\114\206\161\060\351\246\337
|026\206\340\330\377\100\335\373\320\102\210\177\243\063\072\056
|134\036\101\021\201\143\316\030\161\153\053\354\246\212\267\061
|134\072\152\107\340\303\171\131\326\040\032\257\362\152\230\252
|162\274\127\112\322\113\235\273\020\374\260\114\101\345\355\035
|075\136\050\235\234\314\277\263\121\332\247\107\345\204\123\002
|003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004
|026\004\024\273\257\176\002\075\372\246\361\074\204\216\255\356
|070\230\354\331\062\062\324\060\016\006\003\125\035\017\001\001
|377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001
|377\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206
|367\015\001\001\014\005\000\003\202\002\001\000\012\361\325\106
|204\267\256\121\273\154\262\115\101\024\000\223\114\234\313\345
|300\124\317\240\045\216\002\371\375\260\242\015\365\040\230\074
|023\055\254\126\242\260\326\176\021\222\351\056\272\236\056\232
|162\261\275\031\104\154\141\065\242\232\264\026\022\151\132\214
|341\327\076\244\032\350\057\003\364\256\141\035\020\033\052\244
|213\172\305\376\005\246\341\300\326\310\376\236\256\217\053\272
|075\231\370\330\163\011\130\106\156\246\234\364\327\047\323\225
|332\067\203\162\034\323\163\340\242\107\231\003\070\135\325\111
|171\000\051\034\307\354\233\040\034\007\044\151\127\170\262\071
|374\072\204\240\265\234\174\215\277\056\223\142\047\267\071\332
|027\030\256\275\074\011\150\377\204\233\074\325\326\013\003\343
|127\236\024\367\321\353\117\310\275\207\043\267\266\111\103\171
|205\134\272\353\222\013\241\306\350\150\250\114\026\261\032\231
|012\350\123\054\222\273\241\011\030\165\014\145\250\173\313\043
|267\032\302\050\205\303\033\377\320\053\142\357\244\173\011\221
|230\147\214\024\001\315\150\006\152\143\041\165\003\200\210\212
|156\201\306\205\362\251\244\055\347\364\245\044\020\107\203\312
|315\364\215\171\130\261\006\233\347\032\052\331\235\001\327\224
|175\355\003\112\312\360\333\350\251\001\076\365\126\231\311\036
|216\111\075\273\345\011\271\340\117\111\222\075\026\202\100\314
|314\131\306\346\072\355\022\056\151\074\154\225\261\375\252\035
|173\177\206\276\036\016\062\106\373\373\023\217\165\177\114\213
|113\106\143\376\000\064\100\160\301\303\271\241\335\246\160\342
|004\263\101\274\351\200\221\352\144\234\172\341\042\003\251\234
|156\157\016\145\117\154\207\207\136\363\156\240\371\165\245\233
|100\350\123\262\047\235\112\271\300\167\041\215\377\207\362\336
|274\214\357\027\337\267\111\013\321\362\156\060\013\032\016\116
|166\355\021\374\365\351\126\262\175\277\307\155\012\223\214\245
|320\300\266\035\276\072\116\224\242\327\156\154\013\302\212\174


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\372\040\363\304\344\345\315\015\250\313\221\222\261\174\205\354
\265\024\151\146\016\202\347\315\316\310\055\246\121\177\041\301
\065\123\205\006\112\135\237\255\273\033\137\164
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "COMODO RSA Certification Authority"
# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Tue Jan 19 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\257\345\322\104\250\321\031\102\060\377\107\237\342\370\227\273
\315\172\214\264
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\061\260\161\100\066\314\024\066\221\255\304\076\375\354\030
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

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CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "USERTrust RSA Certification Authority"

#

Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d

Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

Not Valid Before: Mon Feb 01 00:00:00 2010

Not Valid After : Mon Jan 18 23:59:59 2038

Fingerprint (SHA-256):

E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2

Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "USERTrust RSA Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\336\060\202\003\306\240\003\002\001\002\002\020\001
\375\155\060\374\243\312\121\250\033\274\144\016\065\003\055\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201
\210\061\013\060\011\006\003\125\004\006\023\002\125\123\061\023
\060\021\006\003\125\004\010\023\012\116\145\167\040\112\145\162
\163\145\171\061\024\060\022\006\003\125\004\007\023\013\112\145
\162\163\145\171\040\103\151\164\171\061\036\060\034\006\003\125
\004\012\023\025\124\150\145\040\125\123\105\122\124\122\125\123
\124\040\116\145\164\167\157\162\153\061\056\060\054\006\003\125
\004\003\023\045\125\123\105\122\124\162\165\163\164\040\122\123
\101\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\036\027\015\061\060\060
\062\060\061\060\060\060\060\060\132\027\015\063\070\060\061
\061\070\062\063\065\071\065\071\132\060\201\210\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125
\004\010\023\012\116\145\167\040\112\145\162\163\145\171\061\024
\060\022\006\003\125\004\007\023\013\112\145\162\163\145\171\040
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164
\167\157\162\153\061\056\060\054\006\003\125\004\003\023\045\125
\123\105\122\124\162\165\163\164\040\122\123\101\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\200\022\145\027\066\016\303\333\010\263\320
\254\127\015\166\355\315\047\323\114\255\120\203\141\342\252\040
\115\011\055\144\011\334\316\211\237\314\075\251\354\366\317\301
\334\361\323\261\326\173\067\050\021\053\107\332\071\306\274\072
\031\264\137\246\275\175\235\243\143\102\266\166\362\251\073\053
\221\370\342\157\320\354\026\040\220\011\076\342\350\164\311\030
\264\221\324\142\144\333\177\243\006\361\210\030\152\220\042\074
\274\376\023\360\207\024\173\366\344\037\216\324\344\121\306\021
\147\106\010\121\313\206\024\124\077\274\063\376\176\154\234\377
\026\235\030\275\121\216\065\246\247\146\310\162\147\333\041\146
\261\324\233\170\003\300\120\072\350\314\360\334\274\236\114\376
\257\005\226\065\037\127\132\267\377\316\371\075\267\054\266\366
\124\335\310\347\022\072\115\256\114\212\267\134\232\264\267\040
\075\312\177\042\064\256\176\073\150\146\001\104\347\001\116\106
\123\233\063\140\367\224\276\123\067\220\163\103\363\062\303\123
\357\333\252\376\164\116\151\307\153\214\140\223\336\304\307\014
\337\341\062\256\314\223\073\121\170\225\147\213\356\075\126\376
\014\320\151\017\033\017\363\045\046\153\063\155\367\156\107\372
\163\103\345\176\016\245\146\261\051\174\062\204\143\125\211\304
\015\301\223\124\060\031\023\254\323\175\067\247\353\135\072\154
\065\134\333\101\327\022\332\251\111\013\337\330\200\212\011\223
\142\216\265\146\317\045\210\315\204\270\261\077\244\071\017\331

\002\236\353\022\114\225\174\363\153\005\251\136\026\203\314\270
\147\342\350\023\235\314\133\202\323\114\263\355\133\377\336\345
\163\254\043\073\055\000\277\065\125\164\011\111\330\111\130\032
\177\222\066\346\121\222\016\363\046\175\034\115\027\274\311\354
\103\046\320\277\101\137\100\251\104\104\364\231\347\127\207\236
\120\037\127\124\250\076\375\164\143\057\261\120\145\011\346\130
\102\056\103\032\114\264\360\045\107\131\372\004\036\223\324\046
\106\112\120\201\262\336\276\170\267\374\147\025\341\311\127\204
\036\017\143\326\351\142\272\326\137\125\056\352\134\306\050\010
\004\045\071\270\016\053\251\362\114\227\034\007\077\015\122\365
\355\357\057\202\017\002\003\001\000\001\243\102\060\100\060\035
\006\003\125\035\016\004\026\004\024\123\171\277\132\252\053\112
\317\124\200\341\330\233\300\235\362\262\003\146\313\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015
\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202\002
\001\000\134\324\174\015\317\367\001\175\101\231\145\014\163\305
\122\237\313\370\317\231\006\177\033\332\103\025\237\236\002\125
\127\226\024\361\122\074\047\207\224\050\355\037\072\001\067\242
\166\374\123\120\300\204\233\306\153\116\272\214\041\117\242\216
\125\142\221\363\151\025\330\274\210\343\304\252\013\375\357\250
\351\113\125\052\006\040\155\125\170\051\031\356\137\060\134\113
\044\021\125\377\044\232\156\136\052\053\356\013\115\237\177\367
\001\070\224\024\225\103\007\011\373\140\251\356\034\253\022\214
\240\232\136\247\230\152\131\155\213\077\010\373\310\321\105\257
\030\025\144\220\022\017\163\050\056\305\342\044\116\374\130\354
\360\364\105\376\042\263\353\057\216\322\331\105\141\005\301\227
\157\250\166\162\217\213\214\066\257\277\015\005\316\161\215\346
\246\157\037\154\246\161\142\305\330\320\203\162\014\361\147\021
\211\014\234\023\114\162\064\337\274\325\161\337\252\161\335\341
\271\154\214\074\022\135\145\332\275\127\022\266\103\153\377\345
\336\115\146\021\121\317\231\256\354\027\266\350\161\221\214\336
\111\376\335\065\161\242\025\047\224\034\317\141\343\046\273\157
\243\147\045\041\135\346\335\035\013\056\150\033\073\202\257\354
\203\147\205\324\230\121\164\261\271\231\200\211\377\177\170\031
\134\171\112\140\056\222\100\256\114\067\052\054\311\307\142\310
\016\135\367\066\133\312\340\045\045\001\264\335\032\007\234\167
\000\077\320\334\325\354\075\324\372\273\077\314\205\326\157\177
\251\055\337\271\002\367\365\227\232\265\065\332\303\147\260\207
\112\251\050\236\043\216\377\134\047\153\341\260\117\363\007\356
\000\056\324\131\207\313\122\101\225\352\364\107\327\356\144\101
\125\174\215\131\002\225\335\142\235\302\271\356\132\050\164\204
\245\233\267\220\307\014\007\337\365\211\066\164\062\326\050\301
\260\260\013\340\234\114\303\034\326\374\343\151\265\107\106\201
\057\242\202\253\323\143\104\160\304\215\377\055\063\272\255\217
\173\265\160\210\256\076\031\317\100\050\330\374\310\220\273\135
\231\042\365\122\346\130\305\037\210\061\103\356\210\035\327\306
\216\074\103\152\035\247\030\336\175\075\026\361\142\371\312\220

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\250\375
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "USERTrust RSA Certification Authority"
# Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d
# Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Not Valid Before: Mon Feb 01 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2
# Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust RSA Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\053\217\033\127\063\015\273\242\320\172\154\121\367\016\351\015
\332\271\255\216
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\376\151\321\221\267\031\063\243\162\250\017\341\125\345\265
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

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#
# Certificate "USERTrust ECC Certification Authority"
#
# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26
# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Not Valid Before: Mon Feb 01 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A
# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust ECC Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
END
CKA_VALUE MULTILINE_OCTAL

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\060\202\002\217\060\202\002\025\240\003\002\001\002\002\020\134
\213\231\305\132\224\305\322\161\126\336\315\211\200\314\046\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\210\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\023\060\021\006
\003\125\004\010\023\012\116\145\167\040\112\145\162\163\145\171
\061\024\060\022\006\003\125\004\007\023\013\112\145\162\163\145
\171\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\056\060\054\006\003\125\004\003\023
\045\125\123\105\122\124\162\165\163\164\040\105\103\103\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\036\027\015\061\060\060\062\060\061
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062
\063\065\071\065\071\132\060\201\210\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\023\060\021\006\003\125\004\010\023
\012\116\145\167\040\112\145\162\163\145\171\061\024\060\022\006
\003\125\004\007\023\013\112\145\162\163\145\171\040\103\151\164
\171\061\036\060\034\006\003\125\004\012\023\025\124\150\145\040
\125\123\105\122\124\122\125\123\124\040\116\145\164\167\157\162
\153\061\056\060\054\006\003\125\004\003\023\045\125\123\105\122
\124\162\165\163\164\040\105\103\103\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\032\254\124\132\251\371\150
\043\347\172\325\044\157\123\306\132\330\113\253\306\325\266\321
\346\163\161\256\335\234\326\014\141\375\333\240\211\003\270\005
\024\354\127\316\356\135\077\342\041\263\316\367\324\212\171\340
\243\203\176\055\227\320\141\304\361\231\334\045\221\143\253\177
\060\243\264\160\342\307\241\063\234\363\277\056\134\123\261\137
\263\175\062\177\212\064\343\171\171\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\072\341\011\206\324\317\031\302
\226\166\164\111\166\334\340\065\306\143\143\232\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\066\147\241\026\010\334\344\227\000\101\035\116\276\341\143\001
\317\073\252\102\021\144\240\235\224\071\002\021\171\134\173\035
\372\144\271\356\026\102\263\277\212\302\011\304\354\344\261\115
\002\061\000\351\052\141\107\214\122\112\113\116\030\160\366\326
\104\326\156\365\203\272\155\130\275\044\331\126\110\352\357\304
\242\106\201\210\152\072\106\321\251\233\115\311\141\332\321\135
\127\152\030

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "USERTrust ECC Certification Authority"

```
# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26
# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Not Valid Before: Mon Feb 01 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A
# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust ECC Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\321\313\312\135\262\325\052\177\151\073\147\115\345\360\132\035
\014\225\175\360
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\372\150\274\331\265\177\255\375\311\035\006\203\050\314\044\301
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign ECC Root CA - R5"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
```



```
# Not Valid Before: Tue Nov 13 00:00:00 2012
# Not Valid After : Tue Jan 19 03:14:07 2038
# Fingerprint (SHA-256):
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
# Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\036\060\202\001\244\240\003\002\001\002\002\021\140
\131\111\340\046\056\273\125\371\012\167\212\161\371\112\330\154
\060\012\006\010\052\206\110\316\075\004\003\003\060\120\061\044
\060\042\006\003\125\004\013\023\033\107\154\157\142\141\154\123
\151\147\156\040\105\103\103\040\122\157\157\164\040\103\101\040
\055\040\122\065\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156\060\036
\027\015\061\062\061\061\061\063\060\060\060\060\060\060\132\027
\015\063\070\060\061\061\071\060\063\061\064\060\067\132\060\120
\061\044\060\042\006\003\125\004\013\023\033\107\154\157\142\141
\154\123\151\147\156\040\105\103\103\040\122\157\157\164\040\103
\101\040\055\040\122\065\061\023\060\021\006\003\125\004\012\023
\012\107\154\157\142\141\154\123\151\147\156\061\023\060\021\006
\003\125\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

```
\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053
\201\004\000\042\003\142\000\004\107\105\016\226\373\175\135\277
\351\071\321\041\370\237\013\266\325\173\036\222\072\110\131\034
\360\142\061\055\300\172\050\376\032\247\134\263\266\314\227\347
\105\324\130\372\321\167\155\103\242\300\207\145\064\012\037\172
\335\353\074\063\241\305\235\115\244\157\101\225\070\177\311\036
\204\353\321\236\111\222\207\224\207\014\072\205\112\146\237\235
\131\223\115\227\141\006\206\112\243\102\060\100\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006
\003\125\035\016\004\026\004\024\075\346\051\110\233\352\007\312
\041\104\112\046\336\156\336\322\203\320\237\131\060\012\006\010
\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061\000
\345\151\022\311\156\333\306\061\272\011\101\341\227\370\373\375
\232\342\175\022\311\355\174\144\323\313\005\045\213\126\331\240
\347\136\135\116\013\203\234\133\166\051\240\011\046\041\152\142
\002\060\161\322\265\217\134\352\073\341\170\011\205\250\165\222
\073\310\134\375\110\357\015\164\042\250\010\342\156\305\111\316
\307\014\274\247\141\151\361\367\073\341\052\313\371\053\363\146
\220\067
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign ECC Root CA - R5"
```

```
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
```

```
# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c
```

```
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
```

```
# Not Valid Before: Tue Nov 13 00:00:00 2012
```

```
# Not Valid After : Tue Jan 19 03:14:07 2038
```

```
# Fingerprint (SHA-256):
```

```
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
```

```
# Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\037\044\306\060\315\244\030\357\040\151\377\255\117\335\137\106
\072\033\151\252
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\237\255\073\034\002\036\212\272\027\164\070\201\014\242\274\010
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
```

```
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Staat der Nederlanden Root CA - G3"

#

Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

Serial Number: 10003001 (0x98a239)

Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

Not Valid Before: Thu Nov 14 11:28:42 2013

Not Valid After : Mon Nov 13 23:00:00 2028

Fingerprint (SHA-256):

3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28

Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\000\230\242\071

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\004\000
\230\242\071\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\116
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\061\053\060\051\006\003\125\004\003\014\042\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\040\122\157\157\164\040\103\101\040\055\040\107\063\060\036
\027\015\061\063\061\061\061\064\061\061\062\070\064\062\132\027
\015\062\070\061\061\061\063\062\063\060\060\060\060\132\060\132
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\036\060
\034\006\003\125\004\012\014\025\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\061\053\060
\051\006\003\125\004\003\014\042\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\040\122\157
\157\164\040\103\101\040\055\040\107\063\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\276\062\242\124\017
\160\373\054\134\131\353\154\304\244\121\350\205\052\263\314\112
\064\362\260\137\363\016\307\034\075\123\036\210\010\150\330\157
\075\255\302\236\314\202\147\007\047\207\150\161\072\237\165\226
\042\106\005\260\355\255\307\133\236\052\336\234\374\072\306\225
\247\365\027\147\030\347\057\111\010\014\134\317\346\314\064\355
\170\373\120\261\334\153\062\360\242\376\266\074\344\354\132\227
\307\077\036\160\010\060\240\334\305\263\155\157\320\202\162\021
\253\322\201\150\131\202\027\267\170\222\140\372\314\336\077\204
\353\215\070\063\220\012\162\043\372\065\314\046\161\061\321\162
\050\222\331\133\043\155\146\265\155\007\102\353\246\063\316\222
\333\300\366\154\143\170\315\312\116\075\265\345\122\233\361\276
\073\346\124\140\260\146\036\011\253\007\376\124\211\021\102\321
\367\044\272\140\170\032\230\367\311\021\375\026\301\065\032\124
\165\357\103\323\345\256\116\316\347\173\303\306\116\141\121\113
\253\232\105\113\241\037\101\275\110\123\025\161\144\013\206\263
\345\056\276\316\244\033\301\051\204\242\265\313\010\043\166\103
\042\044\037\027\004\324\156\234\306\374\177\053\146\032\354\212
\345\326\317\115\365\143\011\267\025\071\326\173\254\353\343\174
\351\116\374\165\102\310\355\130\225\014\006\102\242\234\367\344
\160\263\337\162\157\132\067\100\211\330\205\244\327\361\013\336
\103\031\324\112\130\054\214\212\071\236\277\204\207\361\026\073
\066\014\351\323\264\312\154\031\101\122\011\241\035\260\152\277
\202\357\160\121\041\062\334\005\166\214\313\367\144\344\003\120
\257\214\221\147\253\305\362\356\130\330\336\276\367\347\061\317
\154\311\073\161\301\325\210\265\145\274\300\350\027\027\007\022

\265\134\322\253\040\223\264\346\202\203\160\066\305\315\243\215
\255\213\354\243\301\103\207\346\103\342\064\276\225\213\065\355
\007\071\332\250\035\172\237\066\236\022\260\014\145\022\220\025
\140\331\046\100\104\343\126\140\245\020\324\152\074\375\101\334
\016\132\107\266\357\227\141\165\117\331\376\307\262\035\324\355
\135\111\263\251\152\313\146\204\023\325\134\240\334\337\156\167
\006\321\161\165\310\127\157\257\017\167\133\002\003\001\000\001
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024
\124\255\372\307\222\127\256\312\065\234\056\022\373\344\272\135
\040\334\224\127\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\060\231\235\005\062\310\136\016
\073\230\001\072\212\244\347\007\367\172\370\347\232\337\120\103
\123\227\052\075\312\074\107\230\056\341\025\173\361\222\363\141
\332\220\045\026\145\300\237\124\135\016\003\073\133\167\002\234
\204\266\015\230\137\064\335\073\143\302\303\050\201\302\234\051
\056\051\342\310\303\001\362\063\352\052\252\314\011\010\367\145
\147\306\315\337\323\266\053\247\275\314\321\016\160\137\270\043
\321\313\221\116\012\364\310\172\345\331\143\066\301\324\337\374
\042\227\367\140\135\352\051\057\130\262\275\130\275\215\226\117
\020\165\277\110\173\075\121\207\241\074\164\042\302\374\007\177
\200\334\304\254\376\152\301\160\060\260\351\216\151\342\054\151
\201\224\011\272\335\376\115\300\203\214\224\130\300\106\040\257
\234\037\002\370\065\125\111\057\106\324\300\360\240\226\002\017
\063\305\161\363\236\043\175\224\267\375\072\323\011\203\006\041
\375\140\075\256\062\300\322\356\215\246\360\347\264\202\174\012
\314\160\311\171\200\370\376\114\367\065\204\031\212\061\373\012
\331\327\177\233\360\242\232\153\303\005\112\355\101\140\024\060
\321\252\021\102\156\323\043\002\004\013\306\145\335\335\122\167
\332\201\153\262\250\372\001\070\271\226\352\052\154\147\227\211
\224\236\274\341\124\325\344\152\170\357\112\275\053\232\075\100
\176\306\300\165\322\156\373\150\060\354\354\213\235\371\111\065
\232\032\054\331\263\225\071\325\036\222\367\246\271\145\057\345
\075\155\072\110\114\010\334\344\050\022\050\276\175\065\134\352
\340\026\176\023\033\152\327\076\327\236\374\055\165\262\301\024
\325\043\003\333\133\157\013\076\170\057\015\336\063\215\026\267
\110\347\203\232\201\017\173\301\103\115\125\004\027\070\112\121
\325\131\242\211\164\323\237\276\036\113\327\306\155\267\210\044
\157\140\221\244\202\205\133\126\101\274\320\104\253\152\023\276
\321\054\130\267\022\063\130\262\067\143\334\023\365\224\035\077
\100\121\365\117\365\072\355\310\305\353\302\036\035\026\225\172
\307\176\102\161\223\156\113\025\267\060\337\252\355\127\205\110
\254\035\152\335\071\151\344\341\171\170\276\316\005\277\241\014
\367\200\173\041\147\047\060\131

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "Staat der Nederlanden Root CA - G3"

Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

Serial Number: 10003001 (0x98a239)

Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

Not Valid Before: Thu Nov 14 11:28:42 2013

Not Valid After : Mon Nov 13 23:00:00 2028

Fingerprint (SHA-256):

3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28

Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\330\353\153\101\121\222\131\340\363\347\205\000\300\075\266\210
\227\311\356\374

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\013\106\147\007\333\020\057\031\214\065\120\140\321\013\364\067

END

CKA_ISSUER MULTILINE_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\000\230\242\071

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Staat der Nederlanden EV Root CA"

#

Issuer: CN=Staat der Nederlanden EV Root CA,O=Staat der Nederlanden,C=NL

Serial Number: 10000013 (0x98968d)

Subject: CN=Staat der Nederlanden EV Root CA,O=Staat der Nederlanden,C=NL

Not Valid Before: Wed Dec 08 11:19:29 2010

Not Valid After : Thu Dec 08 11:10:28 2022

Fingerprint (SHA-256):

4D:24:91:41:4C:FE:95:67:46:EC:4C:EF:A6:CF:6F:72:E2:8A:13:29:43:2F:9D:8A:90:7A:C4:CB:5D:AD:C1:5A
Fingerprint (SHA1): 76:E2:7E:C1:4F:DB:82:C1:C0:A6:75:B5:05:BE:3D:29:B4:ED:DB:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden EV Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\051\060\047\006\003\125\004\003\014\040\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\105\126\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\051\060\047\006\003\125\004\003\014\040\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\105\126\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\000\230\226\215
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\160\060\202\003\130\240\003\002\001\002\002\004\000
\230\226\215\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\130\061\013\060\011\006\003\125\004\006\023\002\116
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\061\051\060\047\006\003\125\004\003\014\040\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\040\105\126\040\122\157\157\164\040\103\101\060\036\027\015
\061\060\061\062\060\070\061\061\061\071\062\071\132\027\015\062
\062\061\062\060\070\061\061\061\060\062\070\132\060\130\061\013
\060\011\006\003\125\004\006\023\002\116\114\061\036\060\034\006
\003\125\004\012\014\025\123\164\141\141\164\040\144\145\162\040
\116\145\144\145\162\154\141\156\144\145\156\061\051\060\047\006
\003\125\004\003\014\040\123\164\141\141\164\040\144\145\162\040
\116\145\144\145\162\154\141\156\144\145\156\040\105\126\040\122
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\343\307\176\211\371\044\113\072\322
\063\203\065\054\151\354\334\011\244\343\121\250\045\053\171\270

\010\075\340\221\272\204\205\306\205\244\312\346\311\056\123\244
\311\044\036\375\125\146\161\135\054\305\140\150\004\267\331\302
\122\046\070\210\244\326\073\100\246\302\315\077\315\230\223\263
\124\024\130\226\125\325\120\376\206\255\244\143\177\134\207\366
\216\346\047\222\147\027\222\002\003\054\334\326\146\164\355\335
\147\377\301\141\215\143\117\017\233\155\027\060\046\357\253\322
\037\020\240\371\305\177\026\151\201\003\107\355\036\150\215\162
\241\115\262\046\306\272\154\137\155\326\257\321\261\023\216\251
\255\363\136\151\165\046\030\076\101\053\041\177\356\213\135\007
\006\235\103\304\051\012\053\374\052\076\206\313\074\203\072\371
\311\015\332\305\231\342\274\170\101\063\166\341\277\057\135\345
\244\230\120\014\025\335\340\372\234\177\070\150\320\262\246\172
\247\321\061\275\176\212\130\047\103\263\272\063\221\323\247\230
\025\134\232\346\323\017\165\331\374\101\230\227\076\252\045\333
\217\222\056\260\173\014\137\361\143\251\067\371\233\165\151\114
\050\046\045\332\325\362\022\160\105\125\343\337\163\136\067\365
\041\154\220\216\065\132\311\323\043\353\323\300\276\170\254\102
\050\130\146\245\106\155\160\002\327\020\371\113\124\374\135\206
\112\207\317\177\312\105\254\021\132\265\040\121\215\057\210\107
\227\071\300\317\272\300\102\001\100\231\110\041\013\153\247\322
\375\226\325\321\276\106\235\111\340\013\246\240\042\116\070\320
\301\074\060\274\160\217\054\165\314\320\305\214\121\073\075\224
\010\144\046\141\175\271\303\145\217\024\234\041\320\252\375\027
\162\003\217\275\233\214\346\136\123\236\271\235\357\202\273\341
\274\342\162\101\133\041\224\323\105\067\224\321\337\011\071\135
\347\043\252\232\035\312\155\250\012\206\205\212\202\276\102\007
\326\362\070\202\163\332\207\133\345\074\323\236\076\247\073\236
\364\003\263\371\361\175\023\164\002\377\273\241\345\372\000\171
\034\246\146\101\210\134\140\127\246\056\011\304\272\375\232\317
\247\037\100\303\273\314\132\012\125\113\073\070\166\121\270\143
\213\204\224\026\346\126\363\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\035\006\003\125\035\016\004\026\004\024\376\253\000\220
\230\236\044\374\251\314\032\212\373\047\270\277\060\156\250\073
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\317\167\054\156\126\276\116\263\266\204\000\224
\253\107\311\015\322\166\307\206\237\035\007\323\266\264\273\010
\170\257\151\322\013\111\336\063\305\254\255\302\210\002\175\006
\267\065\002\301\140\311\277\304\350\224\336\324\323\251\023\045
\132\376\156\242\256\175\005\334\175\363\154\360\176\246\215\356
\331\327\316\130\027\350\251\051\256\163\110\207\347\233\312\156
\051\241\144\137\031\023\367\256\006\020\377\121\306\233\115\125
\045\117\223\231\020\001\123\165\361\023\316\307\246\101\101\322
\277\210\245\177\105\374\254\270\245\265\063\014\202\304\373\007
\366\152\345\045\204\137\006\312\301\206\071\021\333\130\315\167
\073\054\302\114\017\136\232\343\360\253\076\141\033\120\044\302
\300\364\361\031\360\021\051\266\245\030\002\233\327\143\114\160


```
\214\107\243\003\103\134\271\135\106\240\015\157\377\131\216\276
\335\237\162\303\133\053\337\214\133\316\345\014\106\154\222\262
\012\243\114\124\102\030\025\022\030\275\332\374\272\164\156\377
\301\266\240\144\330\251\137\125\256\237\134\152\166\226\330\163
\147\207\373\115\177\134\356\151\312\163\020\373\212\251\375\236
\275\066\070\111\111\207\364\016\024\360\351\207\270\077\247\117
\172\132\216\171\324\223\344\273\150\122\204\254\154\351\363\230
\160\125\162\062\371\064\253\053\111\265\315\040\142\344\072\172
\147\143\253\226\334\155\256\227\354\374\237\166\126\210\056\146
\317\133\266\311\244\260\327\005\272\341\047\057\223\273\046\052
\242\223\260\033\363\216\276\035\100\243\271\066\217\076\202\032
\032\136\210\352\120\370\131\342\203\106\051\013\343\104\134\341
\225\266\151\220\232\024\157\227\256\201\317\150\357\231\232\276
\265\347\341\177\370\372\023\107\026\114\314\155\010\100\347\213
\170\157\120\202\104\120\077\146\006\212\253\103\204\126\112\017
\040\055\206\016\365\322\333\322\172\212\113\315\245\350\116\361
\136\046\045\001\131\043\240\176\322\366\176\041\127\327\047\274
\025\127\114\244\106\301\340\203\036\014\114\115\037\117\006\031
\342\371\250\364\072\202\241\262\171\103\171\326\255\157\172\047
\220\003\244\352\044\207\077\331\275\331\351\362\137\120\111\034
\356\354\327\056
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Staat der Nederlanden EV Root CA"

Issuer: CN=Staat der Nederlanden EV Root CA,O=Staat der Nederlanden,C=NL

Serial Number: 10000013 (0x98968d)

Subject: CN=Staat der Nederlanden EV Root CA,O=Staat der Nederlanden,C=NL

Not Valid Before: Wed Dec 08 11:19:29 2010

Not Valid After : Thu Dec 08 11:10:28 2022

Fingerprint (SHA-256):

4D:24:91:41:4C:FE:95:67:46:EC:4C:EF:A6:CF:6F:72:E2:8A:13:29:43:2F:9D:8A:90:7A:C4:CB:5D:AD:C1:5A

Fingerprint (SHA1): 76:E2:7E:C1:4F:DB:82:C1:C0:A6:75:B5:05:BE:3D:29:B4:ED:DB:BB

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Staat der Nederlanden EV Root CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\166\342\176\301\117\333\202\301\300\246\165\265\005\276\075\051
\264\355\333\273
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\374\006\257\173\350\032\361\232\264\350\322\160\037\300\365\272
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\130\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\051\060\047\006\003\125\004\003\014\040\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\105\126\040\122\157\157\164\040\103\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\004\000\230\226\215
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "IdenTrust Commercial Root CA 1"

#

Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02

Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

Not Valid Before: Thu Jan 16 18:12:23 2014

Not Valid After : Mon Jan 16 18:12:23 2034

Fingerprint (SHA-256):

5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE

Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\310\104\265\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\112
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163
\164\061\047\060\045\006\003\125\004\003\023\036\111\144\145\156
\124\162\165\163\164\040\103\157\155\155\145\162\143\151\141\154
\040\122\157\157\164\040\103\101\040\061\060\036\027\015\061\064
\060\061\061\066\061\070\061\062\062\063\132\027\015\063\064\060
\061\061\066\061\070\061\062\062\063\132\060\112\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125
\004\012\023\011\111\144\145\156\124\162\165\163\164\061\047\060
\045\006\003\125\004\003\023\036\111\144\145\156\124\162\165\163
\164\040\103\157\155\155\145\162\143\151\141\154\040\122\157\157
\164\040\103\101\040\061\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\247\120\031\336\077\231\075\324\063
\106\361\157\121\141\202\262\251\117\217\147\211\135\204\331\123
\335\014\050\331\327\360\377\256\225\103\162\231\371\265\135\174
\212\301\102\341\061\120\164\321\201\015\174\315\233\041\253\103
\342\254\255\136\206\156\363\011\212\037\132\062\275\242\353\224
\371\350\134\012\354\377\230\322\257\161\263\264\123\237\116\207
\357\222\274\275\354\117\062\060\210\113\027\136\127\304\123\302
\366\002\227\215\331\142\053\277\044\037\142\215\337\303\270\051
\113\111\170\074\223\140\210\042\374\231\332\066\310\302\242\324
\054\124\000\147\065\156\163\277\002\130\360\244\335\345\260\242
\046\172\312\340\066\245\031\026\365\375\267\357\256\077\100\365
\155\132\004\375\316\064\312\044\334\164\043\033\135\063\023\022
\135\304\001\045\366\060\335\002\135\237\340\325\107\275\264\353
\033\241\273\111\111\330\237\133\002\363\212\344\044\220\344\142
\117\117\301\257\213\016\164\027\250\321\162\210\152\172\001\111
\314\264\106\171\306\027\261\332\230\036\007\131\372\165\041\205
\145\335\220\126\316\373\253\245\140\235\304\235\371\122\260\213
\275\207\371\217\053\043\012\043\166\073\367\063\341\311\000\363
\151\371\113\242\340\116\274\176\223\071\204\007\367\104\160\176
\376\007\132\345\261\254\321\030\314\362\065\345\111\111\010\312
\126\311\075\373\017\030\175\213\073\301\023\302\115\217\311\117
\016\067\351\037\241\016\152\337\142\056\313\065\006\121\171\054
\310\045\070\364\372\113\247\211\134\234\322\343\015\071\206\112
\164\174\325\131\207\302\077\116\014\134\122\364\075\367\122\202
\361\352\243\254\375\111\064\032\050\363\101\210\072\023\356\350
\336\377\231\035\137\272\313\350\036\362\271\120\140\300\061\323
\163\345\357\276\240\355\063\013\164\276\040\040\304\147\154\360
\010\003\172\125\200\177\106\116\226\247\364\036\076\341\366\330

\011\341\063\144\053\143\327\062\136\237\371\300\173\017\170\157
\227\274\223\232\371\234\022\220\170\172\200\207\025\327\162\164
\234\125\164\170\261\272\341\156\160\004\272\117\240\272\150\303
\173\377\061\360\163\075\075\224\052\261\013\101\016\240\376\115
\210\145\153\171\063\264\327\002\003\001\000\001\243\102\060\100
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\355\104\031\300
\323\360\006\213\356\244\173\276\102\347\046\124\310\216\066\166
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\015\256\220\062\366\246\113\174\104\166\031\141
\036\047\050\315\136\124\357\045\274\343\010\220\371\051\327\256
\150\010\341\224\000\130\357\056\056\176\123\122\214\266\134\007
\352\210\272\231\213\120\224\327\202\200\337\141\011\000\223\255
\015\024\346\316\301\362\067\224\170\260\137\234\263\242\163\270
\217\005\223\070\315\215\076\260\270\373\300\317\261\362\354\055
\055\033\314\354\252\232\263\252\140\202\033\055\073\303\204\075
\127\212\226\036\234\165\270\323\060\315\140\010\203\220\323\216
\124\361\115\146\300\135\164\003\100\243\356\205\176\302\037\167
\234\006\350\301\247\030\135\122\225\355\311\335\045\236\155\372
\251\355\243\072\064\320\131\173\332\355\120\363\065\277\355\353
\024\115\061\307\140\364\332\361\207\234\342\110\342\306\305\067
\373\006\020\372\165\131\146\061\107\051\332\166\232\034\351\202
\256\357\232\271\121\367\210\043\232\151\225\142\074\345\125\200
\066\327\124\002\377\361\271\135\316\324\043\157\330\105\204\112
\133\145\357\211\014\335\024\247\040\313\030\245\045\264\015\371
\001\360\242\322\364\000\310\164\216\241\052\110\216\145\333\023
\304\342\045\027\175\353\276\207\133\027\040\124\121\223\112\123
\003\013\354\135\312\063\355\142\375\105\307\057\133\334\130\240
\200\071\346\372\327\376\023\024\246\355\075\224\112\102\164\324
\303\167\131\163\315\217\106\276\125\070\357\372\350\221\062\352
\227\130\004\042\336\070\303\314\274\155\311\063\072\152\012\151
\077\240\310\352\162\217\214\143\206\043\275\155\074\226\236\225
\340\111\114\252\242\271\052\033\234\066\201\170\355\303\350\106
\342\046\131\104\165\036\331\165\211\121\315\020\204\235\141\140
\313\135\371\227\042\115\216\230\346\343\177\366\133\273\256\315
\312\112\201\153\136\013\363\121\341\164\053\351\176\047\247\331
\231\111\116\370\245\200\333\045\017\034\143\142\212\311\063\147
\153\074\020\203\306\255\336\250\315\026\216\215\360\007\067\161
\237\362\253\374\101\365\301\213\354\000\067\135\011\345\116\200
\357\372\261\134\070\006\245\033\112\341\334\070\055\074\334\253
\037\220\032\325\112\234\356\321\160\154\314\356\364\127\370\030
\272\204\156\207

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```
# Trust for "IdenTrust Commercial Root CA 1"
# Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
# Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02
# Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
# Not Valid Before: Thu Jan 16 18:12:23 2014
# Not Valid After : Mon Jan 16 18:12:23 2034
# Fingerprint (SHA-256):
5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE
# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\337\161\176\252\112\331\116\311\125\204\231\140\055\110\336\137
\274\360\072\045
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\263\076\167\163\165\356\240\323\343\176\111\143\111\131\273\307
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "IdenTrust Public Sector Root CA 1"
#
# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
# Not Valid Before: Thu Jan 16 17:53:32 2014
# Not Valid After : Mon Jan 16 17:53:32 2034
# Fingerprint (SHA-256):
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 ""
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\317\106\174\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\115
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163
\164\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156
\124\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143
\164\157\162\040\122\157\157\164\040\103\101\040\061\060\036\027
\015\061\064\060\061\061\066\061\067\065\063\063\062\132\027\015
\063\064\060\061\061\066\061\067\065\063\063\062\132\060\115\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060\020
\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163\164
\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156\124
\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143\164
\157\162\040\122\157\157\164\040\103\101\040\061\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\266\042\224
\374\244\110\257\350\107\153\012\373\047\166\344\362\077\212\073
\172\112\054\061\052\214\215\260\251\303\061\153\250\167\166\204
\046\266\254\201\102\015\010\353\125\130\273\172\370\274\145\175
\362\240\155\213\250\107\351\142\166\036\021\356\010\024\321\262
\104\026\364\352\320\372\036\057\136\333\313\163\101\256\274\000
```

\260\112\053\100\262\254\341\073\113\302\055\235\344\241\233\354
\032\072\036\360\010\263\320\344\044\065\007\237\234\264\311\122
\155\333\007\312\217\265\133\360\203\363\117\307\055\245\310\255
\313\225\040\244\061\050\127\130\132\344\215\033\232\253\236\015
\014\362\012\063\071\042\071\012\227\056\363\123\167\271\104\105
\375\204\313\066\040\201\131\055\232\157\155\110\110\141\312\114
\337\123\321\257\122\274\104\237\253\057\153\203\162\357\165\200
\332\006\063\033\135\310\332\143\306\115\315\254\146\061\315\321
\336\076\207\020\066\341\271\244\172\357\140\120\262\313\312\246
\126\340\067\257\253\064\023\071\045\350\071\146\344\230\172\252
\022\230\234\131\146\206\076\255\361\260\312\076\006\017\173\360
\021\113\067\240\104\155\173\313\250\214\161\364\325\265\221\066
\314\360\025\306\053\336\121\027\261\227\114\120\075\261\225\131
\174\005\175\055\041\325\000\277\001\147\242\136\173\246\134\362
\367\042\361\220\015\223\333\252\104\121\146\314\175\166\003\353
\152\250\052\070\031\227\166\015\153\212\141\371\274\366\356\166
\375\160\053\335\051\074\370\012\036\133\102\034\213\126\057\125
\033\034\241\056\265\307\026\346\370\252\074\222\216\151\266\001
\301\265\206\235\211\017\013\070\224\124\350\352\334\236\075\045
\274\123\046\355\325\253\071\252\305\100\114\124\253\262\264\331
\331\370\327\162\333\034\274\155\275\145\137\357\210\065\052\146
\057\356\366\263\145\360\063\215\174\230\101\151\106\017\103\034
\151\372\233\265\320\141\152\315\312\113\331\114\220\106\253\025
\131\241\107\124\051\056\203\050\137\034\302\242\253\162\027\000
\006\216\105\354\213\342\063\075\177\332\031\104\344\142\162\303
\337\042\306\362\126\324\335\137\225\162\355\155\137\367\110\003
\133\375\305\052\240\366\163\043\204\020\033\001\347\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\343\161\340\236\330\247\102\331\333\161\221\153\224\223
\353\303\243\321\024\243\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\002\001\000\107\372\335\012\260\021
\221\070\255\115\135\367\345\016\227\124\031\202\110\207\124\214
\252\144\231\330\132\376\210\001\305\130\245\231\261\043\124\043
\267\152\035\040\127\345\001\142\101\027\323\011\333\165\313\156
\124\220\165\376\032\237\201\012\302\335\327\367\011\320\133\162
\025\344\036\011\152\075\063\363\041\232\346\025\176\255\121\325
\015\020\355\175\102\300\217\356\300\232\010\325\101\326\134\016
\041\151\156\200\141\016\025\300\270\317\305\111\022\122\314\276
\072\314\324\056\070\005\336\065\375\037\157\270\200\150\230\075
\115\240\312\100\145\322\163\174\365\213\331\012\225\077\330\077
\043\155\032\321\052\044\031\331\205\263\027\357\170\156\251\130
\321\043\323\307\023\355\162\045\177\135\261\163\160\320\177\006
\227\011\204\051\200\141\035\372\136\377\163\254\240\343\211\270
\034\161\025\306\336\061\177\022\334\341\155\233\257\347\350\237
\165\170\114\253\106\073\232\316\277\005\030\135\115\025\074\026
\232\031\120\004\232\262\232\157\145\213\122\137\074\130\004\050

```
\045\300\146\141\061\176\271\340\165\271\032\250\201\326\162\027
\263\305\003\061\065\021\170\170\242\340\351\060\214\177\200\337
\130\337\074\272\047\226\342\200\064\155\343\230\323\144\047\254
\110\176\050\167\134\306\045\141\045\370\205\014\145\372\304\062
\057\245\230\005\344\370\013\147\026\026\306\202\270\062\031\371
\371\271\171\334\037\315\353\257\253\016\335\033\333\105\344\172
\347\002\342\225\135\374\151\360\123\151\141\225\165\171\013\136
\125\346\070\034\224\251\131\063\236\310\161\164\171\177\121\211
\266\310\152\270\060\310\152\070\303\156\236\341\067\026\352\005
\142\114\133\022\107\355\247\264\263\130\126\307\111\363\177\022
\150\011\061\161\360\155\370\116\107\373\326\205\356\305\130\100
\031\244\035\247\371\113\103\067\334\150\132\117\317\353\302\144
\164\336\264\025\331\364\124\124\032\057\034\327\227\161\124\220
\216\331\040\235\123\053\177\253\217\342\352\060\274\120\067\357
\361\107\265\175\174\054\004\354\150\235\264\111\104\020\364\162
\113\034\144\347\374\346\153\220\335\151\175\151\375\000\126\245
\267\254\266\255\267\312\076\001\357\234
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "IdenTrust Public Sector Root CA 1"
```

```
# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
```

```
# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
```

```
# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
```

```
# Not Valid Before: Thu Jan 16 17:53:32 2014
```

```
# Not Valid After : Mon Jan 16 17:53:32 2034
```

```
# Fingerprint (SHA-256):
```

```
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
```

```
# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\272\051\101\140\167\230\077\364\363\357\362\061\005\073\056\352
\155\115\105\375
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\067\006\245\260\374\211\235\272\364\153\214\032\144\315\325\272
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
```



```
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust Root Certification Authority - G2"
#
# Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Serial Number: 1246989352 (0x4a538c28)
# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Tue Jul 07 17:25:54 2009
# Not Valid After : Sat Dec 07 17:55:54 2030
# Fingerprint (SHA-256):
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
```

\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\112\123\214\050

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\076\060\202\003\046\240\003\002\001\002\002\004\112
\123\214\050\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\201\276\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164
\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006\003
\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156\164
\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055\164
\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060\050
\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164\054
\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164\150
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061
\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165\163
\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055
\040\107\062\060\036\027\015\060\071\060\067\060\067\061\067\062
\065\065\064\132\027\015\063\060\061\062\060\067\061\067\065\065
\065\064\132\060\201\276\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156
\164\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006
\003\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156
\164\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055
\164\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060
\050\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164
\054\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171
\061\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165
\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040
\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\272\204\266\162\333\236\014\153\342\231\351

\060\001\247\166\352\062\270\225\101\032\311\332\141\116\130\162
\317\376\366\202\171\277\163\141\006\012\245\047\330\263\137\323
\105\116\034\162\326\116\062\362\162\212\017\367\203\031\320\152
\200\200\000\105\036\260\307\347\232\277\022\127\047\034\243\150
\057\012\207\275\152\153\016\136\145\363\034\167\325\324\205\215
\160\041\264\263\062\347\213\242\325\206\071\002\261\270\322\107
\316\344\311\111\304\073\247\336\373\124\175\127\276\360\350\156
\302\171\262\072\013\125\342\120\230\026\062\023\134\057\170\126
\301\302\224\263\362\132\344\047\232\237\044\327\306\354\320\233
\045\202\343\314\302\304\105\305\214\227\172\006\153\052\021\237
\251\012\156\110\073\157\333\324\021\031\102\367\217\007\277\365
\123\137\234\076\364\027\054\346\151\254\116\062\114\142\167\352
\267\350\345\273\064\274\031\213\256\234\121\347\267\176\265\123
\261\063\042\345\155\317\160\074\032\372\342\233\147\266\203\364
\215\245\257\142\114\115\340\130\254\144\064\022\003\370\266\215
\224\143\044\244\161\002\003\001\000\001\243\102\060\100\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\035\006\003\125\035\016\004\026\004\024\152\162\046\172\320\036
\357\175\347\073\151\121\324\154\215\237\220\022\146\253\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\171\237\035\226\306\266\171\077\042\215\207\323\207\003
\004\140\152\153\232\056\131\211\163\021\254\103\321\365\023\377
\215\071\053\300\362\275\117\160\214\251\057\352\027\304\013\124
\236\324\033\226\230\063\074\250\255\142\242\000\166\253\131\151
\156\006\035\176\304\271\104\215\230\257\022\324\141\333\012\031
\106\107\363\353\367\143\301\100\005\100\245\322\267\364\265\232
\066\277\251\210\166\210\004\125\004\053\234\207\177\032\067\074
\176\055\245\032\330\324\211\136\312\275\254\075\154\330\155\257
\325\363\166\017\315\073\210\070\042\235\154\223\232\304\075\277
\202\033\145\077\246\017\135\252\374\345\262\025\312\265\255\306
\274\075\320\204\350\352\006\162\260\115\071\062\170\277\076\021
\234\013\244\235\232\041\363\360\233\013\060\170\333\301\334\207
\103\376\274\143\232\312\305\302\034\311\307\215\377\073\022\130
\010\346\266\075\354\172\054\116\373\203\226\316\014\074\151\207
\124\163\244\163\302\223\377\121\020\254\025\124\001\330\374\005
\261\211\241\177\164\203\232\111\327\334\116\173\212\110\157\213
\105\366

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Entrust Root Certification Authority - G2"

Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Serial Number: 1246989352 (0x4a538c28)

Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use

```
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Tue Jul 07 17:25:54 2009
# Not Valid After : Sat Dec 07 17:55:54 2030
# Fingerprint (SHA-256):
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\214\364\047\375\171\014\072\321\146\006\215\350\036\127\357\273
\223\042\162\324
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\113\342\311\221\226\145\014\364\016\132\223\222\240\012\376\262
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\112\123\214\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust Root Certification Authority - EC1"
#
# Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Serial Number:00:a6:8b:79:29:00:00:00:00:50:d0:91:f9
# Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
```

```
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Tue Dec 18 15:25:36 2012
# Not Valid After : Fri Dec 18 15:55:36 2037
# Fingerprint (SHA-256):
02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5
# Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\371\060\202\002\200\240\003\002\001\002\002\015\000
```

\246\213\171\051\000\000\000\000\120\320\221\371\060\012\006\010
\052\206\110\316\075\004\003\003\060\201\277\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\026\060\024\006\003\125\004
\012\023\015\105\156\164\162\165\163\164\054\040\111\156\143\056
\061\050\060\046\006\003\125\004\013\023\037\123\145\145\040\167
\167\167\056\145\156\164\162\165\163\164\056\156\145\164\057\154
\145\147\141\154\055\164\145\162\155\163\061\071\060\067\006\003
\125\004\013\023\060\050\143\051\040\062\060\061\062\040\105\156
\164\162\165\163\164\054\040\111\156\143\056\040\055\040\146\157
\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145
\040\157\156\154\171\061\063\060\061\006\003\125\004\003\023\052
\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\055\040\105\103\061\060\036\027\015\061\062
\061\062\061\070\061\065\062\065\063\066\132\027\015\063\067\061
\062\061\070\061\065\065\065\063\066\132\060\201\277\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\026\060\024\006\003
\125\004\012\023\015\105\156\164\162\165\163\164\054\040\111\156
\143\056\061\050\060\046\006\003\125\004\013\023\037\123\145\145
\040\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164
\057\154\145\147\141\154\055\164\145\162\155\163\061\071\060\067
\006\003\125\004\013\023\060\050\143\051\040\062\060\061\062\040
\105\156\164\162\165\163\164\054\040\111\156\143\056\040\055\040
\146\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165
\163\145\040\157\156\154\171\061\063\060\061\006\003\125\004\003
\023\052\105\156\164\162\165\163\164\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\105\103\061\060\166\060\020
\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042
\003\142\000\004\204\023\311\320\272\155\101\173\342\154\320\353
\125\137\146\002\032\044\364\133\211\151\107\343\270\302\175\361
\362\002\305\237\240\366\133\325\213\006\031\206\117\123\020\155
\007\044\047\241\240\370\325\107\031\141\114\175\312\223\047\352
\164\014\357\157\226\011\376\143\354\160\135\066\255\147\167\256
\311\235\174\125\104\072\242\143\121\037\365\343\142\324\251\107
\007\076\314\040\243\102\060\100\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\267\143\347\032\335\215\351\010\246\125\203\244
\340\152\120\101\145\021\102\111\060\012\006\010\052\206\110\316
\075\004\003\003\003\147\000\060\144\002\060\141\171\330\345\102
\107\337\034\256\123\231\027\266\157\034\175\341\277\021\224\321
\003\210\165\344\215\211\244\212\167\106\336\155\141\357\002\365
\373\265\337\314\376\116\377\376\251\346\247\002\060\133\231\327
\205\067\006\265\173\010\375\353\047\213\112\224\371\341\372\247
\216\046\010\350\174\222\150\155\163\330\157\046\254\041\002\270
\231\267\046\101\133\045\140\256\320\110\032\356\006

END

```

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Entrust Root Certification Authority - EC1"
# Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Serial Number:00:a6:8b:79:29:00:00:00:50:d0:91:f9
# Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Tue Dec 18 15:25:36 2012
# Not Valid After : Fri Dec 18 15:55:36 2037
# Fingerprint (SHA-256):
02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5
# Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\040\330\006\100\337\233\045\365\022\045\072\021\352\367\131\212
\353\024\265\107
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\266\176\035\360\130\305\111\154\044\073\075\355\230\030\355\274
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

```

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "CFCA EV ROOT"

#

Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

Serial Number: 407555286 (0x184accd6)

Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

Not Valid Before: Wed Aug 08 03:07:01 2012

Not Valid After : Mon Dec 31 03:07:01 2029

Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "CFCA EV ROOT"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\030\112\314\326

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\215\060\202\003\165\240\003\002\001\002\002\004\030
\112\314\326\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\126\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\060\060\056\006\003\125\004\012\014\047\103\150\151\156
\141\040\106\151\156\141\156\143\151\141\154\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\061\025\060\023\006\003\125\004\003\014\014\103\106
\103\101\040\105\126\040\122\117\117\124\060\036\027\015\061\062

\060\070\060\070\060\063\060\067\060\061\132\027\015\062\071\061
\062\063\061\060\063\060\067\060\061\132\060\126\061\013\060\011
\006\003\125\004\006\023\002\103\116\061\060\060\056\006\003\125
\004\012\014\047\103\150\151\156\141\040\106\151\156\141\156\143
\151\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\025\060\023\006
\003\125\004\003\014\014\103\106\103\101\040\105\126\040\122\117
\117\124\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\327\135\153\315\020\077\037\005\131\325\005\115\067
\261\016\354\230\053\216\025\035\372\223\113\027\202\041\161\020
\122\327\121\144\160\026\302\125\151\115\216\025\155\237\277\014
\033\302\340\243\147\326\014\254\317\042\256\257\167\124\052\113
\114\212\123\122\172\303\356\056\336\263\161\045\301\351\135\075
\356\241\057\243\367\052\074\311\043\035\152\253\035\241\247\361
\363\354\240\325\104\317\025\317\162\057\035\143\227\350\231\371
\375\223\244\124\200\114\122\324\122\253\056\111\337\220\315\270
\137\276\077\336\241\312\115\040\324\045\350\204\051\123\267\261
\210\037\377\372\332\220\237\012\251\055\101\077\261\361\030\051
\356\026\131\054\064\111\032\250\006\327\250\210\322\003\162\172
\062\342\352\150\115\156\054\226\145\173\312\131\372\362\342\335
\356\060\054\373\314\106\254\304\143\353\157\177\066\053\064\163
\022\224\177\337\314\046\236\361\162\135\120\145\131\217\151\263
\207\136\062\157\303\030\212\265\225\217\260\172\067\336\132\105
\073\307\066\341\357\147\321\071\323\227\133\163\142\031\110\055
\207\034\006\373\164\230\040\111\163\360\005\322\033\261\240\243
\267\033\160\323\210\151\271\132\326\070\364\142\334\045\213\170
\277\370\350\176\270\134\311\225\117\137\247\055\271\040\153\317
\153\335\365\015\364\202\267\364\262\146\056\020\050\366\227\132
\173\226\026\217\001\031\055\154\156\177\071\130\006\144\203\001
\203\203\303\115\222\335\062\306\207\244\067\351\026\316\252\055
\150\257\012\201\145\072\160\301\233\255\115\155\124\312\052\055
\113\205\033\263\200\346\160\105\015\153\136\065\360\177\073\270
\234\344\004\160\211\022\045\223\332\012\231\042\140\152\143\140
\116\166\006\230\116\275\203\255\035\130\212\045\205\322\307\145
\036\055\216\306\337\266\306\341\177\212\004\041\025\051\164\360
\076\234\220\235\014\056\361\212\076\132\252\014\011\036\307\325
\074\243\355\227\303\036\064\372\070\371\010\016\343\300\135\053
\203\321\126\152\311\266\250\124\123\056\170\062\147\075\202\177
\164\320\373\341\266\005\140\271\160\333\216\013\371\023\130\157
\161\140\020\122\020\271\301\101\011\357\162\037\147\061\170\377
\226\005\215\002\003\001\000\001\243\143\060\141\060\037\006\003
\125\035\043\004\030\060\026\200\024\343\376\055\375\050\320\013
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\343\376\055\375\050\320\013
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\015\006

\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001
\000\045\306\272\153\353\207\313\336\202\071\226\075\360\104\247
\153\204\163\003\336\235\053\117\272\040\177\274\170\262\317\227
\260\033\234\363\327\171\056\365\110\266\322\373\027\210\346\323
\172\077\355\123\023\320\342\057\152\171\313\000\043\050\346\036
\067\127\065\211\204\302\166\117\064\066\255\147\303\316\101\006
\210\305\367\356\330\032\270\326\013\177\120\377\223\252\027\113
\214\354\355\122\140\262\244\006\352\116\353\364\153\031\375\353
\365\032\340\045\052\232\334\307\101\066\367\310\164\005\204\071
\225\071\326\013\073\244\047\372\010\330\134\036\370\004\140\122
\021\050\050\003\377\357\123\146\000\245\112\064\026\146\174\375
\011\244\256\236\147\032\157\101\013\153\006\023\233\217\206\161
\005\264\057\215\211\146\063\051\166\124\232\021\370\047\372\262
\077\221\340\316\015\033\363\060\032\255\277\042\135\033\323\277
\045\005\115\341\222\032\177\231\237\074\104\223\312\324\100\111
\154\200\207\327\004\072\303\062\122\065\016\126\370\245\335\175
\304\213\015\021\037\123\313\036\262\027\266\150\167\132\340\324
\313\310\007\256\365\072\056\216\067\267\320\001\113\103\051\167
\214\071\227\217\202\132\370\121\345\211\240\030\347\150\177\135
\012\056\373\243\107\016\075\246\043\172\306\001\307\217\310\136
\277\155\200\126\276\212\044\272\063\352\237\341\062\021\236\361
\322\117\200\366\033\100\257\070\236\021\120\171\163\022\022\315
\346\154\235\054\210\162\074\060\201\006\221\042\352\131\255\332
\031\056\042\302\215\271\214\207\340\146\274\163\043\137\041\144
\143\200\110\365\240\074\030\075\224\310\110\101\035\100\272\136
\376\376\126\071\241\310\317\136\236\031\144\106\020\332\027\221
\267\005\200\254\213\231\222\175\347\242\330\007\013\066\047\347
\110\171\140\212\303\327\023\134\370\162\100\337\112\313\317\231
\000\012\000\013\021\225\332\126\105\003\210\012\237\147\320\325
\171\261\250\215\100\155\015\302\172\100\372\363\137\144\107\222
\313\123\271\273\131\316\117\375\320\025\123\001\330\337\353\331
\346\166\357\320\043\273\073\251\171\263\325\002\051\315\211\243
\226\017\112\065\347\116\102\300\165\315\007\317\346\054\353\173
\056

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "CFCA EV ROOT"

Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

Serial Number: 407555286 (0x184accd6)

Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

Not Valid Before: Wed Aug 08 03:07:01 2012

Not Valid After : Mon Dec 31 03:07:01 2029

Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CFCA EV ROOT"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\342\270\051\113\125\204\253\153\130\302\220\106\154\254\077\270
\071\217\204\203
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\164\341\266\355\046\172\172\104\060\063\224\253\173\047\201\060
END
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\030\112\314\326
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "OISTE WISeKey Global Root GB CA"
#
# Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0
# Subject: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Not Valid Before: Mon Dec 01 15:00:32 2014
# Not Valid After : Thu Dec 01 15:10:31 2039
# Fingerprint (SHA-256):
6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6
# Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145

```

\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\265\060\202\002\235\240\003\002\001\002\002\020\166
\261\040\122\164\360\205\207\106\263\370\043\032\366\302\300\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\155
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060
\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\102\040\103\101\060\036\027
\015\061\064\061\062\060\061\061\065\060\060\063\062\132\027\015
\063\071\061\062\060\061\061\065\061\060\063\061\132\060\155\061
\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016
\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061\042
\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106
\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163
\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123
\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141
\154\040\122\157\157\164\040\107\102\040\103\101\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\330\027\267
\034\112\044\052\326\227\261\312\342\036\373\175\070\357\230\365
\262\071\230\116\047\270\021\135\173\322\045\224\210\202\025\046
\152\033\061\273\250\133\041\041\053\330\017\116\237\132\361\261
\132\344\171\326\062\043\053\341\123\314\231\105\134\173\117\255
\274\277\207\112\013\113\227\132\250\366\110\354\175\173\015\315
\041\006\337\236\025\375\101\212\110\267\040\364\241\172\033\127

\324\135\120\377\272\147\330\043\231\037\310\077\343\336\377\157
\133\167\261\153\156\270\311\144\367\341\312\101\106\016\051\161
\320\271\043\374\311\201\137\116\367\157\337\277\204\255\163\144
\273\267\102\216\151\366\324\166\035\176\235\247\270\127\212\121
\147\162\327\324\250\270\225\124\100\163\003\366\352\364\353\376
\050\102\167\077\235\043\033\262\266\075\200\024\007\114\056\117
\367\325\012\026\015\275\146\103\067\176\043\103\171\303\100\206
\365\114\051\332\216\232\255\015\245\004\207\210\036\205\343\351
\123\325\233\310\213\003\143\170\353\340\031\112\156\273\057\153
\063\144\130\223\255\151\277\217\033\357\202\110\307\002\003\001
\000\001\243\121\060\117\060\013\006\003\125\035\017\004\004\003
\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\065
\017\310\066\143\136\342\243\354\371\073\146\025\316\121\122\343
\221\232\075\060\020\006\011\053\006\001\004\001\202\067\025\001
\004\003\002\001\000\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\003\202\001\001\000\100\114\373\207\262\231\201
\220\176\235\305\260\260\046\315\210\173\053\062\215\156\270\041
\161\130\227\175\256\067\024\257\076\347\367\232\342\175\366\161
\230\231\004\252\103\164\170\243\343\111\141\076\163\214\115\224
\340\371\161\304\266\026\016\123\170\037\326\242\207\057\002\071
\201\051\074\257\025\230\041\060\376\050\220\000\214\321\341\313
\372\136\310\375\370\020\106\073\242\170\102\221\027\164\125\012
\336\120\147\115\146\321\247\377\375\331\300\265\250\243\212\316
\146\365\017\103\315\247\053\127\173\143\106\152\252\056\122\330
\364\355\341\155\255\051\220\170\110\272\341\043\252\243\211\354
\265\253\226\300\264\113\242\035\227\236\172\362\156\100\161\337
\150\361\145\115\316\174\005\337\123\145\251\245\360\261\227\004
\160\025\106\003\230\324\322\277\124\264\240\130\175\122\157\332
\126\046\142\324\330\333\211\061\157\034\360\042\302\323\142\034
\065\315\114\151\025\124\032\220\230\336\353\036\137\312\167\307
\313\216\075\103\151\234\232\130\320\044\073\337\033\100\226\176
\065\255\201\307\116\161\272\210\023

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "OISTE WISEKey Global Root GB CA"

Issuer: CN=OISTE WISEKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0

Subject: CN=OISTE WISEKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

Not Valid Before: Mon Dec 01 15:00:32 2014

Not Valid After : Thu Dec 01 15:10:31 2039

Fingerprint (SHA-256):

6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6

Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\017\371\100\166\030\323\327\152\113\230\360\250\065\236\014\375
\047\254\314\355
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\353\271\141\050\056\267\057\230\260\065\046\220\231\121\035
END
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SZAFIR ROOT CA2"
#
# Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
# Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4
# Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
# Not Valid Before: Mon Oct 19 07:43:30 2015
# Not Valid After : Fri Oct 19 07:43:30 2035
# Fingerprint (SHA-256):
A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
# Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061

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\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\162\060\202\002\132\240\003\002\001\002\002\024\076
\212\135\007\354\125\322\062\325\267\343\266\137\001\353\055\334
\344\326\344\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\121\061\013\060\011\006\003\125\004\006\023\002\120
\114\061\050\060\046\006\003\125\004\012\014\037\113\162\141\152
\157\167\141\040\111\172\142\141\040\122\157\172\154\151\143\172
\145\156\151\157\167\141\040\123\056\101\056\061\030\060\026\006
\003\125\004\003\014\017\123\132\101\106\111\122\040\122\117\117
\124\040\103\101\062\060\036\027\015\061\065\061\060\061\071\060
\067\064\063\063\060\132\027\015\063\065\061\060\061\071\060\067
\064\063\063\060\132\060\121\061\013\060\011\006\003\125\004\006
\023\002\120\114\061\050\060\046\006\003\125\004\012\014\037\113
\162\141\152\157\167\141\040\111\172\142\141\040\122\157\172\154
\151\143\172\145\156\151\157\167\141\040\123\056\101\056\061\030
\060\026\006\003\125\004\003\014\017\123\132\101\106\111\122\040
\122\117\117\124\040\103\101\062\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\267\274\076\120\250\113\315
\100\265\316\141\347\226\312\264\241\332\014\042\260\372\265\173
\166\000\167\214\013\317\175\250\206\314\046\121\344\040\075\205
\014\326\130\343\347\364\052\030\235\332\321\256\046\356\353\123
\334\364\220\326\023\112\014\220\074\303\364\332\322\216\015\222
\072\334\261\261\377\070\336\303\272\055\137\200\271\002\275\112
\235\033\017\264\303\302\301\147\003\335\334\033\234\075\263\260
\336\000\036\250\064\107\273\232\353\376\013\024\275\066\204\332
\015\040\277\372\133\313\251\026\040\255\071\140\356\057\165\266
\347\227\234\371\076\375\176\115\157\115\057\357\210\015\152\372
\335\361\075\156\040\245\240\022\264\115\160\271\316\327\162\073

\211\223\247\200\204\034\047\111\162\111\265\377\073\225\236\301
\314\310\001\354\350\016\212\012\226\347\263\246\207\345\326\371
\005\053\015\227\100\160\074\272\254\165\132\234\325\115\235\002
\012\322\113\233\146\113\106\007\027\145\255\237\154\210\000\334
\042\211\340\341\144\324\147\274\061\171\141\074\273\312\101\315
\134\152\000\310\074\070\216\130\257\002\003\001\000\001\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\056\026
\251\112\030\265\313\314\365\157\120\363\043\137\370\135\347\254
\360\310\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\003\202\001\001\000\265\163\370\003\334\131\133\035\166\351
\243\052\173\220\050\262\115\300\063\117\252\232\261\324\270\344
\047\377\251\226\231\316\106\340\155\174\114\242\070\244\006\160
\360\364\101\021\354\077\107\215\077\162\207\371\073\375\244\157
\053\123\000\340\377\071\271\152\007\016\353\035\034\366\242\162
\220\313\202\075\021\202\213\322\273\237\052\257\041\346\143\206
\235\171\031\357\367\273\014\065\220\303\212\355\117\017\365\314
\022\331\244\076\273\240\374\040\225\137\117\046\057\021\043\203
\116\165\007\017\277\233\321\264\035\351\020\004\376\312\140\217
\242\114\270\255\317\341\220\017\315\256\012\307\135\173\267\120
\322\324\141\372\325\025\333\327\237\207\121\124\353\245\343\353
\311\205\240\045\040\067\373\216\316\014\064\204\341\074\201\262
\167\116\103\245\210\137\206\147\241\075\346\264\134\141\266\076
\333\376\267\050\305\242\007\256\265\312\312\215\052\022\357\227
\355\302\060\244\311\052\172\373\363\115\043\033\231\063\064\240
\056\365\251\013\077\324\135\341\317\204\237\342\031\302\137\212
\326\040\036\343\163\267

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SZAFIR ROOT CA2"

Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4

Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

Not Valid Before: Mon Oct 19 07:43:30 2015

Not Valid After : Fri Oct 19 07:43:30 2035

Fingerprint (SHA-256):

A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE

Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SZAFIR ROOT CA2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\342\122\372\225\077\355\333\044\140\275\156\050\363\234\314\317
\136\263\077\336

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\021\144\301\211\260\044\261\214\261\007\176\211\236\121\236\231

END

CKA_ISSUER MULTILINE_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Certum Trusted Network CA 2"

#

Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL

Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9

Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL

Not Valid Before: Thu Oct 06 08:39:56 2011

Not Valid After : Sat Oct 06 08:39:56 2046

Fingerprint (SHA-256):

B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04

Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certum Trusted Network CA 2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164

\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022
\215\351

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\322\060\202\003\272\240\003\002\001\002\002\020\041
\326\320\112\117\045\017\311\062\067\374\252\136\022\215\351\060
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\201
\200\061\013\060\011\006\003\125\004\006\023\002\120\114\061\042
\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164\157
\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\044\060\042\006
\003\125\004\003\023\033\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101\040
\062\060\042\030\017\062\060\061\061\061\060\060\066\060\070\063
\071\065\066\132\030\017\062\060\064\066\061\060\060\066\060\070
\063\071\065\066\132\060\201\200\061\013\060\011\006\003\125\004
\006\023\002\120\114\061\042\060\040\006\003\125\004\012\023\031
\125\156\151\172\145\164\157\040\124\145\143\150\156\157\154\157
\147\151\145\163\040\123\056\101\056\061\047\060\045\006\003\125
\004\013\023\036\103\145\162\164\165\155\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\061\044\060\042\006\003\125\004\003\023\033\103\145\162
\164\165\155\040\124\162\165\163\164\145\144\040\116\145\164\167
\157\162\153\040\103\101\040\062\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\275\371\170\370\346\325\200
\014\144\235\206\033\226\144\147\077\042\072\036\165\001\175\357
\373\134\147\214\311\314\134\153\251\221\346\271\102\345\040\113

\233\332\233\173\271\231\135\331\233\200\113\327\204\100\053\047
\323\350\272\060\273\076\011\032\247\111\225\357\053\100\044\302
\227\307\247\356\233\045\357\250\012\000\227\205\132\252\235\334
\051\311\342\065\007\353\160\115\112\326\301\263\126\270\241\101
\070\233\321\373\061\177\217\340\137\341\261\077\017\216\026\111
\140\327\006\215\030\371\252\046\020\253\052\323\320\321\147\215
\033\106\276\107\060\325\056\162\321\305\143\332\347\143\171\104
\176\113\143\044\211\206\056\064\077\051\114\122\213\052\247\300
\342\221\050\211\271\300\133\371\035\331\347\047\255\377\232\002
\227\301\306\120\222\233\002\054\275\251\271\064\131\012\277\204
\112\377\337\376\263\237\353\331\236\340\230\043\354\246\153\167
\026\052\333\314\255\073\034\244\207\334\106\163\136\031\142\150
\105\127\344\220\202\102\273\102\326\360\141\340\301\243\075\146
\243\135\364\030\356\210\311\215\027\105\051\231\062\165\002\061
\356\051\046\310\153\002\346\265\142\105\177\067\025\132\043\150
\211\324\076\336\116\047\260\360\100\014\274\115\027\313\115\242
\263\036\320\006\132\335\366\223\317\127\165\231\365\372\206\032
\147\170\263\277\226\376\064\334\275\347\122\126\345\263\345\165
\173\327\101\221\005\334\135\151\343\225\015\103\271\374\203\226
\071\225\173\154\200\132\117\023\162\306\327\175\051\172\104\272
\122\244\052\325\101\106\011\040\376\042\240\266\133\060\215\274
\211\014\325\327\160\370\207\122\375\332\357\254\121\056\007\263
\116\376\320\011\332\160\357\230\372\126\346\155\333\265\127\113
\334\345\054\045\025\310\236\056\170\116\370\332\234\236\206\054
\312\127\363\032\345\310\222\213\032\202\226\172\303\274\120\022
\151\330\016\132\106\213\072\353\046\372\043\311\266\260\201\276
\102\000\244\370\326\376\060\056\307\322\106\366\345\216\165\375
\362\314\271\320\207\133\314\006\020\140\273\203\065\267\136\147
\336\107\354\231\110\361\244\241\025\376\255\214\142\216\071\125
\117\071\026\271\261\143\235\377\267\002\003\001\000\001\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\266\241
\124\071\002\303\240\077\216\212\274\372\324\370\034\246\321\072
\016\375\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\015\006\011\052\206\110\206\367\015\001\001\015\005
\000\003\202\002\001\000\161\245\016\316\344\351\277\077\070\325
\211\132\304\002\141\373\114\305\024\027\055\213\117\123\153\020
\027\374\145\204\307\020\111\220\336\333\307\046\223\210\046\157
\160\326\002\136\071\240\367\217\253\226\265\245\023\134\201\024
\155\016\201\202\021\033\212\116\306\117\245\335\142\036\104\337
\011\131\364\133\167\013\067\351\213\040\306\370\012\116\056\130
\034\353\063\320\317\206\140\311\332\373\200\057\236\114\140\204
\170\075\041\144\326\373\101\037\030\017\347\311\165\161\275\275
\134\336\064\207\076\101\260\016\366\271\326\077\011\023\226\024
\057\336\232\035\132\271\126\316\065\072\260\137\160\115\136\343
\051\361\043\050\162\131\266\253\302\214\146\046\034\167\054\046
\166\065\213\050\247\151\240\371\073\365\043\335\205\020\164\311
\220\003\126\221\347\257\272\107\324\022\227\021\042\343\242\111

```
\224\154\347\267\224\113\272\055\244\332\063\213\114\246\104\377
\132\074\306\035\144\330\265\061\344\246\074\172\250\127\013\333
\355\141\032\313\361\316\163\167\143\244\207\157\114\121\070\326
\344\137\307\237\266\201\052\344\205\110\171\130\136\073\370\333
\002\202\147\301\071\333\303\164\113\075\066\036\371\051\223\210
\150\133\250\104\031\041\360\247\350\201\015\054\350\223\066\264
\067\262\312\260\033\046\172\232\045\037\232\232\200\236\113\052
\077\373\243\232\376\163\062\161\302\236\306\162\341\212\150\047
\361\344\017\264\304\114\245\141\223\370\227\020\007\052\060\045
\251\271\310\161\270\357\150\314\055\176\365\340\176\017\202\250
\157\266\272\154\203\103\167\315\212\222\027\241\236\133\170\026
\075\105\342\063\162\335\341\146\312\231\323\311\305\046\375\015
\150\004\106\256\266\331\233\214\276\031\276\261\306\362\031\343
\134\002\312\054\330\157\112\007\331\311\065\332\100\165\362\304
\247\031\157\236\102\020\230\165\346\225\213\140\274\355\305\022
\327\212\316\325\230\134\126\226\003\305\356\167\006\065\377\317
\344\356\077\023\141\356\333\332\055\205\360\315\256\235\262\030
\011\105\303\222\241\162\027\374\107\266\240\013\054\361\304\336
\103\150\010\152\137\073\360\166\143\373\314\006\054\246\306\342
\016\265\271\276\044\217
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Certum Trusted Network CA 2"

Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9

Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

Not Valid Before: Thu Oct 06 08:39:56 2011

Not Valid After : Sat Oct 06 08:39:56 2046

Fingerprint (SHA-256):

B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04

Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\323\335\110\076\053\277\114\005\350\257\020\365\372\166\046\317
```

```
\323\334\060\222
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\155\106\236\331\045\155\010\043\133\136\164\175\036\047\333\362
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022
\215\351
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Hellenic Academic and Research Institutions RootCA 2015"

#

Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR

Serial Number: 0 (0x0)

Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR

Not Valid Before: Tue Jul 07 10:11:21 2015

Not Valid After : Sat Jun 30 10:11:21 2040

Fingerprint (SHA-256):

A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36

Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
```

\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\013\060\202\003\363\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156\163
\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154\145
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164
\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165\164
\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003\023
\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145\155
\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150\040
\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157
\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060\067
\060\067\061\060\061\061\062\061\132\027\015\064\060\060\066\063
\060\061\060\061\061\062\061\132\060\201\246\061\013\060\011\006
\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125\004
\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003\125
\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143\141
\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162
\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040
\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171\061
\100\060\076\006\003\125\004\003\023\067\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\122\157\157\164\103\101\040\062\060\061
\065\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001

\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\302\370\251\077\033\211\374\074\074\004\135\075\220\066
\260\221\072\171\074\146\132\357\155\071\001\111\032\264\267\317
\177\115\043\123\267\220\000\343\023\052\050\246\061\361\221\000
\343\050\354\256\041\101\316\037\332\375\175\022\133\001\203\017
\271\260\137\231\341\362\022\203\200\115\006\076\337\254\257\347
\241\210\153\061\257\360\213\320\030\063\270\333\105\152\064\364
\002\200\044\050\012\002\025\225\136\166\052\015\231\072\024\133
\366\313\313\123\274\023\115\001\210\067\224\045\033\102\274\042
\330\216\243\226\136\072\331\062\333\076\350\360\020\145\355\164
\341\057\247\174\257\047\064\273\051\175\233\266\317\011\310\345
\323\012\374\210\145\145\164\012\334\163\034\134\315\100\261\034
\324\266\204\214\114\120\317\150\216\250\131\256\302\047\116\202
\242\065\335\024\364\037\377\262\167\325\207\057\252\156\175\044
\047\347\306\313\046\346\345\376\147\007\143\330\105\015\335\072
\131\145\071\130\172\222\231\162\075\234\204\136\210\041\270\325
\364\054\374\331\160\122\117\170\270\275\074\053\213\225\230\365
\263\321\150\317\040\024\176\114\134\137\347\213\345\365\065\201
\031\067\327\021\010\267\146\276\323\112\316\203\127\000\072\303
\201\370\027\313\222\066\135\321\243\330\165\033\341\213\047\352
\172\110\101\375\105\031\006\255\047\231\116\301\160\107\335\265
\237\201\123\022\345\261\214\110\135\061\103\027\343\214\306\172
\143\226\113\051\060\116\204\116\142\031\136\074\316\227\220\245
\177\001\353\235\340\370\213\211\335\045\230\075\222\266\176\357
\331\361\121\121\175\055\046\310\151\131\141\340\254\152\270\052
\066\021\004\172\120\275\062\204\276\057\334\162\325\327\035\026
\107\344\107\146\040\077\364\226\305\257\216\001\172\245\017\172
\144\365\015\030\207\331\256\210\325\372\204\301\072\300\151\050
\055\362\015\150\121\252\343\245\167\306\244\220\016\241\067\213
\061\043\107\301\011\010\353\156\367\170\233\327\202\374\204\040
\231\111\031\266\022\106\261\373\105\125\026\251\243\145\254\234
\007\017\352\153\334\037\056\006\162\354\206\210\022\344\055\333
\137\005\057\344\360\003\323\046\063\347\200\302\315\102\241\027
\064\013\002\003\001\000\001\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\161\025\147\310\310\311\275\165\135
\162\320\070\030\152\235\363\161\044\124\013\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\165
\273\155\124\113\252\020\130\106\064\362\142\327\026\066\135\010
\136\325\154\310\207\275\264\056\106\362\061\370\174\352\102\265
\223\026\125\334\241\014\022\240\332\141\176\017\130\130\163\144
\162\307\350\105\216\334\251\362\046\077\306\171\214\261\123\010
\063\201\260\126\023\276\346\121\134\330\233\012\117\113\234\126
\123\002\351\117\366\015\140\352\115\102\125\350\174\033\041\041
\323\033\072\314\167\362\270\220\361\150\307\371\132\376\372\055
\364\277\311\365\105\033\316\070\020\052\067\212\171\243\264\343
\011\154\205\206\223\377\211\226\047\170\201\217\147\343\106\164

```
\124\216\331\015\151\342\112\364\115\164\003\377\262\167\355\225
\147\227\344\261\305\253\277\152\043\350\324\224\342\104\050\142
\304\113\342\360\330\342\051\153\032\160\176\044\141\223\173\117
\003\062\045\015\105\044\053\226\264\106\152\277\112\013\367\232
\217\301\254\032\305\147\363\157\064\322\372\163\143\214\357\026
\260\250\244\106\052\370\353\022\354\162\264\357\370\053\176\214
\122\300\213\204\124\371\057\076\343\125\250\334\146\261\331\341
\137\330\263\214\131\064\131\244\253\117\154\273\037\030\333\165
\253\330\313\222\315\224\070\141\016\007\006\037\113\106\020\361
\025\276\215\205\134\073\112\053\201\171\017\264\151\237\111\120
\227\115\367\016\126\135\300\225\152\302\066\303\033\150\311\365
\052\334\107\232\276\262\316\305\045\350\372\003\271\332\371\026
\156\221\204\365\034\050\310\374\046\314\327\034\220\126\247\137
\157\072\004\274\315\170\211\013\216\017\057\243\252\117\242\033
\022\075\026\010\100\017\361\106\114\327\252\173\010\301\012\365
\155\047\336\002\217\312\303\265\053\312\351\353\310\041\123\070
\245\314\073\330\167\067\060\242\117\331\157\321\362\100\255\101
\172\027\305\326\112\065\211\267\101\325\174\206\177\125\115\203
\112\245\163\040\300\072\257\220\361\232\044\216\331\216\161\312
\173\270\206\332\262\217\231\076\035\023\015\022\021\356\324\253
\360\351\025\166\002\344\340\337\252\040\036\133\141\205\144\100
\251\220\227\015\255\123\322\132\035\207\152\000\227\145\142\264
\276\157\152\247\365\054\102\355\062\255\266\041\236\276\274
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Hellenic Academic and Research Institutions RootCA 2015"

Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

Serial Number: 0 (0x0)

Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

Not Valid Before: Tue Jul 07 10:11:21 2015

Not Valid After : Sat Jun 30 10:11:21 2040

Fingerprint (SHA-256):

A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36

Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\001\014\006\225\246\230\031\024\377\277\137\306\260\266\225\352
```

```
\051\351\022\246
```

END


```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\312\377\342\333\003\331\313\113\351\017\255\204\375\173\030\316
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Hellenic Academic and Research Institutions ECC RootCA 2015"
#
# Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
# Serial Number: 0 (0x0)
# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and
Research Institutions Cert. Authority,L=Athens,C=GR
# Not Valid Before: Tue Jul 07 10:37:12 2015
# Not Valid After : Sat Jun 30 10:37:12 2040
# Fingerprint (SHA-256):
44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33
# Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156

```

\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\303\060\202\002\112\240\003\002\001\002\002\001\000
\060\012\006\010\052\206\110\316\075\004\003\002\060\201\252\061
\013\060\011\006\003\125\004\006\023\002\107\122\061\017\060\015
\006\003\125\004\007\023\006\101\164\150\145\156\163\061\104\060
\102\006\003\125\004\012\023\073\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\145\162\164\056\040\101\165\164\150\157\162
\151\164\171\061\104\060\102\006\003\125\004\003\023\073\110\145
\154\154\145\156\151\143\040\101\143\141\144\145\155\151\143\040
\141\156\144\040\122\145\163\145\141\162\143\150\040\111\156\163
\164\151\164\165\164\151\157\156\163\040\105\103\103\040\122\157
\157\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060
\067\060\067\061\060\063\067\061\062\132\027\015\064\060\060\066
\063\060\061\060\063\067\061\062\132\060\201\252\061\013\060\011
\006\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125
\004\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003
\125\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171
\061\104\060\102\006\003\125\004\003\023\073\110\145\154\154\145

\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164
\165\164\151\157\156\163\040\105\103\103\040\122\157\157\164\103
\101\040\062\060\061\065\060\166\060\020\006\007\052\206\110\316
\075\002\001\006\005\053\201\004\000\042\003\142\000\004\222\240
\101\350\113\202\204\134\342\370\061\021\231\206\144\116\011\045
\057\235\101\057\012\256\065\117\164\225\262\121\144\153\215\153
\346\077\160\225\360\005\104\107\246\162\070\120\166\225\002\132
\216\256\050\236\371\055\116\231\357\054\110\157\114\045\051\350
\321\161\133\337\035\301\165\067\264\327\372\173\172\102\234\152
\012\126\132\174\151\013\252\200\011\044\154\176\301\106\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\264\042
\013\202\231\044\001\016\234\273\344\016\375\277\373\227\040\223
\231\052\060\012\006\010\052\206\110\316\075\004\003\002\003\147
\000\060\144\002\060\147\316\026\142\070\242\254\142\105\247\251
\225\044\300\032\047\234\062\073\300\300\325\272\251\347\370\004
\103\123\205\356\122\041\336\235\365\045\203\076\236\130\113\057
\327\147\023\016\041\002\060\005\341\165\001\336\150\355\052\037
\115\114\011\010\015\354\113\255\144\027\050\347\165\316\105\145
\162\041\027\313\042\101\016\214\023\230\070\232\124\155\233\312
\342\174\352\002\130\042\221

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Hellenic Academic and Research Institutions ECC RootCA 2015"

Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR

Serial Number: 0 (0x0)

Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and
Research Institutions Cert. Authority,L=Athens,C=GR

Not Valid Before: Tue Jul 07 10:37:12 2015

Not Valid After : Sat Jun 30 10:37:12 2040

Fingerprint (SHA-256):

44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33

Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\237\361\161\215\222\325\232\363\175\164\227\264\274\157\204\150
\013\272\266\146

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\201\345\264\027\353\302\365\341\113\015\101\173\111\222\376\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ISRG Root X1"
#
# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US
# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00
# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US
# Not Valid Before: Thu Jun 04 11:04:38 2015
# Not Valid After : Mon Jun 04 11:04:38 2035
# Fingerprint (SHA-256):
96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6
# Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061

```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143
\202\213\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\153\060\202\003\123\240\003\002\001\002\002\021\000
\202\020\317\260\322\100\343\131\104\143\340\273\143\202\213\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\051
\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156\145
\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145\141
\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003\125
\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130\061
\060\036\027\015\061\065\060\066\060\064\061\061\060\064\063\070
\132\027\015\063\065\060\066\060\064\061\061\060\064\063\070\132
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\255\350\044\163\364\024\067\363\233\236\053\127\050\034
\207\276\334\267\337\070\220\214\156\074\346\127\240\170\367\165
\302\242\376\365\152\156\366\000\117\050\333\336\150\206\154\104
\223\266\261\143\375\024\022\153\277\037\322\352\061\233\041\176
\321\063\074\272\110\365\335\171\337\263\270\377\022\361\041\232
\113\301\212\206\161\151\112\146\146\154\217\176\074\160\277\255
\051\042\006\363\344\300\346\200\256\342\113\217\267\231\176\224
\003\237\323\107\227\174\231\110\043\123\350\070\256\117\012\157
\203\056\321\111\127\214\200\164\266\332\057\320\070\215\173\003
\160\041\033\165\362\060\074\372\217\256\335\332\143\253\353\026
\117\302\216\021\113\176\317\013\350\377\265\167\056\364\262\173
\112\340\114\022\045\014\160\215\003\051\240\341\123\044\354\023
\331\356\031\277\020\263\112\214\077\211\243\141\121\336\254\207
\007\224\364\143\161\354\056\342\157\133\230\201\341\211\134\064
\171\154\166\357\073\220\142\171\346\333\244\232\057\046\305\320
\020\341\016\336\331\020\216\026\373\267\367\250\367\307\345\002

\007\230\217\066\010\225\347\342\067\226\015\066\165\236\373\016
\162\261\035\233\274\003\371\111\005\330\201\335\005\264\052\326
\101\351\254\001\166\225\012\017\330\337\325\275\022\037\065\057
\050\027\154\322\230\301\250\011\144\167\156\107\067\272\316\254
\131\136\150\235\177\162\326\211\305\006\101\051\076\131\076\335
\046\365\044\311\021\247\132\243\114\100\037\106\241\231\265\247
\072\121\156\206\073\236\175\162\247\022\005\170\131\355\076\121
\170\025\013\003\217\215\320\057\005\262\076\173\112\034\113\163
\005\022\374\306\352\340\120\023\174\103\223\164\263\312\164\347
\216\037\001\010\320\060\324\133\161\066\264\007\272\301\060\060
\134\110\267\202\073\230\246\175\140\212\242\243\051\202\314\272
\275\203\004\033\242\203\003\101\241\326\005\361\033\302\266\360
\250\174\206\073\106\250\110\052\210\334\166\232\166\277\037\152
\245\075\031\217\353\070\363\144\336\310\053\015\012\050\377\367
\333\342\025\102\324\042\320\047\135\341\171\376\030\347\160\210
\255\116\346\331\213\072\306\335\047\121\156\377\274\144\365\063
\103\117\002\003\001\000\001\243\102\060\100\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\171\264\131\346\173\266\345\344\001
\163\200\010\210\310\032\130\366\351\233\156\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\125
\037\130\251\274\262\250\120\320\014\261\330\032\151\040\047\051
\010\254\141\165\134\212\156\370\202\345\151\057\325\366\126\113
\271\270\163\020\131\323\041\227\176\347\114\161\373\262\322\140
\255\071\250\013\352\027\041\126\205\361\120\016\131\353\316\340
\131\351\272\311\025\357\206\235\217\204\200\366\344\351\221\220
\334\027\233\142\033\105\360\146\225\322\174\157\302\352\073\357
\037\317\313\326\256\047\361\251\260\310\256\375\175\176\232\372
\042\004\353\377\331\177\352\221\053\042\261\027\016\217\362\212
\064\133\130\330\374\001\311\124\271\270\046\314\212\210\063\211
\114\055\204\074\202\337\356\226\127\005\272\054\273\367\304\267
\307\116\073\202\276\061\310\042\163\163\222\321\302\200\244\071
\071\020\063\043\202\114\074\237\206\262\125\230\035\276\051\206
\214\042\233\236\342\153\073\127\072\202\160\115\334\011\307\211
\313\012\007\115\154\350\135\216\311\357\316\253\307\273\265\053
\116\105\326\112\320\046\314\345\162\312\010\152\245\225\343\025
\241\367\244\355\311\054\137\245\373\377\254\050\002\056\276\327
\173\273\343\161\173\220\026\323\007\136\106\123\174\067\007\102
\214\323\304\226\234\325\231\265\052\340\225\032\200\110\256\114
\071\007\316\314\107\244\122\225\053\272\270\373\255\322\063\123
\175\345\035\115\155\325\241\261\307\102\157\346\100\047\065\134
\243\050\267\007\215\347\215\063\220\347\043\237\373\120\234\171
\154\106\325\264\025\263\226\156\176\233\014\226\072\270\122\055
\077\326\133\341\373\010\302\204\376\044\250\243\211\332\254\152
\341\030\052\261\250\103\141\133\323\037\334\073\215\166\362\055
\350\215\165\337\027\063\154\075\123\373\173\313\101\137\377\334
\242\320\141\070\341\226\270\254\135\213\067\327\165\325\063\300

```
\231\021\256\235\101\301\162\165\204\276\002\101\102\137\147\044
\110\224\321\233\047\276\007\077\271\270\117\201\164\121\341\172
\267\355\235\043\342\276\340\325\050\004\023\074\061\003\236\335
\172\154\217\306\007\030\306\177\336\107\216\077\050\236\004\006
\317\245\124\064\167\275\354\211\233\351\027\103\337\133\333\137
\376\216\036\127\242\315\100\235\176\142\042\332\336\030\047
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "ISRG Root X1"

Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US

Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00

Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US

Not Valid Before: Thu Jun 04 11:04:38 2015

Not Valid After : Mon Jun 04 11:04:38 2035

Fingerprint (SHA-256):

96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6

Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "ISRG Root X1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\312\275\052\171\241\007\152\061\362\035\045\066\065\313\003\235
\103\051\245\350
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\014\322\371\340\332\027\163\351\355\206\115\245\343\160\347\116
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143
\202\213\000
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "AC RAIZ FNMT-RCM"
#
# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
# Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07
# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
# Not Valid Before: Wed Oct 29 15:59:56 2008
# Not Valid After : Tue Jan 01 00:00:00 2030
# Fingerprint (SHA-256):
EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
# Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\203\060\202\003\153\240\003\002\001\002\002\017\135
\223\215\060\147\066\310\006\035\032\307\124\204\151\007\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\073\061
\013\060\011\006\003\125\004\006\023\002\105\123\061\021\060\017
\006\003\125\004\012\014\010\106\116\115\124\055\122\103\115\061
\031\060\027\006\003\125\004\013\014\020\101\103\040\122\101\111
\132\040\106\116\115\124\055\122\103\115\060\036\027\015\060\070
\061\060\062\071\061\065\065\071\065\066\132\027\015\063\060\060
\061\060\061\060\060\060\060\060\060\132\060\073\061\013\060\011
\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003\125
\004\012\014\010\106\116\115\124\055\122\103\115\061\031\060\027
\006\003\125\004\013\014\020\101\103\040\122\101\111\132\040\106
```


\116\115\124\055\122\103\115\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\272\161\200\172\114\206\156\177
\310\023\155\300\306\175\034\000\227\217\054\014\043\273\020\232
\100\251\032\267\207\210\370\233\126\152\373\346\173\216\213\222
\216\247\045\135\131\021\333\066\056\267\121\027\037\251\010\037
\004\027\044\130\252\067\112\030\337\345\071\324\127\375\327\301
\054\221\001\221\342\042\324\003\300\130\374\167\107\354\217\076
\164\103\272\254\064\215\115\070\166\147\216\260\310\157\060\063
\130\161\134\264\365\153\156\324\001\120\270\023\176\154\112\243
\111\321\040\031\356\274\300\051\030\145\247\336\376\357\335\012
\220\041\347\032\147\222\102\020\230\137\117\060\274\076\034\105
\264\020\327\150\100\024\300\100\372\347\167\027\172\346\013\217
\145\133\074\331\232\122\333\265\275\236\106\317\075\353\221\005
\002\300\226\262\166\114\115\020\226\073\222\372\234\177\017\231
\337\276\043\065\105\036\002\134\376\265\250\233\231\045\332\136
\363\042\303\071\365\344\052\056\323\306\037\304\154\252\305\034
\152\001\005\112\057\322\305\301\250\064\046\135\146\245\322\002
\041\371\030\267\006\365\116\231\157\250\253\114\121\350\317\120
\030\305\167\310\071\011\054\111\222\062\231\250\273\027\027\171
\260\132\305\346\243\304\131\145\107\065\203\136\251\350\065\013
\231\273\344\315\040\306\233\112\006\071\265\150\374\042\272\356
\125\214\053\116\352\363\261\343\374\266\231\232\325\102\372\161
\115\010\317\207\036\152\161\175\371\323\264\351\245\161\201\173
\302\116\107\226\245\366\166\205\243\050\217\351\200\156\201\123
\245\155\137\270\110\371\302\371\066\246\056\111\377\270\226\302
\214\007\263\233\210\130\374\353\033\034\336\055\160\342\227\222
\060\241\211\343\274\125\250\047\326\113\355\220\255\213\372\143
\045\131\055\250\065\335\312\227\063\274\345\315\307\235\321\354
\357\136\016\112\220\006\046\143\255\271\331\065\055\007\272\166
\145\054\254\127\217\175\364\007\224\327\201\002\226\135\243\007
\111\325\172\320\127\371\033\347\123\106\165\252\260\171\102\313
\150\161\010\351\140\275\071\151\316\364\257\303\126\100\307\255
\122\242\011\344\157\206\107\212\037\353\050\047\135\203\040\257
\004\311\154\126\232\213\106\365\002\003\001\000\001\243\201\203
\060\201\200\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\367
\175\305\375\304\350\232\033\167\144\247\365\035\240\314\277\207
\140\232\155\060\076\006\003\125\035\040\004\067\060\065\060\063
\006\004\125\035\040\000\060\053\060\051\006\010\053\006\001\005
\005\007\002\001\026\035\150\164\164\160\072\057\057\167\167\167
\056\143\145\162\164\056\146\156\155\164\056\145\163\057\144\160
\143\163\057\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\002\001\000\007\220\112\337\363\043\116\360\303
\234\121\145\233\234\042\242\212\014\205\363\163\051\153\115\376
\001\342\251\014\143\001\277\004\147\245\235\230\137\375\001\023
\372\354\232\142\351\206\376\266\142\322\156\114\224\373\300\165

\105\174\145\014\370\262\067\317\254\017\317\215\157\371\031\367
\217\354\036\362\160\236\360\312\270\357\267\377\166\067\166\133
\366\156\210\363\257\142\062\042\223\015\072\152\216\024\146\014
\055\123\164\127\145\036\325\262\335\043\201\073\245\146\043\047
\147\011\217\341\167\252\103\315\145\121\010\355\121\130\376\346
\071\371\313\107\204\244\025\361\166\273\244\356\244\073\304\137
\357\262\063\226\021\030\267\311\145\276\030\341\243\244\334\372
\030\371\323\274\023\233\071\172\064\272\323\101\373\372\062\212
\052\267\053\206\013\151\203\070\276\315\212\056\013\160\255\215
\046\222\356\036\365\001\053\012\331\326\227\233\156\340\250\031
\034\072\041\213\014\036\100\255\003\347\335\146\176\365\271\040
\015\003\350\226\371\202\105\324\071\340\240\000\135\327\230\346
\175\236\147\163\303\232\052\367\253\213\241\072\024\357\064\274
\122\016\211\230\232\004\100\204\035\176\105\151\223\127\316\353
\316\370\120\174\117\034\156\004\103\233\371\326\073\043\030\351
\352\216\321\115\106\215\361\073\344\152\312\272\373\043\267\233
\372\231\001\051\132\130\132\055\343\371\324\155\016\046\255\301
\156\064\274\062\370\014\005\372\145\243\333\073\067\203\042\351
\326\334\162\063\375\135\362\040\275\166\074\043\332\050\367\371
\033\353\131\144\325\334\137\162\176\040\374\315\211\265\220\147
\115\142\172\077\116\255\035\303\071\376\172\364\050\026\337\101
\366\110\200\005\327\017\121\171\254\020\253\324\354\003\146\346
\152\260\272\061\222\102\100\152\276\072\323\162\341\152\067\125
\274\254\035\225\267\151\141\362\103\221\164\346\240\323\012\044
\106\241\010\257\326\332\105\031\226\324\123\035\133\204\171\360
\300\367\107\357\213\217\305\006\256\235\114\142\235\377\106\004
\370\323\311\266\020\045\100\165\376\026\252\311\112\140\206\057
\272\357\060\167\344\124\342\270\204\231\130\200\252\023\213\121
\072\117\110\366\213\266\263

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "AC RAIZ FNMT-RCM"

Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07

Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

Not Valid Before: Wed Oct 29 15:59:56 2008

Not Valid After : Tue Jan 01 00:00:00 2030

Fingerprint (SHA-256):

EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA

Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\354\120\065\007\262\025\304\225\142\031\342\250\232\133\102\231
\054\114\054\040
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\342\011\004\264\323\275\321\240\024\375\032\322\107\304\127\035
END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 1"
#
# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
# Subject: CN=Amazon Root CA 1,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sun Jan 17 00:00:00 2038
# Fingerprint (SHA-256):
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

```

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\101\060\202\002\051\240\003\002\001\002\002\023\006
\154\237\317\231\277\214\012\071\342\360\170\212\103\346\226\066
\133\312\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172
\157\156\040\122\157\157\164\040\103\101\040\061\060\036\027\015
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\063
\070\060\061\061\067\060\060\060\060\060\060\132\060\071\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157
\157\164\040\103\101\040\061\060\202\001\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060
\202\001\012\002\202\001\001\000\262\170\200\161\312\170\325\343
\161\257\107\200\120\164\175\156\330\327\210\166\364\231\150\367
\130\041\140\371\164\204\001\057\254\002\055\206\323\240\103\172
\116\262\244\320\066\272\001\276\215\333\110\310\007\027\066\114
\364\356\210\043\307\076\353\067\365\265\031\370\111\150\260\336
\327\271\166\070\035\141\236\244\376\202\066\245\345\112\126\344
\105\341\371\375\264\026\372\164\332\234\233\065\071\057\372\260
\040\120\006\154\172\320\200\262\246\371\257\354\107\031\217\120
\070\007\334\242\207\071\130\370\272\325\251\371\110\147\060\226
\356\224\170\136\157\211\243\121\300\060\206\146\241\105\146\272
\124\353\243\303\221\371\110\334\377\321\350\060\055\175\055\164
\160\065\327\210\044\367\236\304\131\156\273\163\207\027\362\062
\106\050\270\103\372\267\035\252\312\264\362\237\044\016\055\113
\367\161\134\136\151\377\352\225\002\313\070\212\256\120\070\157
\333\373\055\142\033\305\307\036\124\341\167\340\147\310\017\234
\207\043\326\077\100\040\177\040\200\304\200\114\076\073\044\046
\216\004\256\154\232\310\252\015\002\003\001\000\001\243\102\060
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\206\060\035\006\003\125\035\016\004\026\004\024\204\030\314
\205\064\354\274\014\224\224\056\010\131\234\307\262\020\116\012
\010\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\001\001\000\230\362\067\132\101\220\241\032\305\166\121
\050\040\066\043\016\256\346\050\273\252\370\224\256\110\244\060
\177\033\374\044\215\113\264\310\241\227\366\266\361\172\160\310

```
\123\223\314\010\050\343\230\045\317\043\244\371\336\041\323\174
\205\011\255\116\232\165\072\302\013\152\211\170\166\104\107\030
\145\154\215\101\216\073\177\232\313\364\265\247\120\327\005\054
\067\350\003\113\255\351\141\240\002\156\365\362\360\305\262\355
\133\267\334\372\224\134\167\236\023\245\177\122\255\225\362\370
\223\073\336\213\134\133\312\132\122\133\140\257\024\367\113\357
\243\373\237\100\225\155\061\124\374\102\323\307\106\037\043\255
\331\017\110\160\232\331\165\170\161\321\162\103\064\165\156\127
\131\302\002\134\046\140\051\317\043\031\026\216\210\103\245\324
\344\313\010\373\043\021\103\350\103\051\162\142\241\251\135\136
\010\324\220\256\270\330\316\024\302\320\125\362\206\366\304\223
\103\167\146\141\300\271\350\101\327\227\170\140\003\156\112\162
\256\245\321\175\272\020\236\206\154\033\212\271\131\063\370\353
\304\220\276\361\271
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Amazon Root CA 1"
```

```
# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
```

```
# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
```

```
# Subject: CN=Amazon Root CA 1,O=Amazon,C=US
```

```
# Not Valid Before: Tue May 26 00:00:00 2015
```

```
# Not Valid After : Sun Jan 17 00:00:00 2038
```

```
# Fingerprint (SHA-256):
```

```
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
```

```
# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Amazon Root CA 1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\215\247\371\145\354\136\374\067\221\017\034\156\131\375\301\314
\152\156\336\026
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\103\306\277\256\354\376\255\057\030\306\210\150\060\374\310\346
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
```

\346\226\066\133\312

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Amazon Root CA 2"

#

Issuer: CN=Amazon Root CA 2,O=Amazon,C=US

Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37

Subject: CN=Amazon Root CA 2,O=Amazon,C=US

Not Valid Before: Tue May 26 00:00:00 2015

Not Valid After : Sat May 26 00:00:00 2040

Fingerprint (SHA-256):

1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4

Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Amazon Root CA 2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\101\060\202\003\051\240\003\002\001\002\002\023\006
\154\237\322\226\065\206\237\012\017\345\206\170\370\133\046\273
\212\067\060\015\006\011\052\206\110\206\367\015\001\001\014\005
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172

\157\156\040\122\157\157\164\040\103\101\040\062\060\036\027\015
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\064
\060\060\065\062\066\060\060\060\060\060\132\060\071\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157
\157\164\040\103\101\040\062\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\255\226\237\055\234\112\114\112
\201\171\121\231\354\212\313\153\140\121\023\274\115\155\006\374
\260\010\215\335\031\020\152\307\046\014\065\330\300\157\040\204
\351\224\261\233\205\003\303\133\333\112\350\310\370\220\166\331
\133\117\343\114\350\006\066\115\314\232\254\075\014\220\053\222
\324\006\031\140\254\067\104\171\205\201\202\255\132\067\340\015
\314\235\246\114\122\166\352\103\235\267\004\321\120\366\125\340
\325\322\246\111\205\351\067\351\312\176\256\134\225\115\110\232
\077\256\040\132\155\210\225\331\064\270\122\032\103\220\260\277
\154\005\271\266\170\267\352\320\344\072\074\022\123\142\377\112
\362\173\276\065\005\251\022\064\343\363\144\164\142\054\075\000
\111\132\050\376\062\104\273\207\335\145\047\002\161\073\332\112
\367\037\332\315\367\041\125\220\117\017\354\256\202\341\237\153
\331\105\323\273\360\137\207\355\074\054\071\206\332\077\336\354
\162\125\353\171\243\255\333\335\174\260\272\034\316\374\336\117
\065\166\317\017\370\170\037\152\066\121\106\047\141\133\351\236
\317\360\242\125\175\174\045\212\157\057\264\305\317\204\056\053
\375\015\121\020\154\373\137\033\274\033\176\305\256\073\230\001
\061\222\377\013\127\364\232\262\271\127\351\253\357\015\166\321
\360\356\364\316\206\247\340\156\351\264\151\241\337\151\366\063
\306\151\056\227\023\236\245\207\260\127\020\201\067\311\123\263
\273\177\366\222\321\234\320\030\364\222\156\332\203\117\246\143
\231\114\245\373\136\357\041\144\172\040\137\154\144\205\025\313
\067\351\142\014\013\052\026\334\001\056\062\332\076\113\365\236
\072\366\027\100\224\357\236\221\010\206\372\276\143\250\132\063
\354\313\164\103\225\371\154\151\122\066\307\051\157\374\125\003
\134\037\373\237\275\107\353\347\111\107\225\013\116\211\042\011
\111\340\365\141\036\361\277\056\212\162\156\200\131\377\127\072
\371\165\062\243\116\137\354\355\050\142\331\115\163\362\314\201
\027\140\355\315\353\334\333\247\312\305\176\002\275\362\124\010
\124\375\264\055\011\054\027\124\112\230\321\124\341\121\147\010
\322\355\156\176\157\077\322\055\201\131\051\146\313\220\071\225
\021\036\164\047\376\335\353\257\002\003\001\000\001\243\102\060
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\206\060\035\006\003\125\035\016\004\026\004\024\260\014\360
\114\060\364\005\130\002\110\375\063\345\122\257\113\204\343\146
\122\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000
\003\202\002\001\000\252\250\200\217\016\170\243\340\242\324\315
\346\365\230\172\073\352\000\003\260\227\016\223\274\132\250\366

\054\214\162\207\251\261\374\177\163\375\143\161\170\245\207\131
\317\060\341\015\020\262\023\132\155\202\365\152\346\200\237\240
\005\013\150\344\107\153\307\152\337\266\375\167\062\162\345\030
\372\011\364\240\223\054\135\322\214\165\205\166\145\220\014\003
\171\267\061\043\143\255\170\203\011\206\150\204\312\377\371\317
\046\232\222\171\347\315\113\305\347\141\247\027\313\363\251\022
\223\223\153\247\350\057\123\222\304\140\130\260\314\002\121\030
\133\205\215\142\131\143\266\255\264\336\232\373\046\367\000\047
\300\135\125\067\164\231\311\120\177\343\131\056\104\343\054\045
\356\354\114\062\167\264\237\032\351\113\135\040\305\332\375\034
\207\026\306\103\350\324\273\046\232\105\160\136\251\013\067\123
\342\106\173\047\375\340\106\362\211\267\314\102\266\313\050\046
\156\331\245\311\072\310\101\023\140\367\120\214\025\256\262\155
\032\025\032\127\170\346\222\052\331\145\220\202\077\154\002\257
\256\022\072\047\226\066\004\327\035\242\200\143\251\233\361\345
\272\264\174\024\260\116\311\261\037\164\137\070\366\121\352\233
\372\054\242\021\324\251\055\047\032\105\261\257\262\116\161\015
\300\130\106\326\151\006\313\123\313\263\376\153\101\315\101\176
\175\114\017\174\162\171\172\131\315\136\112\016\254\233\251\230
\163\171\174\264\364\314\271\270\007\014\262\164\134\270\307\157
\210\241\220\247\364\252\371\277\147\072\364\032\025\142\036\267
\237\276\075\261\051\257\147\241\022\362\130\020\031\123\003\060
\033\270\032\211\366\234\275\227\003\216\243\011\363\035\213\041
\361\264\337\344\034\321\237\145\002\006\352\134\326\023\263\204
\357\242\245\134\214\167\051\247\150\300\153\256\100\322\250\264
\352\315\360\215\113\070\234\031\232\033\050\124\270\211\220\357
\312\165\201\076\036\362\144\044\307\030\257\116\377\107\236\007
\366\065\145\244\323\012\126\377\365\027\144\154\357\250\042\045
\111\223\266\337\000\027\332\130\176\135\356\305\033\260\321\321
\137\041\020\307\371\363\272\002\012\047\007\305\361\326\307\323
\340\373\011\140\154

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Amazon Root CA 2"

Issuer: CN=Amazon Root CA 2,O=Amazon,C=US

Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37

Subject: CN=Amazon Root CA 2,O=Amazon,C=US

Not Valid Before: Tue May 26 00:00:00 2015

Not Valid After : Sat May 26 00:00:00 2040

Fingerprint (SHA-256):

1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4

Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE


```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\132\214\357\105\327\246\230\131\166\172\214\213\104\226\265\170
\317\107\113\032
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\310\345\215\316\250\102\342\172\300\052\134\174\236\046\277\146
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 3"
#
# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US
# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a
# Subject: CN=Amazon Root CA 3,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
# Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"

```

CKA_ISSUER MULTILINE_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112

END

CKA_VALUE MULTILINE_OCTAL

\060\202\001\266\060\202\001\133\240\003\002\001\002\002\023\006
\154\237\325\164\227\066\146\077\073\013\232\331\350\236\166\003
\362\112\060\012\006\010\052\206\110\316\075\004\003\002\060\071
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040
\122\157\157\164\040\103\101\040\063\060\036\027\015\061\065\060
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065
\062\066\060\060\060\060\060\132\060\071\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040
\103\101\040\063\060\131\060\023\006\007\052\206\110\316\075\002
\001\006\010\052\206\110\316\075\003\001\007\003\102\000\004\051
\227\247\306\101\177\300\015\233\350\001\033\126\306\362\122\245
\272\055\262\022\350\322\056\327\372\311\305\330\252\155\037\163
\201\073\073\230\153\071\174\063\245\305\116\206\216\200\027\150
\142\105\127\175\104\130\035\263\067\345\147\010\353\146\336\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\035\006\003\125\035\016\004\026\004\024\253
\266\333\327\006\236\067\254\060\206\007\221\160\307\234\304\031
\261\170\300\060\012\006\010\052\206\110\316\075\004\003\002\003
\111\000\060\106\002\041\000\340\205\222\243\027\267\215\371\053
\006\245\223\254\032\230\150\141\162\372\341\241\320\373\034\170
\140\246\103\231\305\270\304\002\041\000\234\002\357\361\224\234
\263\226\371\353\306\052\370\266\054\376\072\220\024\026\327\214
\143\044\110\034\337\060\175\325\150\073

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Amazon Root CA 3"

Issuer: CN=Amazon Root CA 3,O=Amazon,C=US

Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a

Subject: CN=Amazon Root CA 3,O=Amazon,C=US

```

# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
# Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\015\104\335\214\074\214\032\032\130\165\144\201\351\017\056\052
\377\263\322\156
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\240\324\357\013\367\265\330\111\225\052\354\365\304\374\201\207
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 4"
#
# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US
# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e
# Subject: CN=Amazon Root CA 4,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92
# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 4"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016

END

CKA_VALUE MULTILINE_OCTAL

\060\202\001\362\060\202\001\170\240\003\002\001\002\002\023\006
\154\237\327\301\273\020\114\051\103\345\161\173\173\054\310\032
\301\016\060\012\006\010\052\206\110\316\075\004\003\003\060\071
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040
\122\157\157\164\040\103\101\040\064\060\036\027\015\061\065\060
\065\062\066\060\060\060\060\060\060\132\027\015\064\060\060\065
\062\066\060\060\060\060\060\060\132\060\071\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040
\103\101\040\064\060\166\060\020\006\007\052\206\110\316\075\002
\001\006\005\053\201\004\000\042\003\142\000\004\322\253\212\067
\117\243\123\015\376\301\212\173\113\250\173\106\113\143\260\142
\366\055\033\333\010\161\041\322\000\350\143\275\232\047\373\360
\071\156\135\352\075\245\311\201\252\243\133\040\230\105\135\026
\333\375\350\020\155\343\234\340\343\275\137\204\142\363\160\144
\063\240\313\044\057\160\272\210\241\052\240\165\370\201\256\142
\006\304\201\333\071\156\051\260\036\372\056\134\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\206\060\035\006\003\125\035\016\004\026\004\024\323\354\307\072
\145\156\314\341\332\166\232\126\373\234\363\206\155\127\345\201
\060\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060
\145\002\060\072\213\041\361\275\176\021\255\320\357\130\226\057
\326\353\235\176\220\215\053\317\146\125\303\054\343\050\251\160
\012\107\016\360\067\131\022\377\055\231\224\050\116\052\117\065
\115\063\132\002\061\000\352\165\000\116\073\304\072\224\022\221

```
\311\130\106\235\041\023\162\247\210\234\212\344\114\112\333\226
\324\254\213\153\153\111\022\123\063\255\327\344\276\044\374\265
\012\166\324\245\274\020
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Trust for "Amazon Root CA 4"

Issuer: CN=Amazon Root CA 4,O=Amazon,C=US

Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e

Subject: CN=Amazon Root CA 4,O=Amazon,C=US

Not Valid Before: Tue May 26 00:00:00 2015

Not Valid After : Sat May 26 00:00:00 2040

Fingerprint (SHA-256):

E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92

Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Amazon Root CA 4"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\366\020\204\007\326\370\273\147\230\014\302\342\104\302\353\256
\034\357\143\276
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\211\274\047\325\353\027\215\006\152\151\325\375\211\107\264\315
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

Certificate "Symantec Class 1 Public Primary Certification Authority - G6"

#

Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust

Network,O=Symantec Corporation,C=US
Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98
Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Not Valid Before: Tue Oct 18 00:00:00 2011
Not Valid After : Tue Dec 01 23:59:59 2037
Fingerprint (SHA-256):
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
For Email Distrust After: Wed Aug 31 00:00:00 2022
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320
\363\230
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\044
\062\165\362\035\057\322\011\063\367\264\152\312\320\363\230\060

\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145
\143\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\061
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\307\071\327
\111\144\251\231\202\042\114\352\105\331\007\026\343\173\364\203
\350\231\163\372\153\261\066\340\232\167\240\100\302\201\215\001
\307\314\214\275\217\175\367\171\343\172\114\003\115\331\373\375
\207\070\050\054\335\232\213\124\010\333\147\373\033\214\376\050
\222\057\276\267\262\110\247\201\241\330\136\210\303\314\071\100
\101\132\321\334\345\332\020\237\057\332\001\115\375\056\106\174
\371\056\047\012\151\067\356\221\243\033\152\314\104\277\033\307
\303\324\021\262\120\140\227\011\275\056\042\365\101\204\146\237
\315\100\246\251\000\200\301\037\225\222\237\336\363\110\357\333
\035\167\141\374\177\337\356\226\244\162\320\266\076\377\170\047
\257\313\222\025\151\010\333\143\020\342\346\227\254\156\334\254
\366\242\316\036\107\231\271\211\267\022\346\241\324\315\131\021
\147\303\157\205\330\102\116\050\276\131\125\131\004\225\253\217
\067\200\277\015\360\374\037\072\144\061\130\201\170\327\342\065
\366\040\077\051\270\217\026\156\076\110\334\265\114\007\341\362
\032\352\176\012\171\326\250\275\353\135\206\053\115\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\063\101\350\310\071\022\025\223\110\362\226\062\056\132
\365\332\224\137\123\140\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\001\001\000\025\343\163\127\261\027
\266\137\111\151\104\246\366\136\172\147\254\322\336\165\111\253
\376\045\125\307\072\311\104\025\020\156\277\061\153\313\331\007

```
\223\177\034\205\143\000\343\062\022\340\314\313\373\071\154\217
\342\123\342\074\100\063\331\244\214\107\346\255\130\373\211\257
\343\336\206\051\126\064\054\105\270\022\372\104\211\156\055\024
\045\050\044\001\145\326\352\122\254\005\156\126\022\011\075\320
\164\364\327\275\006\312\250\072\215\126\102\372\215\162\076\164
\361\003\162\337\207\033\136\016\172\125\226\054\070\267\230\205
\315\115\063\104\311\224\217\132\061\060\067\113\243\072\022\263
\347\066\321\041\150\113\055\070\346\123\256\034\045\126\010\126
\003\147\204\235\306\303\316\044\142\307\114\066\317\260\006\104
\267\365\137\002\335\331\124\351\057\220\116\172\310\116\203\100
\014\232\227\074\067\277\277\354\366\360\264\205\167\050\301\013
\310\147\202\020\027\070\242\267\006\352\233\277\072\370\351\043
\007\277\164\340\230\070\025\125\170\356\162\000\134\031\243\364
\322\063\340\377\275\321\124\071\051\017
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
\062\062\060\070\063\061\060\060\060\060\060\060\132
```

END

Trust for "Symantec Class 1 Public Primary Certification Authority - G6"

Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US

Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98

Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US

Not Valid Before: Tue Oct 18 00:00:00 2011

Not Valid After : Tue Dec 01 23:59:59 2037

Fingerprint (SHA-256):

9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9

Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\121\177\141\036\051\221\153\123\202\373\162\347\104\331\215\303
\314\123\155\144
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\057\250\264\332\366\144\113\036\202\371\106\075\124\032\174\260
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
```



```
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320
\363\230
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

Certificate "Symantec Class 2 Public Primary Certification Authority - G6"

#

Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust Network,O=Symantec Corporation,C=US

Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41

Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust Network,O=Symantec Corporation,C=US

Not Valid Before: Tue Oct 18 00:00:00 2011

Not Valid After : Tue Dec 01 23:59:59 2037

Fingerprint (SHA-256):

CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0

Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F

For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\144
\202\236\374\067\036\164\135\374\227\377\227\310\261\377\101\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145
\143\040\103\154\141\163\163\040\062\040\120\165\142\154\151\143
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\062
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\315\314\351
\005\310\143\205\313\077\100\143\027\275\030\372\065\346\004\147
\127\145\230\051\244\117\311\134\217\017\064\322\370\332\250\023
\142\252\270\036\120\147\170\260\026\114\240\071\251\025\172\256

\355\322\242\300\360\220\067\051\030\046\134\350\015\074\266\154
\111\077\301\340\334\331\113\266\024\031\013\246\323\226\341\326
\011\343\031\046\034\371\037\145\113\371\032\103\034\000\203\326
\320\252\111\242\324\333\346\142\070\272\120\024\103\155\371\061
\370\126\026\331\070\002\221\317\353\154\335\273\071\116\231\341
\060\147\105\361\324\360\215\303\337\376\362\070\007\041\175\000
\136\126\104\263\344\140\275\221\053\234\253\133\004\162\017\262
\050\331\162\253\005\040\102\045\251\133\003\152\040\020\314\061
\360\053\332\065\054\320\373\232\227\116\360\202\113\053\330\137
\066\243\013\055\257\143\015\035\045\177\241\156\134\142\241\215
\050\076\241\374\034\040\370\001\057\272\125\232\021\260\031\322
\310\120\171\153\016\152\005\327\252\004\066\262\243\362\341\137
\167\247\167\234\345\036\334\351\337\152\301\145\135\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\207\214\040\225\310\230\112\321\326\200\006\112\220\064
\104\337\034\115\277\260\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\001\001\000\201\216\262\245\146\226
\267\041\245\266\357\157\043\132\137\333\201\305\102\245\170\301
\151\375\364\074\327\371\134\153\160\162\032\374\132\227\115\000
\200\210\210\202\212\303\161\015\216\305\211\233\054\355\215\013
\322\162\124\365\175\324\134\103\127\351\363\256\245\002\021\366
\166\053\201\127\335\175\332\164\060\375\124\107\366\340\026\156
\246\264\012\110\346\347\165\007\017\051\031\071\316\171\364\266
\154\305\137\231\325\037\113\372\337\155\054\074\015\124\200\160
\360\210\013\200\317\306\150\242\270\035\160\331\166\214\374\356
\245\311\317\255\035\317\231\045\127\132\142\105\313\026\153\275
\111\315\245\243\214\151\171\045\256\270\114\154\213\100\146\113
\026\077\317\002\032\335\341\154\153\007\141\152\166\025\051\231
\177\033\335\210\200\301\277\265\217\163\305\246\226\043\204\246
\050\206\044\063\152\001\056\127\163\045\266\136\277\217\346\035
\141\250\100\051\147\035\207\233\035\177\233\237\231\315\061\326
\124\276\142\273\071\254\150\022\110\221\040\245\313\261\335\376
\157\374\132\344\202\125\131\257\061\251

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

Trust for "Symantec Class 2 Public Primary Certification Authority - G6"

Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US

Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41

Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US

```

# Not Valid Before: Tue Oct 18 00:00:00 2011
# Not Valid After : Tue Dec 01 23:59:59 2037
# Fingerprint (SHA-256):
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\100\263\061\240\351\277\350\125\274\071\223\312\160\117\116\302
\121\324\035\217
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\175\013\203\345\373\174\255\007\117\040\251\265\337\143\355\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root CA 3 2013"
#
# Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Serial Number: 1039788 (0xfddac)
# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Not Valid Before: Fri Sep 20 08:25:51 2013
# Not Valid After : Wed Sep 20 08:25:51 2028
# Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57

```

Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\016\060\202\002\366\240\003\002\001\002\002\003\017
\335\254\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003
\014\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\101\040\063\040\062\060\061\063\060\036\027\015\061\063\060\071
\062\060\060\070\062\065\065\061\132\027\015\062\070\060\071\062
\060\060\070\062\065\065\061\132\060\105\061\013\060\011\006\003
\125\004\006\023\002\104\105\061\025\060\023\006\003\125\004\012
\014\014\104\055\124\162\165\163\164\040\107\155\142\110\061\037
\060\035\006\003\125\004\003\014\026\104\055\124\122\125\123\124
\040\122\157\157\164\040\103\101\040\063\040\062\060\061\063\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\304\173\102\222\202\037\354\355\124\230\216\022\300\312\011\337
\223\156\072\223\134\033\344\020\167\236\116\151\210\154\366\341
\151\362\366\233\242\141\261\275\007\040\164\230\145\361\214\046
\010\315\250\065\312\200\066\321\143\155\350\104\172\202\303\154
\136\336\273\350\066\322\304\150\066\214\237\062\275\204\042\340
\334\302\356\020\106\071\155\257\223\071\256\207\346\303\274\011
\311\054\153\147\133\331\233\166\165\114\013\340\273\305\327\274
```

\076\171\362\137\276\321\220\127\371\256\366\146\137\061\277\323
\155\217\247\272\112\363\043\145\273\267\357\243\045\327\012\352
\130\266\357\210\372\372\171\262\122\130\325\360\254\214\241\121
\164\051\225\252\121\073\220\062\003\237\034\162\164\220\336\075
\355\141\322\345\343\375\144\107\345\271\267\112\251\367\037\256
\226\206\004\254\057\343\244\201\167\267\132\026\377\330\017\077
\366\267\170\314\244\257\372\133\074\022\133\250\122\211\162\357
\210\363\325\104\201\206\225\043\237\173\335\274\331\064\357\174
\224\074\252\300\101\302\343\235\120\032\300\344\031\042\374\263
\002\003\001\000\001\243\202\001\005\060\202\001\001\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035
\006\003\125\035\016\004\026\004\024\077\220\310\175\307\025\157
\363\044\217\251\303\057\113\242\017\041\262\057\347\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\276
\006\003\125\035\037\004\201\266\060\201\263\060\164\240\162\240
\160\206\156\154\144\141\160\072\057\057\144\151\162\145\143\164
\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164\057
\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157\157
\164\045\062\060\103\101\045\062\060\063\045\062\060\062\060\061
\063\054\117\075\104\055\124\162\165\163\164\045\062\060\107\155
\142\110\054\103\075\104\105\077\143\145\162\164\151\146\151\143
\141\164\145\162\145\166\157\143\141\164\151\157\156\154\151\163
\164\060\073\240\071\240\067\206\065\150\164\164\160\072\057\057
\143\162\154\056\144\055\164\162\165\163\164\056\156\145\164\057
\143\162\154\057\144\055\164\162\165\163\164\137\162\157\157\164
\137\143\141\137\063\137\062\060\061\063\056\143\162\154\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\016\131\016\130\344\164\110\043\104\317\064\041\265\234
\024\032\255\232\113\267\263\210\155\134\251\027\160\360\052\237
\215\173\371\173\205\372\307\071\350\020\010\260\065\053\137\317
\002\322\323\234\310\013\036\356\005\124\256\067\223\004\011\175
\154\217\302\164\274\370\034\224\276\061\001\100\055\363\044\040
\267\204\125\054\134\310\365\164\112\020\031\213\243\307\355\065
\326\011\110\323\016\300\272\071\250\260\106\002\260\333\306\210
\131\302\276\374\173\261\053\317\176\142\207\125\226\314\001\157
\233\147\041\225\065\213\370\020\374\161\033\267\113\067\151\246
\073\326\354\213\356\301\260\363\045\311\217\222\175\241\352\303
\312\104\277\046\245\164\222\234\343\164\353\235\164\331\313\115
\207\330\374\264\151\154\213\240\103\007\140\170\227\351\331\223
\174\302\106\274\233\067\122\243\355\212\074\023\251\173\123\113
\111\232\021\005\054\013\156\126\254\037\056\202\154\340\151\147
\265\016\155\055\331\344\300\025\361\077\372\030\162\341\025\155
\047\133\055\060\050\053\237\110\232\144\053\231\357\362\165\111
\137\134

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```
# Trust for "D-TRUST Root CA 3 2013"
# Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Serial Number: 1039788 (0xfddac)
# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Not Valid Before: Fri Sep 20 08:25:51 2013
# Not Valid After : Wed Sep 20 08:25:51 2028
# Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
# Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\154\174\314\347\324\256\121\137\231\010\315\077\366\350\303\170
\337\157\357\227
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\042\146\230\176\326\003\340\301\161\346\165\315\126\105\277
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
#
# Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
# Serial Number: 1 (0x1)
# Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
# Not Valid Before: Mon Nov 25 08:25:55 2013
# Not Valid After : Sun Oct 25 08:25:55 2043
# Fingerprint (SHA-256):
```

46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\143\060\202\003\113\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122\061

\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145\040
\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003\125
\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154\151
\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157\152
\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165\162
\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055\060
\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145\162
\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145
\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060\064
\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040\113
\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040\123
\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165\162
\165\155\040\061\060\036\027\015\061\063\061\061\062\065\060\070
\062\065\065\065\132\027\015\064\063\061\060\062\065\060\070\062
\065\065\065\132\060\201\322\061\013\060\011\006\003\125\004\006
\023\002\124\122\061\030\060\026\006\003\125\004\007\023\017\107
\145\142\172\145\040\055\040\113\157\143\141\145\154\151\061\102
\060\100\006\003\125\004\012\023\071\124\165\162\153\151\171\145
\040\102\151\154\151\155\163\145\154\040\166\145\040\124\145\153
\156\157\154\157\152\151\153\040\101\162\141\163\164\151\162\155
\141\040\113\165\162\165\155\165\040\055\040\124\125\102\111\124
\101\113\061\055\060\053\006\003\125\004\013\023\044\113\141\155
\165\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040
\115\145\162\153\145\172\151\040\055\040\113\141\155\165\040\123
\115\061\066\060\064\006\003\125\004\003\023\055\124\125\102\111
\124\101\113\040\113\141\155\165\040\123\115\040\123\123\114\040
\113\157\153\040\123\145\162\164\151\146\151\153\141\163\151\040
\055\040\123\165\162\165\155\040\061\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\257\165\060\063\252\273
\153\323\231\054\022\067\204\331\215\173\227\200\323\156\347\377
\233\120\225\076\220\225\126\102\327\031\174\046\204\215\222\372
\001\035\072\017\342\144\070\267\214\274\350\210\371\213\044\253
\056\243\365\067\344\100\216\030\045\171\203\165\037\073\377\154
\250\305\306\126\370\264\355\212\104\243\253\154\114\374\035\320
\334\357\150\275\317\344\252\316\360\125\367\242\064\324\203\153
\067\174\034\302\376\265\003\354\127\316\274\264\265\305\355\000
\017\123\067\052\115\364\117\014\203\373\206\317\313\376\214\116
\275\207\371\247\213\041\127\234\172\337\003\147\211\054\235\227
\141\247\020\270\125\220\177\016\055\047\070\164\337\347\375\332
\116\022\343\115\025\042\002\310\340\340\374\017\255\212\327\311
\124\120\314\073\017\312\026\200\204\320\121\126\303\216\126\177
\211\042\063\057\346\205\012\275\245\250\033\066\336\323\334\054
\155\073\307\023\275\131\043\054\346\345\244\367\330\013\355\352
\220\100\104\250\225\273\223\325\320\200\064\266\106\170\016\037
\000\223\106\341\356\351\371\354\117\027\002\003\001\000\001\243
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\145\077
\307\212\206\306\074\335\074\124\134\065\370\072\355\122\014\107

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\127\310\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\052\077\341\361\062\216\256\341\230
\134\113\136\317\153\036\152\011\322\042\251\022\307\136\127\175
\163\126\144\200\204\172\223\344\011\271\020\315\237\052\047\341
\000\167\276\110\310\065\250\201\237\344\270\054\311\177\016\260
\322\113\067\135\352\271\325\013\136\064\275\364\163\051\303\355
\046\025\234\176\010\123\212\130\215\320\113\050\337\301\263\337
\040\363\371\343\343\072\337\314\234\224\330\116\117\303\153\027
\267\367\162\350\255\146\063\265\045\123\253\340\370\114\251\235
\375\362\015\272\256\271\331\252\306\153\371\223\273\256\253\270
\227\074\003\032\272\103\306\226\271\105\162\070\263\247\241\226
\075\221\173\176\300\041\123\114\207\355\362\013\124\225\121\223
\325\042\245\015\212\361\223\016\076\124\016\260\330\311\116\334
\362\061\062\126\352\144\371\352\265\235\026\146\102\162\363\177
\323\261\061\103\374\244\216\027\361\155\043\253\224\146\370\255
\373\017\010\156\046\055\177\027\007\011\262\214\373\120\300\237
\226\215\317\266\375\000\235\132\024\232\277\002\104\365\301\302
\237\042\136\242\017\241\343
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

Serial Number: 1 (0x1)

Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

Not Valid Before: Mon Nov 25 08:25:55 2013

Not Valid After : Sun Oct 25 08:25:55 2043

Fingerprint (SHA-256):

46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16

Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\061\103\144\233\354\316\047\354\355\072\077\013\217\015\344\350
\221\335\356\312
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\334\000\201\334\151\057\076\057\260\073\366\075\132\221\216\111
```

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GDCA TrustAUTH R5 ROOT"

#

Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN

Serial Number:7d:09:97:fe:f0:47:ea:7a

Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN

Not Valid Before: Wed Nov 26 05:13:15 2014

Not Valid After : Mon Dec 31 15:59:59 2040

Fingerprint (SHA-256):

BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93

Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114

\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\175\011\227\376\360\107\352\172

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\210\060\202\003\160\240\003\002\001\002\002\010\175
\011\227\376\360\107\352\172\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\142\061\013\060\011\006\003\125\004
\006\023\002\103\116\061\062\060\060\006\003\125\004\012\014\051
\107\125\101\116\107\040\104\117\116\107\040\103\105\122\124\111
\106\111\103\101\124\105\040\101\125\124\110\117\122\111\124\131
\040\103\117\056\054\114\124\104\056\061\037\060\035\006\003\125
\004\003\014\026\107\104\103\101\040\124\162\165\163\164\101\125
\124\110\040\122\065\040\122\117\117\124\060\036\027\015\061\064
\061\061\062\066\060\065\061\063\061\065\132\027\015\064\060\061
\062\063\061\061\065\065\071\065\071\132\060\142\061\013\060\011
\006\003\125\004\006\023\002\103\116\061\062\060\060\006\003\125
\004\012\014\051\107\125\101\116\107\040\104\117\116\107\040\103
\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110\117
\122\111\124\131\040\103\117\056\054\114\124\104\056\061\037\060
\035\006\003\125\004\003\014\026\107\104\103\101\040\124\162\165
\163\164\101\125\124\110\040\122\065\040\122\117\117\124\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\331
\243\026\360\310\164\164\167\233\357\063\015\073\006\176\125\374
\265\140\217\166\206\022\102\175\126\146\076\210\202\355\162\143
\016\236\213\335\064\054\002\121\121\303\031\375\131\124\204\311
\361\153\263\114\260\351\350\106\135\070\306\242\247\056\021\127
\272\202\025\242\234\217\155\260\231\112\012\362\353\211\160\143
\116\171\304\267\133\275\242\135\261\362\101\002\053\255\251\072
\243\354\171\012\354\137\072\343\375\357\200\074\255\064\233\032
\253\210\046\173\126\242\202\206\037\353\065\211\203\177\137\256
\051\116\075\266\156\354\256\301\360\047\233\256\343\364\354\357
\256\177\367\206\075\162\172\353\245\373\131\116\247\353\225\214
\042\071\171\341\055\010\217\314\274\221\270\101\367\024\301\043

\251\303\255\232\105\104\263\262\327\054\315\306\051\342\120\020
\256\134\313\202\216\027\030\066\175\227\346\210\232\260\115\064
\011\364\054\271\132\146\052\260\027\233\236\036\166\235\112\146
\061\101\337\077\373\305\006\357\033\266\176\032\106\066\367\144
\143\073\343\071\030\043\347\147\165\024\325\165\127\222\067\275
\276\152\033\046\120\362\066\046\006\220\305\160\001\144\155\166
\146\341\221\333\156\007\300\141\200\056\262\056\057\214\160\247
\321\073\074\263\221\344\156\266\304\073\160\362\154\222\227\011
\315\107\175\030\300\363\273\236\017\326\213\256\007\266\132\017
\316\013\014\107\247\345\076\270\275\175\307\233\065\240\141\227
\072\101\165\027\314\053\226\167\052\222\041\036\331\225\166\040
\147\150\317\015\275\337\326\037\011\152\232\342\314\163\161\244
\057\175\022\200\267\123\060\106\136\113\124\231\017\147\311\245
\310\362\040\301\202\354\235\021\337\302\002\373\032\073\321\355
\040\232\357\145\144\222\020\015\052\342\336\160\361\030\147\202
\214\141\336\270\274\321\057\234\373\017\320\053\355\033\166\271
\344\071\125\370\370\241\035\270\252\200\000\114\202\347\262\177
\011\270\274\060\240\057\015\365\122\236\216\367\222\263\012\000
\035\000\124\227\006\340\261\007\331\307\017\134\145\175\074\155
\131\127\344\355\245\215\351\100\123\237\025\113\240\161\366\032
\041\343\332\160\006\041\130\024\207\205\167\171\252\202\171\002
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004
\026\004\024\342\311\100\237\115\316\350\232\241\174\317\016\077
\145\305\051\210\152\031\121\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\003\202\002\001\000\321\111\127\340
\247\314\150\130\272\001\017\053\031\315\215\260\141\105\254\021
\355\143\120\151\370\037\177\276\026\217\375\235\353\013\252\062
\107\166\322\147\044\355\275\174\063\062\227\052\307\005\206\146
\015\027\175\024\025\033\324\353\375\037\232\366\136\227\151\267
\032\045\244\012\263\221\077\137\066\254\213\354\127\250\076\347
\201\212\030\127\071\205\164\032\102\307\351\133\023\137\217\371
\010\351\222\164\215\365\107\322\253\073\326\373\170\146\116\066
\175\371\351\222\351\004\336\375\111\143\374\155\373\024\161\223
\147\057\107\112\267\271\377\036\052\163\160\106\060\277\132\362
\057\171\245\341\215\014\331\371\262\143\067\214\067\145\205\160
\152\134\133\011\162\271\255\143\074\261\335\370\374\062\277\067
\206\344\273\216\230\047\176\272\037\026\341\160\021\362\003\337
\045\142\062\047\046\030\062\204\237\377\000\072\023\272\232\115
\364\117\270\024\160\042\261\312\053\220\316\051\301\160\364\057
\235\177\362\220\036\326\132\337\267\106\374\346\206\372\313\340
\040\166\172\272\246\313\365\174\336\142\245\261\213\356\336\202
\146\212\116\072\060\037\077\200\313\255\047\272\014\136\327\320
\261\126\312\167\161\262\265\165\241\120\251\100\103\027\302\050
\331\317\122\213\133\310\143\324\102\076\240\063\172\106\056\367
\012\040\106\124\176\152\117\061\361\201\176\102\164\070\145\163
\047\356\306\174\270\216\327\245\072\327\230\241\234\214\020\125

```
\323\333\113\354\100\220\362\315\156\127\322\142\016\174\127\223
\261\247\155\315\235\203\273\052\347\345\266\073\161\130\255\375
\321\105\274\132\221\356\123\025\157\323\105\011\165\156\272\220
\135\036\004\317\067\337\036\250\146\261\214\346\040\152\357\374
\110\116\164\230\102\257\051\157\056\152\307\373\175\321\146\061
\042\314\206\000\176\146\203\014\102\364\275\064\222\303\032\352
\117\312\176\162\115\013\160\214\246\110\273\246\241\024\366\373
\130\104\231\024\256\252\013\223\151\240\051\045\112\245\313\053
\335\212\146\007\026\170\025\127\161\033\354\365\107\204\363\236
\061\067\172\325\177\044\255\344\274\375\375\314\156\203\350\014
\250\267\101\154\007\335\275\074\206\227\057\322
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GDCA TrustAUTH R5 ROOT"
```

```
# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
```

```
# Serial Number:7d:09:97:fe:f0:47:ea:7a
```

```
# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
```

```
# Not Valid Before: Wed Nov 26 05:13:15 2014
```

```
# Not Valid After : Mon Dec 31 15:59:59 2040
```

```
# Fingerprint (SHA-256):
```

```
BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93
```

```
# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\017\066\070\133\201\032\045\303\233\061\116\203\312\351\064\146
\160\314\164\264
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\143\314\331\075\064\065\134\157\123\243\342\010\160\110\037\264
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\175\011\227\376\360\107\352\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TrustCor RootCert CA-1"
#
# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Serial Number:00:da:9b:ec:71:f3:03:b0:19
# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:16 2016
# Not Valid After : Mon Dec 31 17:23:16 2029
# Fingerprint (SHA-256):
D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C
# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060

```

\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\332\233\354\161\363\003\260\031

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\011\000
\332\233\354\161\363\003\260\031\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060
\035\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162
\040\122\157\157\164\103\145\162\164\040\103\101\055\061\060\036
\027\015\061\066\060\062\060\064\061\062\063\062\061\066\132\027
\015\062\071\061\062\063\061\061\067\062\063\061\066\132\060\201
\244\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017
\060\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061
\024\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141
\040\103\151\164\171\061\044\060\042\006\003\125\004\012\014\033
\124\162\165\163\164\103\157\162\040\123\171\163\164\145\155\163
\040\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006
\003\125\004\013\014\036\124\162\165\163\164\103\157\162\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124
\162\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164
\040\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\277\216\267\225\342\302\046\022\153\063
\031\307\100\130\012\253\131\252\215\000\243\374\200\307\120\173
\216\324\040\046\272\062\022\330\043\124\111\045\020\042\230\235
\106\322\301\311\236\116\033\056\054\016\070\363\032\045\150\034
\246\132\005\346\036\213\110\277\230\226\164\076\151\312\351\265
\170\245\006\274\325\000\136\011\012\362\047\172\122\374\055\325
\261\352\264\211\141\044\363\032\023\333\251\317\122\355\014\044
\272\271\236\354\176\000\164\372\223\255\154\051\222\256\121\264
\273\323\127\277\263\363\250\215\234\364\044\113\052\326\231\236
\364\236\376\300\176\102\072\347\013\225\123\332\267\150\016\220
\114\373\160\077\217\112\054\224\363\046\335\143\151\251\224\330

\020\116\305\107\010\220\231\033\027\115\271\154\156\357\140\225
\021\216\041\200\265\275\240\163\330\320\262\167\304\105\352\132
\046\373\146\166\166\370\006\037\141\155\017\125\305\203\267\020
\126\162\006\007\245\363\261\032\003\005\144\016\235\132\212\326
\206\160\033\044\336\376\050\212\053\320\152\260\374\172\242\334
\262\171\016\213\145\017\002\003\001\000\001\243\143\060\141\060
\035\006\003\125\035\016\004\026\004\024\356\153\111\074\172\077
\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060\037
\006\003\125\035\043\004\030\060\026\200\024\356\153\111\074\172
\077\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\001\001\000\045\030\324\221\217\023\356\217\036\035\021\123
\332\055\104\051\031\240\036\153\061\236\115\016\236\255\075\134
\101\157\225\053\044\241\171\230\072\070\066\373\273\146\236\110
\377\220\220\357\075\324\270\233\264\207\165\077\040\233\316\162
\317\241\125\301\115\144\242\031\006\241\007\063\014\013\051\345
\361\352\253\243\354\265\012\164\220\307\175\162\362\327\134\237
\221\357\221\213\267\334\355\146\242\317\216\146\073\274\237\072
\002\340\047\335\026\230\300\225\324\012\244\344\201\232\165\224
\065\234\220\137\210\067\006\255\131\225\012\260\321\147\323\031
\312\211\347\062\132\066\034\076\202\250\132\223\276\306\320\144
\221\266\317\331\266\030\317\333\176\322\145\243\246\304\216\027
\061\301\373\176\166\333\323\205\343\130\262\167\172\166\073\154
\057\120\034\347\333\366\147\171\037\365\202\225\232\007\247\024
\257\217\334\050\041\147\011\322\326\115\132\034\031\034\216\167
\134\303\224\044\075\062\153\113\176\324\170\224\203\276\067\115
\316\137\307\036\116\074\340\211\063\225\013\017\245\062\326\074
\132\171\054\031

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TrustCor RootCert CA-1"

Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA

Serial Number:00:da:9b:ec:71:f3:03:b0:19

Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA

Not Valid Before: Thu Feb 04 12:32:16 2016

Not Valid After : Mon Dec 31 17:23:16 2029

Fingerprint (SHA-256):

D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C

Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\377\275\315\347\202\310\103\136\074\157\046\206\134\312\250\072
\105\133\303\012
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\156\205\361\334\032\000\323\042\325\262\262\254\153\067\005\105
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\332\233\354\161\363\003\260\031
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TrustCor RootCert CA-2"
#
# Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Serial Number:25:a1:df:ca:33:cb:59:02
# Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:23 2016
# Not Valid After : Sun Dec 31 17:26:39 2034
# Fingerprint (SHA-256):
07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65
# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "TrustCor RootCert CA-2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\045\241\337\312\063\313\131\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\057\060\202\004\027\240\003\002\001\002\002\010\045
\241\337\312\063\313\131\002\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003\125
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060\035
\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162\040
\122\157\157\164\103\145\162\164\040\103\101\055\062\060\036\027
\015\061\066\060\062\060\064\061\062\063\062\062\063\132\027\015
\063\064\061\062\063\061\061\067\062\066\063\071\132\060\201\244
```

\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017\060
\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061\024
\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141\040
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\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006\003
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\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124\162
\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164\040
\103\101\055\062\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\247\040\156\302\052\242\142\044\225\220\166
\310\070\176\200\322\253\301\233\145\005\224\364\301\012\020\325
\002\254\355\237\223\307\207\310\260\047\053\102\014\075\012\076
\101\132\236\165\335\215\312\340\233\354\150\062\244\151\222\150
\214\013\201\016\126\240\076\032\335\054\045\024\202\057\227\323
\144\106\364\124\251\334\072\124\055\061\053\231\202\362\331\052
\327\357\161\000\270\061\244\276\172\044\007\303\102\040\362\212
\324\222\004\033\145\126\114\154\324\373\266\141\132\107\043\264
\330\151\264\267\072\320\164\074\014\165\241\214\116\166\241\351
\333\052\245\073\372\316\260\377\176\152\050\375\047\034\310\261
\351\051\361\127\156\144\264\320\301\025\155\016\276\056\016\106
\310\136\364\121\376\357\016\143\072\073\161\272\317\157\131\312
\014\343\233\135\111\270\114\342\127\261\230\212\102\127\234\166
\357\357\275\321\150\250\322\364\011\273\167\065\276\045\202\010
\304\026\054\104\040\126\251\104\021\167\357\135\264\035\252\136
\153\076\213\062\366\007\057\127\004\222\312\365\376\235\302\351
\350\263\216\114\113\002\061\331\344\074\110\202\047\367\030\202
\166\110\072\161\261\023\241\071\325\056\305\064\302\035\142\205
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\170\346\374\366\355\107\176\173\075\146\357\023\023\210\137\074
\241\143\373\371\254\207\065\237\363\202\236\244\077\012\234\061
\151\213\231\244\210\112\216\156\146\115\357\026\304\017\171\050
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\070\252\251\354\030\232\007\202\053\333\270\234\030\255\332\340
\106\027\254\317\135\002\003\001\000\001\243\143\060\141\060\035
\006\003\125\035\016\004\026\004\024\331\376\041\100\156\224\236
\274\233\075\234\175\230\040\031\345\214\060\142\262\060\037\006
\003\125\035\043\004\030\060\026\200\024\331\376\041\100\156\224

\236\274\233\075\234\175\230\040\031\345\214\060\142\262\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\002\001\000\236\105\236\014\073\266\357\341\072\310\174\321\000
\075\317\342\352\006\265\262\072\273\006\113\150\172\320\043\227
\164\247\054\360\010\330\171\132\327\132\204\212\330\022\232\033
\331\175\134\115\160\305\245\371\253\345\243\211\211\335\001\372
\354\335\371\351\222\227\333\260\106\102\363\323\142\252\225\376
\061\147\024\151\130\220\012\252\013\356\067\043\307\120\121\264
\365\176\236\343\173\367\344\314\102\062\055\111\014\313\377\111
\014\233\036\064\375\156\156\226\212\171\003\266\157\333\011\313
\375\137\145\024\067\341\070\365\363\141\026\130\344\265\155\015
\013\004\033\077\120\055\177\263\307\172\032\026\200\140\370\212
\037\351\033\052\306\371\272\001\032\151\277\322\130\307\124\127
\010\217\341\071\140\167\113\254\131\204\032\210\361\335\313\117
\170\327\347\341\063\055\374\356\101\372\040\260\276\313\367\070
\224\300\341\320\205\017\273\355\054\163\253\355\376\222\166\032
\144\177\133\015\063\011\007\063\173\006\077\021\244\134\160\074
\205\300\317\343\220\250\203\167\372\333\346\305\214\150\147\020
\147\245\122\055\360\304\231\217\177\277\321\153\342\265\107\326
\331\320\205\231\115\224\233\017\113\215\356\000\132\107\035\021
\003\254\101\030\257\207\267\157\014\072\217\312\317\334\003\301
\242\011\310\345\375\200\136\310\140\102\001\033\032\123\132\273
\067\246\267\274\272\204\351\036\154\032\324\144\332\324\103\376
\223\213\113\362\054\171\026\020\324\223\013\210\217\241\330\206
\024\106\221\107\233\050\044\357\127\122\116\134\102\234\252\367
\111\354\047\350\100\036\263\246\211\042\162\234\365\015\063\264
\130\243\060\073\335\324\152\124\223\276\032\115\363\223\224\367
\374\204\013\077\204\040\134\064\003\104\305\332\255\274\012\301
\002\317\036\345\224\331\363\216\133\330\114\360\235\354\141\027
\273\024\062\124\014\002\051\223\036\222\206\366\177\357\347\222
\005\016\131\335\231\010\056\056\372\234\000\122\323\305\146\051
\344\247\227\104\244\016\050\201\023\065\305\366\157\144\346\101
\304\325\057\314\064\105\045\317\101\000\226\075\112\056\302\226
\230\117\116\112\234\227\267\333\037\222\062\310\377\017\121\156
\326\354\011

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TrustCor RootCert CA-2"

Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA

Serial Number:25:a1:df:ca:33:cb:59:02

Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA

```
# Not Valid Before: Thu Feb 04 12:32:23 2016
# Not Valid After : Sun Dec 31 17:26:39 2034
# Fingerprint (SHA-256):
07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65
# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\276\155\313\126\361\125\271\143\324\022\312\116\006\064\307
\224\262\034\300
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\242\341\370\030\013\272\105\325\307\101\052\273\067\122\105\144
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\045\241\337\312\063\313\131\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TrustCor ECA-1"
#
# Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
# Serial Number:00:84:82:2c:5f:1c:62:d0:40
# Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:33 2016
# Not Valid After : Mon Dec 31 17:28:07 2029
```

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# Fingerprint (SHA-256):
5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C
# Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor ECA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\204\202\054\137\034\142\320\100
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\040\060\202\003\010\240\003\002\001\002\002\011\000
\204\202\054\137\034\142\320\100\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\201\234\061\013\060\011\006\003
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143
```

\141\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060
\025\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162
\040\105\103\101\055\061\060\036\027\015\061\066\060\062\060\064
\061\062\063\062\063\063\132\027\015\062\071\061\062\063\061\061
\067\062\070\060\067\132\060\201\234\061\013\060\011\006\003\125
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060\025
\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162\040
\105\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\317\217\340\021\265\237\250\166\166\333
\337\017\124\357\163\143\051\202\255\107\306\243\153\355\376\137
\063\370\103\121\351\032\063\221\061\027\240\164\304\324\247\001
\346\262\222\076\152\235\355\016\371\164\230\100\323\077\003\200
\006\202\100\350\261\342\247\121\247\035\203\046\153\253\336\372
\027\221\053\330\306\254\036\261\236\031\001\325\227\246\352\015
\267\304\125\037\047\174\322\010\325\166\037\051\025\207\100\071
\335\070\105\021\165\320\232\247\064\340\277\315\310\122\035\271
\107\176\015\270\273\306\014\366\163\127\026\132\176\103\221\037
\125\072\306\155\104\004\252\234\251\234\247\114\211\027\203\256
\243\004\136\122\200\213\036\022\045\021\031\327\014\175\175\061
\104\101\352\333\257\260\034\357\201\320\054\305\232\041\233\075
\355\102\073\120\046\362\354\316\161\141\006\142\041\124\116\177
\301\235\076\177\040\214\200\313\052\330\227\142\310\203\063\221
\175\260\242\132\017\127\350\073\314\362\045\262\324\174\057\354
\115\306\241\072\025\172\347\266\135\065\365\366\110\112\066\105
\146\324\272\230\130\301\002\003\001\000\001\243\143\060\141\060
\035\006\003\125\035\016\004\026\004\024\104\236\110\365\314\155
\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060\037
\006\003\125\035\043\004\030\060\026\200\024\104\236\110\365\314
\155\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\001\001\000\005\076\065\134\025\160\233\311\307\163\141\157
\162\053\324\302\217\362\103\135\002\316\304\224\271\224\021\203
\147\135\342\147\154\165\166\277\273\014\252\066\306\255\107\223
\143\334\036\176\326\336\056\376\351\031\062\070\003\177\024\366
\000\163\054\131\261\041\006\341\373\254\030\225\014\243\377\231
\226\367\053\047\233\325\044\314\035\335\301\072\340\230\104\260
\304\344\076\167\261\163\251\144\054\366\034\001\174\077\135\105
\205\300\205\347\045\217\225\334\027\363\074\237\032\156\260\312

\343\035\052\351\114\143\372\044\141\142\326\332\176\266\034\154
\365\002\035\324\052\335\125\220\353\052\021\107\074\056\136\164
\262\202\042\245\175\123\037\105\354\047\221\175\347\042\026\350
\300\150\066\330\306\361\117\200\104\062\371\341\321\321\035\252
\336\250\253\234\004\257\255\040\016\144\230\115\245\153\300\110
\130\226\151\115\334\007\214\121\223\242\337\237\017\075\213\140
\264\202\215\252\010\116\142\105\340\371\013\322\340\340\074\133
\336\134\161\047\045\302\346\003\201\213\020\123\343\307\125\242
\264\237\327\346

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TrustCor ECA-1"

Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA

Serial Number:00:84:82:2c:5f:1c:62:d0:40

Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA

Not Valid Before: Thu Feb 04 12:32:33 2016

Not Valid After : Mon Dec 31 17:28:07 2029

Fingerprint (SHA-256):

5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C

Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TrustCor ECA-1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\130\321\337\225\225\147\153\143\300\360\133\034\027\115\213\204
\013\310\170\275

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\047\222\043\035\012\365\100\174\351\346\153\235\330\365\347\154
END

CKA_ISSUER MULTILINE_OCTAL

\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\204\202\054\137\034\142\320\100
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SSL.com Root Certification Authority RSA"
#
# Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:7b:2c:9b:d3:16:80:32:99
# Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 17:39:39 2016
# Not Valid After : Tue Feb 12 17:39:39 2041
# Fingerprint (SHA-256):
85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69
# Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\010\173\054\233\323\026\200\062\231

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\335\060\202\003\305\240\003\002\001\002\002\010\173
\054\233\323\026\200\062\231\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\174\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014\005
\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014\007
\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004\012
\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151\157
\156\061\061\060\057\006\003\125\004\003\014\050\123\123\114\056
\143\157\155\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\122\123\101\060\036\027\015\061\066\060\062\061\062\061\067
\063\071\063\071\132\027\015\064\061\060\062\061\062\061\067\063
\071\063\071\132\060\174\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061
\061\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157
\155\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\371\017\335\243\053\175\313\320\052\376\354\147\205
\246\347\056\033\272\167\341\343\365\257\244\354\372\112\135\221
\304\127\107\153\030\167\153\166\362\375\223\344\075\017\302\026
\236\013\146\303\126\224\236\027\203\205\316\126\357\362\026\375
\000\142\365\042\011\124\350\145\027\116\101\271\340\117\106\227
\252\033\310\270\156\142\136\151\261\137\333\052\002\176\374\154
\312\363\101\330\355\320\350\374\077\141\110\355\260\003\024\035
\020\016\113\031\340\273\116\354\206\145\377\066\363\136\147\002
\013\235\206\125\141\375\172\070\355\376\342\031\000\267\157\241
\120\142\165\164\074\240\372\310\045\222\264\156\172\042\307\370
\036\241\343\262\335\221\061\253\053\035\004\377\245\112\004\067
\351\205\244\063\053\375\342\326\125\064\174\031\244\112\150\307
\262\250\323\267\312\241\223\210\353\301\227\274\214\371\035\331
\042\204\044\164\307\004\075\152\251\051\223\314\353\270\133\341
\376\137\045\252\064\130\310\301\043\124\235\033\230\021\303\070
\234\176\075\206\154\245\017\100\206\174\002\364\134\002\117\050
\313\256\161\237\017\072\310\063\376\021\045\065\352\374\272\305
\140\075\331\174\030\325\262\251\323\165\170\003\162\042\312\072
\303\037\357\054\345\056\251\372\236\054\266\121\106\375\257\003
\326\352\140\150\352\205\026\066\153\205\351\036\300\263\335\304
\044\334\200\052\201\101\155\224\076\310\340\311\201\101\000\236
\136\277\177\305\010\230\242\030\054\102\100\263\371\157\070\047
\113\116\200\364\075\201\107\340\210\174\352\034\316\265\165\134

\121\056\034\053\177\032\162\050\347\000\265\321\164\306\327\344
\237\255\007\223\266\123\065\065\374\067\344\303\366\135\026\276
\041\163\336\222\012\370\240\143\152\274\226\222\152\076\370\274
\145\125\233\336\365\015\211\046\004\374\045\032\246\045\151\313
\302\155\312\174\342\131\137\227\254\353\357\056\310\274\327\033
\131\074\053\314\362\031\310\223\153\047\143\031\317\374\351\046
\370\312\161\233\177\223\376\064\147\204\116\231\353\374\263\170
\011\063\160\272\146\246\166\355\033\163\353\032\245\015\304\042
\023\040\224\126\012\116\054\154\116\261\375\317\234\011\272\242
\063\355\207\002\003\001\000\001\243\143\060\141\060\035\006\003
\125\035\016\004\026\004\024\335\004\011\007\242\365\172\175\122
\123\022\222\225\356\070\200\045\015\246\131\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003
\125\035\043\004\030\060\026\200\024\335\004\011\007\242\365\172
\175\122\123\022\222\225\356\070\200\045\015\246\131\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001
\000\040\030\021\224\051\373\046\235\034\036\036\160\141\361\225
\162\223\161\044\255\150\223\130\216\062\257\033\263\160\003\374
\045\053\164\205\220\075\170\152\364\271\213\245\227\073\265\030
\221\273\036\247\371\100\133\221\371\125\231\257\036\021\320\134
\035\247\146\343\261\224\007\014\062\071\246\352\033\260\171\330
\035\234\160\104\343\212\335\304\371\225\037\212\070\103\077\001
\205\245\107\247\075\106\262\274\345\042\150\367\173\234\330\054
\076\012\041\310\055\063\254\277\305\201\231\061\164\301\165\161
\305\276\261\360\043\105\364\235\153\374\031\143\235\243\274\004
\306\030\013\045\273\123\211\017\263\200\120\336\105\356\104\177
\253\224\170\144\230\323\366\050\335\207\330\160\145\164\373\016
\271\023\353\247\017\141\251\062\226\314\336\273\355\143\114\030
\273\251\100\367\240\124\156\040\210\161\165\030\352\172\264\064
\162\340\043\047\167\134\266\220\352\206\045\100\253\357\063\017
\313\237\202\276\242\040\373\366\265\055\032\346\302\205\261\164
\017\373\310\145\002\244\122\001\107\335\111\042\301\277\330\353
\153\254\176\336\354\143\063\025\267\043\010\217\306\017\215\101
\132\335\216\305\271\217\345\105\077\170\333\272\322\033\100\261
\376\161\115\077\340\201\242\272\136\264\354\025\340\223\335\010
\037\176\341\125\231\013\041\336\223\236\012\373\346\243\111\275
\066\060\376\347\167\262\240\165\227\265\055\201\210\027\145\040
\367\332\220\000\237\311\122\314\062\312\065\174\365\075\017\330
\053\327\365\046\154\311\006\064\226\026\352\160\131\032\062\171
\171\013\266\210\177\017\122\110\075\277\154\330\242\104\056\321
\116\267\162\130\323\211\023\225\376\104\253\370\327\213\033\156
\234\274\054\240\133\325\152\000\257\137\067\341\325\372\020\013
\230\234\206\347\046\217\316\360\354\156\212\127\013\200\343\116
\262\300\240\143\141\220\272\125\150\067\164\152\266\222\333\237
\241\206\042\266\145\047\016\354\266\237\102\140\344\147\302\265
\332\101\013\304\323\213\141\033\274\372\037\221\053\327\104\007
\136\272\051\254\331\305\351\357\123\110\132\353\200\361\050\130

\041\315\260\006\125\373\047\077\123\220\160\251\004\036\127\047

\271

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SSL.com Root Certification Authority RSA"

Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

Serial Number:7b:2c:9b:d3:16:80:32:99

Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

Not Valid Before: Fri Feb 12 17:39:39 2016

Not Valid After : Tue Feb 12 17:39:39 2041

Fingerprint (SHA-256):

85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69

Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\267\253\063\010\321\352\104\167\272\024\200\022\132\157\275\251

\066\111\014\273

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\206\151\022\300\160\361\354\254\254\302\325\274\245\133\241\051

END

CKA_ISSUER MULTILINE_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061

\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157

\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040

\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006

\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157

\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156

\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\173\054\233\323\026\200\062\231

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "SSL.com Root Certification Authority ECC"

```
#
# Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:75:e6:df:cb:c1:68:5b:a8
# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 18:14:03 2016
# Not Valid After : Tue Feb 12 18:14:03 2041
# Fingerprint (SHA-256):
34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65
# Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\215\060\202\002\024\240\003\002\001\002\002\010\165
\346\337\313\301\150\133\250\060\012\006\010\052\206\110\316\075
\004\003\002\060\174\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\061
\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157\155
```

\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103\060\036\027\015\061\066\060\062\061\062\061\070\061\064\060
\063\132\027\015\064\061\060\062\061\062\061\070\061\064\060\063
\132\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057
\006\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\105\103\103\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\105\156\251\120\304\246\043\066\236
\137\050\215\027\313\226\042\144\077\334\172\216\035\314\010\263
\242\161\044\272\216\111\271\004\033\107\226\130\253\055\225\310
\355\236\010\065\310\047\353\211\214\123\130\353\142\212\376\360
\133\017\153\061\122\143\101\073\211\315\354\354\266\215\031\323
\064\007\334\273\306\006\177\302\105\225\354\313\177\250\043\340
\011\351\201\372\363\107\323\243\143\060\141\060\035\006\003\125
\035\016\004\026\004\024\202\321\205\163\060\347\065\004\323\216
\002\222\373\345\244\321\304\041\350\315\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\202\321\205\163\060\347\065\004
\323\216\002\222\373\345\244\321\304\041\350\315\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\206\060\012\006\010
\052\206\110\316\075\004\003\002\003\147\000\060\144\002\060\157
\347\353\131\021\244\140\317\141\260\226\173\355\005\371\057\023
\221\334\355\345\374\120\153\021\106\106\263\034\041\000\142\273
\276\303\347\350\315\007\231\371\015\013\135\162\076\304\252\002
\060\037\274\272\013\342\060\044\373\174\155\200\125\012\231\076
\200\015\063\345\146\243\263\243\273\245\325\213\217\011\054\246
\135\176\342\360\007\010\150\155\322\174\151\156\137\337\345\152
\145

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SSL.com Root Certification Authority ECC"

Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

Serial Number:75:e6:df:cb:c1:68:5b:a8

Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

Not Valid Before: Fri Feb 12 18:14:03 2016

Not Valid After : Tue Feb 12 18:14:03 2041

Fingerprint (SHA-256):

34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65

Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\303\031\174\071\044\346\124\257\033\304\253\040\225\172\342\303
\016\023\002\152
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\056\332\344\071\177\234\217\067\321\160\237\046\027\121\072\216
END
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SSL.com EV Root Certification Authority RSA R2"
#
# Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:56:b6:29:cd:34:bc:78:f6
# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL
Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Wed May 31 18:14:37 2017
# Not Valid After : Fri May 30 18:14:37 2042
# Fingerprint (SHA-256):
2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C
# Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```


CKA_SUBJECT MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\126\266\051\315\064\274\170\366

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\353\060\202\003\323\240\003\002\001\002\002\010\126
\266\051\315\064\274\170\366\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014
\005\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014
\007\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004
\012\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151
\157\156\061\067\060\065\006\003\125\004\003\014\056\123\123\114
\056\143\157\155\040\105\126\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\122\123\101\040\122\062\060\036\027\015\061
\067\060\065\063\061\061\070\061\064\063\067\132\027\015\064\062
\060\065\063\060\061\070\061\064\063\067\132\060\201\202\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\016\060\014\006
\003\125\004\010\014\005\124\145\170\141\163\061\020\060\016\006
\003\125\004\007\014\007\110\157\165\163\164\157\156\061\030\060
\026\006\003\125\004\012\014\017\123\123\114\040\103\157\162\160
\157\162\141\164\151\157\156\061\067\060\065\006\003\125\004\003
\014\056\123\123\114\056\143\157\155\040\105\126\040\122\157\157
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\040\122\123\101\040\122\062

\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\217\066\145\100\341\326\115\300\327\264\351\106\332\153\352
\063\107\315\114\371\175\175\276\275\055\075\360\333\170\341\206
\245\331\272\011\127\150\355\127\076\240\320\010\101\203\347\050
\101\044\037\343\162\025\320\001\032\373\136\160\043\262\313\237
\071\343\317\305\116\306\222\155\046\306\173\273\263\332\047\235
\012\206\351\201\067\005\376\360\161\161\354\303\034\351\143\242
\027\024\235\357\033\147\323\205\125\002\002\326\111\311\314\132
\341\261\367\157\062\237\311\324\073\210\101\250\234\275\313\253
\333\155\173\011\037\242\114\162\220\332\053\010\374\317\074\124
\316\147\017\250\317\135\226\031\013\304\343\162\353\255\321\175
\035\047\357\222\353\020\277\133\353\073\257\317\200\335\301\322
\226\004\133\172\176\244\251\074\070\166\244\142\216\240\071\136
\352\167\317\135\000\131\217\146\054\076\007\242\243\005\046\021
\151\227\352\205\267\017\226\013\113\310\100\341\120\272\056\212
\313\367\017\232\042\347\177\232\067\023\315\362\115\023\153\041
\321\300\314\042\362\241\106\366\104\151\234\312\141\065\007\000
\157\326\141\010\021\352\272\270\366\351\263\140\345\115\271\354
\237\024\146\311\127\130\333\315\207\151\370\212\206\022\003\107
\277\146\023\166\254\167\175\064\044\205\203\315\327\252\234\220
\032\237\041\054\177\170\267\144\270\330\350\246\364\170\263\125
\313\204\322\062\304\170\256\243\217\141\335\316\010\123\255\354
\210\374\025\344\232\015\346\237\032\167\316\114\217\270\024\025
\075\142\234\206\070\006\000\146\022\344\131\166\132\123\300\002
\230\242\020\053\150\104\173\216\171\316\063\112\166\252\133\201
\026\033\265\212\330\320\000\173\136\142\264\011\326\206\143\016
\246\005\225\111\272\050\213\210\223\262\064\034\330\244\125\156
\267\034\320\336\231\125\073\043\364\042\340\371\051\146\046\354
\040\120\167\333\112\013\217\276\345\002\140\160\101\136\324\256
\120\071\042\024\046\313\262\073\163\164\125\107\007\171\201\071
\250\060\023\104\345\004\212\256\226\023\045\102\017\271\123\304
\233\374\315\344\034\336\074\372\253\326\006\112\037\147\246\230
\060\034\335\054\333\334\030\225\127\146\306\377\134\213\126\365
\167\002\003\001\000\001\243\143\060\141\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\371\140\273\324\343\325\064\366
\270\365\006\200\045\247\163\333\106\151\250\236\060\035\006\003
\125\035\016\004\026\004\024\371\140\273\324\343\325\064\366\270
\365\006\200\045\247\163\333\106\151\250\236\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\126
\263\216\313\012\235\111\216\277\244\304\221\273\146\027\005\121
\230\165\373\345\120\054\172\236\361\024\372\253\323\212\076\377
\221\051\217\143\213\330\264\251\124\001\015\276\223\206\057\371
\112\155\307\136\365\127\371\312\125\034\022\276\107\017\066\305
\337\152\267\333\165\302\107\045\177\271\361\143\370\150\055\125
\004\321\362\215\260\244\317\274\074\136\037\170\347\245\240\040

\160\260\004\305\267\367\162\247\336\042\015\275\063\045\106\214
\144\222\046\343\076\056\143\226\332\233\214\075\370\030\011\327
\003\314\175\206\202\340\312\004\007\121\120\327\377\222\325\014
\357\332\206\237\231\327\353\267\257\150\342\071\046\224\272\150
\267\277\203\323\352\172\147\075\142\147\256\045\345\162\350\342
\344\354\256\022\366\113\053\074\237\351\260\100\363\070\124\263
\375\267\150\310\332\306\217\121\074\262\373\221\334\034\347\233
\235\341\267\015\162\217\342\244\304\251\170\371\353\024\254\306
\103\005\302\145\071\050\030\002\303\202\262\235\005\276\145\355
\226\137\145\164\074\373\011\065\056\173\234\023\375\033\017\135
\307\155\201\072\126\017\314\073\341\257\002\057\042\254\106\312
\106\074\240\034\114\326\104\264\136\056\134\025\146\011\341\046
\051\376\306\122\141\272\261\163\377\303\014\234\345\154\152\224
\077\024\312\100\026\225\204\363\131\251\254\137\114\141\223\155
\321\073\314\242\225\014\042\246\147\147\104\056\271\331\322\212
\101\263\146\013\132\373\175\043\245\362\032\260\377\336\233\203
\224\056\321\077\337\222\267\221\257\005\073\145\307\240\154\261
\315\142\022\303\220\033\343\045\316\064\274\157\167\166\261\020
\303\367\005\032\300\326\257\164\142\110\027\167\222\151\220\141
\034\336\225\200\164\124\217\030\034\303\363\003\320\277\244\103
\165\206\123\030\172\012\056\011\034\066\237\221\375\202\212\042
\113\321\016\120\045\335\313\003\014\027\311\203\000\010\116\065
\115\212\213\355\360\002\224\146\054\104\177\313\225\047\226\027
\255\011\060\254\266\161\027\156\213\027\366\034\011\324\055\073
\230\245\161\323\124\023\331\140\363\365\113\146\117\372\361\356
\040\022\215\264\254\127\261\105\143\241\254\166\251\302\373

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "SSL.com EV Root Certification Authority RSA R2"

Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

Serial Number:56:b6:29:cd:34:bc:78:f6

Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

Not Valid Before: Wed May 31 18:14:37 2017

Not Valid After : Fri May 30 18:14:37 2042

Fingerprint (SHA-256):

2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C

Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\164\072\360\122\233\320\062\240\364\112\203\315\324\272\251\173

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\174\056\304\232
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\341\036\061\130\032\256\124\123\002\366\027\152\021\173\115\225
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\126\266\051\315\064\274\170\366
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SSL.com EV Root Certification Authority ECC"
#
# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:2c:29:9c:5b:16:ed:05:95
# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 18:15:23 2016
# Not Valid After : Tue Feb 12 18:15:23 2041
# Fingerprint (SHA-256):
22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8
# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126

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\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\054\051\234\133\026\355\005\225
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\224\060\202\002\032\240\003\002\001\002\002\010\054
\051\234\133\026\355\005\225\060\012\006\010\052\206\110\316\075
\004\003\002\060\177\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\064
\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157\155
\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\105\103\103\060\036\027\015\061\066\060\062\061\062\061\070
\061\065\062\063\132\027\015\064\061\060\062\061\062\061\070\061
\065\062\063\132\060\177\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061
\064\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157
\155\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\040\105\103\103\060\166\060\020\006\007\052\206\110\316\075
\002\001\006\005\053\201\004\000\042\003\142\000\004\252\022\107
\220\230\033\373\357\303\100\007\203\040\116\361\060\202\242\006
\321\362\222\206\141\362\366\041\150\312\000\304\307\352\103\000
\124\206\334\375\037\337\000\270\101\142\134\334\160\026\062\336
\037\231\324\314\305\007\310\010\037\141\026\007\121\075\175\134
\007\123\343\065\070\214\337\315\237\331\056\015\112\266\031\056
\132\160\132\006\355\276\360\241\260\312\320\011\051\243\143\060
```

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\141\060\035\006\003\125\035\016\004\026\004\024\133\312\136\345
\336\322\201\252\315\250\055\144\121\266\331\162\233\227\346\117
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\037\006\003\125\035\043\004\030\060\026\200\024\133\312
\136\345\336\322\201\252\315\250\055\144\121\266\331\162\233\227
\346\117\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\206\060\012\006\010\052\206\110\316\075\004\003\002\003\150
\000\060\145\002\061\000\212\346\100\211\067\353\351\325\023\331
\312\324\153\044\363\260\075\207\106\130\032\354\261\337\157\373
\126\272\160\153\307\070\314\350\261\214\117\017\367\361\147\166
\016\203\320\036\121\217\002\060\075\366\043\050\046\114\306\140
\207\223\046\233\262\065\036\272\326\367\074\321\034\316\372\045
\074\246\032\201\025\133\363\022\017\154\356\145\212\311\207\250
\371\007\340\142\232\214\134\112
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SSL.com EV Root Certification Authority ECC"
# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:2c:29:9c:5b:16:ed:05:95
# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 18:15:23 2016
# Not Valid After : Tue Feb 12 18:15:23 2041
# Fingerprint (SHA-256):
22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8
# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\114\335\121\243\321\365\040\062\024\260\306\305\062\043\003\221
\307\106\102\155
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\131\123\042\145\203\102\001\124\300\316\102\271\132\174\362\220
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
```

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\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\054\051\234\133\026\355\005\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root CA - R6"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
# Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
# Not Valid Before: Wed Dec 10 00:00:00 2014
# Not Valid After : Sun Dec 10 00:00:00 2034
# Fingerprint (SHA-256):
2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
# Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\203\060\202\003\153\240\003\002\001\002\002\016\105

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\346\273\003\203\063\303\205\145\110\346\377\105\121\060\015\006
\011\052\206\110\206\367\015\001\001\014\005\000\060\114\061\040
\060\036\006\003\125\004\013\023\027\107\154\157\142\141\154\123
\151\147\156\040\122\157\157\164\040\103\101\040\055\040\122\066
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\064
\061\062\061\060\060\060\060\060\060\060\060\132\027\015\063\064\061
\062\061\060\060\060\060\060\060\060\132\060\114\061\040\060\036
\006\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101\040\055\040\122\066\061\023
\060\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123
\151\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154
\157\142\141\154\123\151\147\156\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\225\007\350\163\312\146\371
\354\024\312\173\074\367\015\010\361\264\105\013\054\202\264\110
\306\353\133\074\256\203\270\101\222\063\024\244\157\177\351\052
\314\306\260\210\153\305\266\211\321\306\262\377\024\316\121\024
\041\354\112\335\033\132\306\326\207\356\115\072\025\006\355\144
\146\013\222\200\312\104\336\163\224\116\363\247\211\177\117\170
\143\010\310\022\120\155\102\146\057\115\271\171\050\115\122\032
\212\032\200\267\031\201\016\176\304\212\274\144\114\041\034\103
\150\327\075\074\212\305\262\146\325\220\232\267\061\006\305\276
\342\155\062\006\246\036\371\271\353\252\243\270\277\276\202\143
\120\320\360\030\211\337\344\017\171\365\352\242\037\052\322\160
\056\173\347\274\223\273\155\123\342\110\174\214\020\007\070\377
\146\262\167\141\176\340\352\214\074\252\264\244\366\363\225\112
\022\007\155\375\214\262\211\317\320\240\141\167\310\130\164\260
\324\043\072\367\135\072\312\242\333\235\011\336\135\104\055\220
\361\201\315\127\222\372\176\274\120\004\143\064\337\153\223\030
\276\153\066\262\071\344\254\044\066\267\360\357\266\034\023\127
\223\266\336\262\370\342\205\267\163\242\270\065\252\105\362\340
\235\066\241\157\124\212\361\162\126\156\056\210\305\121\102\104
\025\224\356\243\305\070\226\233\116\116\132\013\107\363\006\066
\111\167\060\274\161\067\345\246\354\041\010\165\374\346\141\026
\077\167\325\331\221\227\204\012\154\324\002\115\164\300\024\355
\375\071\373\203\362\136\024\241\004\260\013\351\376\356\217\341
\156\013\262\010\263\141\146\011\152\261\006\072\145\226\131\300
\360\065\375\311\332\050\215\032\021\207\160\201\012\250\232\165
\035\236\072\206\005\000\236\333\200\326\045\371\334\005\236\047
\131\114\166\071\133\352\371\245\241\330\203\017\321\377\337\060
\021\371\205\317\063\110\365\312\155\144\024\054\172\130\117\323
\113\010\111\305\225\144\032\143\016\171\075\365\263\214\312\130
\255\234\102\105\171\156\016\207\031\134\124\261\145\266\277\214
\233\334\023\351\015\157\270\056\334\147\156\311\213\021\265\204
\024\212\000\031\160\203\171\221\227\221\324\032\047\277\067\036
\062\007\330\024\143\074\050\114\257\002\003\001\000\001\243\143

\060\141\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\256\154
\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310\147
\123\240\060\037\006\003\125\035\043\004\030\060\026\200\024\256
\154\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310
\147\123\240\060\015\006\011\052\206\110\206\367\015\001\001\014
\005\000\003\202\002\001\000\203\045\355\350\321\375\225\122\315
\236\300\004\240\221\151\346\134\320\204\336\334\255\242\117\350
\107\170\326\145\230\251\133\250\074\207\174\002\212\321\156\267
\026\163\346\137\300\124\230\325\164\276\301\315\342\021\221\255
\043\030\075\335\341\162\104\226\264\225\136\300\173\216\231\170
\026\103\023\126\127\263\242\263\073\265\167\334\100\162\254\243
\353\233\065\076\261\010\041\241\347\304\103\067\171\062\276\265
\347\234\054\114\274\103\051\231\216\060\323\254\041\340\343\035
\372\330\007\063\166\124\000\042\052\271\115\040\056\160\150\332
\345\123\374\203\134\323\235\362\377\104\014\104\146\362\322\343
\275\106\000\032\155\002\272\045\135\215\241\061\121\335\124\106
\034\115\333\231\226\357\032\034\004\134\246\025\357\170\340\171
\376\135\333\076\252\114\125\375\232\025\251\157\341\246\373\337
\160\060\351\303\356\102\106\355\302\223\005\211\372\175\143\173
\077\320\161\201\174\000\350\230\256\016\170\064\303\045\373\257
\012\237\040\153\335\073\023\217\022\214\342\101\032\110\172\163
\240\167\151\307\266\134\177\202\310\036\376\130\033\050\053\250
\154\255\136\155\300\005\322\173\267\353\200\376\045\067\376\002
\233\150\254\102\135\303\356\365\314\334\360\120\165\322\066\151
\234\346\173\004\337\156\006\151\266\336\012\011\110\131\207\353
\173\024\140\172\144\252\151\103\357\221\307\114\354\030\335\154
\357\123\055\214\231\341\136\362\162\076\317\124\310\275\147\354
\244\017\114\105\377\323\271\060\043\007\114\217\020\277\206\226
\331\231\132\264\231\127\034\244\314\273\025\211\123\272\054\005
\017\344\304\236\031\261\030\064\325\114\235\272\355\367\037\257
\044\225\004\170\250\003\273\356\201\345\332\137\174\213\112\241
\220\164\045\247\263\076\113\310\054\126\275\307\310\357\070\342
\134\222\360\171\367\234\204\272\164\055\141\001\040\176\176\321
\362\117\007\131\137\213\055\103\122\353\106\014\224\341\365\146
\107\171\167\325\124\133\037\255\044\067\313\105\132\116\240\104
\110\310\330\260\231\305\025\204\011\366\326\111\111\300\145\270
\346\032\161\156\240\250\361\202\350\105\076\154\326\002\327\012
\147\203\005\132\311\244\020

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Root CA - R6"
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51

```

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
# Not Valid Before: Wed Dec 10 00:00:00 2014
# Not Valid After : Sun Dec 10 00:00:00 2034
# Fingerprint (SHA-256):
2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
# Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\200\224\144\016\265\247\241\312\021\234\037\335\325\237\201\002
\143\247\373\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\117\335\007\344\324\042\144\071\036\014\067\102\352\321\306\256
END
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "OISTE WISeKey Global Root GC CA"
#
# Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea
# Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Not Valid Before: Tue May 09 09:48:34 2017
# Not Valid After : Fri May 09 09:58:33 2042
# Fingerprint (SHA-256):
85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D
# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "OISTE WISeKey Global Root GC CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END

CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055
\072\352
END

CKA_VALUE MULTILINE_OCTAL
\060\202\002\151\060\202\001\357\240\003\002\001\002\002\020\041
\052\126\014\256\332\014\253\100\105\277\053\242\055\072\352\060
\012\006\010\052\206\110\316\075\004\003\003\060\155\061\013\060
\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003
\125\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040
\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165
\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144
\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105
\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040
\122\157\157\164\040\107\103\040\103\101\060\036\027\015\061\067
\060\065\060\071\060\071\064\070\063\064\132\027\015\064\062\060
\065\060\071\060\071\065\070\063\063\132\060\155\061\013\060\011
\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003\125
\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040\006
\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156
\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061
\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040
\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122
\157\157\164\040\107\103\040\103\101\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\114\351\120\300\306\017\162\030\274\330\361\272\263\211\342
\171\112\243\026\247\153\124\044\333\121\377\352\364\011\044\303

```
\013\042\237\313\152\047\202\201\015\322\300\257\061\344\164\202
\156\312\045\331\214\165\235\361\333\320\232\242\113\041\176\026
\247\143\220\322\071\324\261\207\170\137\030\226\017\120\033\065
\067\017\152\306\334\331\023\115\244\216\220\067\346\275\133\061
\221\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\110\207\024\254\343\303\236\220\140\072\327\312\211\356\323
\255\214\264\120\146\060\020\006\011\053\006\001\004\001\202\067
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\060\046\307\151\133\334\325
\347\262\347\310\014\214\214\303\335\171\214\033\143\325\311\122
\224\116\115\202\112\163\036\262\200\204\251\045\300\114\132\155
\111\051\140\170\023\342\176\110\353\144\002\061\000\333\064\040
\062\010\377\232\111\002\266\210\336\024\257\135\154\231\161\215
\032\077\213\327\340\242\066\206\034\007\202\072\166\123\375\302
\242\355\357\173\260\200\117\130\017\113\123\071\275
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "OISTE WISEKey Global Root GC CA"
```

```
# Issuer: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH
```

```
# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea
```

```
# Subject: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH
```

```
# Not Valid Before: Tue May 09 09:48:34 2017
```

```
# Not Valid After : Fri May 09 09:58:33 2042
```

```
# Fingerprint (SHA-256):
```

```
85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D
```

```
# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "OISTE WISEKey Global Root GC CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\340\021\204\136\064\336\276\210\201\271\234\366\026\046\321\226
\037\303\271\061
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\251\326\271\055\057\223\144\370\245\151\312\221\351\150\007\043
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
```

```
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055
\072\352
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "UCA Global G2 Root"
#
# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef
# Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Not Valid Before: Fri Mar 11 00:00:00 2016
# Not Valid After : Mon Dec 31 00:00:00 2040
# Fingerprint (SHA-256):
9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C
# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
```

```
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
```

```
CKA_VALUE MULTILINE_OCTAL
```

\060\202\005\106\060\202\003\056\240\003\002\001\002\002\020\135
\337\261\332\132\243\355\135\276\132\145\040\145\003\220\357\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\075
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
\061\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107
\154\157\142\141\154\040\107\062\040\122\157\157\164\060\036\027
\015\061\066\060\063\061\061\060\060\060\060\060\060\132\027\015
\064\060\061\062\063\061\060\060\060\060\060\060\132\060\075\061
\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060\017
\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164\061
\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107\154
\157\142\141\154\040\107\062\040\122\157\157\164\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\305\346\053
\157\174\357\046\005\047\243\201\044\332\157\313\001\371\231\232
\251\062\302\042\207\141\101\221\073\313\303\150\033\006\305\114
\251\053\301\147\027\042\035\053\355\371\051\211\223\242\170\275
\222\153\240\243\015\242\176\312\223\263\246\321\214\065\325\165
\371\027\366\317\105\305\345\172\354\167\223\240\217\043\256\016
\032\003\177\276\324\320\355\056\173\253\106\043\133\377\054\346
\124\172\224\300\052\025\360\311\215\260\172\073\044\341\327\150
\342\061\074\006\063\106\266\124\021\246\245\057\042\124\052\130
\015\001\002\361\372\025\121\147\154\300\372\327\266\033\177\321
\126\210\057\032\072\215\073\273\202\021\340\107\000\320\122\207
\253\373\206\176\017\044\153\100\235\064\147\274\215\307\055\206
\157\171\076\216\251\074\027\113\177\260\231\343\260\161\140\334
\013\365\144\303\316\103\274\155\161\271\322\336\047\133\212\350
\330\306\256\341\131\175\317\050\055\065\270\225\126\032\361\262
\130\113\267\022\067\310\174\263\355\113\200\341\215\372\062\043
\266\157\267\110\225\010\261\104\116\205\214\072\002\124\040\057
\337\277\127\117\073\072\220\041\327\301\046\065\124\040\354\307
\077\107\354\357\132\277\113\172\301\255\073\027\120\134\142\330
\017\113\112\334\053\372\156\274\163\222\315\354\307\120\350\101
\226\327\251\176\155\330\351\035\217\212\265\271\130\222\272\112
\222\053\014\126\375\200\353\010\360\136\051\156\033\034\014\257
\217\223\211\255\333\275\243\236\041\312\211\031\354\337\265\303
\032\353\026\376\170\066\114\326\156\320\076\027\034\220\027\153
\046\272\373\172\057\277\021\034\030\016\055\163\003\217\240\345
\065\240\132\342\114\165\035\161\341\071\070\123\170\100\314\203
\223\327\012\236\235\133\217\212\344\345\340\110\344\110\262\107
\315\116\052\165\052\173\362\042\366\311\276\011\221\226\127\172
\210\210\254\356\160\254\371\334\051\343\014\034\073\022\116\104
\326\247\116\260\046\310\363\331\032\227\221\150\352\357\215\106
\006\322\126\105\130\232\074\014\017\203\270\005\045\303\071\317
\073\244\064\211\267\171\022\057\107\305\347\251\227\151\374\246
\167\147\265\337\173\361\172\145\025\344\141\126\145\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377

\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\201\304\214\314\365\344\060\377\245\014\010\137\214\025
\147\041\164\001\337\337\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\002\001\000\023\145\042\365\216\053
\255\104\344\313\377\271\150\346\303\200\110\075\004\173\372\043
\057\172\355\066\332\262\316\155\366\346\236\345\137\130\217\313
\067\062\241\310\145\266\256\070\075\065\033\076\274\073\266\004
\320\274\371\111\365\233\367\205\305\066\266\313\274\370\310\071
\325\344\137\007\275\025\124\227\164\312\312\355\117\272\272\144
\166\237\201\270\204\105\111\114\215\157\242\353\261\314\321\303
\224\332\104\302\346\342\352\030\350\242\037\047\005\272\327\345
\326\251\315\335\357\166\230\215\000\016\315\033\372\003\267\216
\200\130\016\047\077\122\373\224\242\312\136\145\311\326\204\332
\271\065\161\363\046\300\117\167\346\201\047\322\167\073\232\024
\157\171\364\366\320\341\323\224\272\320\127\121\275\047\005\015
\301\375\310\022\060\356\157\215\021\053\010\235\324\324\277\200
\105\024\232\210\104\332\060\352\264\247\343\356\357\133\202\325
\076\326\255\170\222\333\134\074\363\330\255\372\270\153\177\304
\066\050\266\002\025\212\124\054\234\260\027\163\216\320\067\243
\024\074\230\225\000\014\051\005\133\236\111\111\261\137\307\343
\313\317\047\145\216\065\027\267\127\310\060\331\101\133\271\024
\266\350\302\017\224\061\247\224\230\314\152\353\265\341\047\365
\020\250\001\350\216\022\142\350\210\314\265\177\106\227\300\233
\020\146\070\032\066\106\137\042\150\075\337\311\306\023\047\253
\123\006\254\242\074\206\006\145\157\261\176\261\051\104\232\243
\272\111\151\050\151\217\327\345\137\255\004\206\144\157\032\240
\014\305\010\142\316\200\243\320\363\354\150\336\276\063\307\027
\133\177\200\304\114\114\261\246\204\212\303\073\270\011\315\024
\201\272\030\343\124\127\066\376\333\057\174\107\241\072\063\310
\371\130\073\104\117\261\312\002\211\004\226\050\150\305\113\270
\046\211\273\326\063\057\120\325\376\232\211\272\030\062\222\124
\306\133\340\235\371\136\345\015\042\233\366\332\342\310\041\262
\142\041\252\206\100\262\056\144\323\137\310\343\176\021\147\105
\037\005\376\343\242\357\263\250\263\363\175\217\370\014\037\042
\037\055\160\264\270\001\064\166\060\000\345\043\170\247\126\327
\120\037\212\373\006\365\302\031\360\320

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "UCA Global G2 Root"
Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN
Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef
Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN
Not Valid Before: Fri Mar 11 00:00:00 2016
Not Valid After : Mon Dec 31 00:00:00 2040

```

# Fingerprint (SHA-256):
9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C
# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\050\371\170\026\031\172\377\030\045\030\252\104\376\301\240\316
\134\266\114\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\200\376\360\304\112\360\134\142\062\237\034\272\170\251\120\370
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "UCA Extended Validation Root"
#
# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN
# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60
# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN
# Not Valid Before: Fri Mar 13 00:00:00 2015
# Not Valid After : Fri Dec 31 00:00:00 2038
# Fingerprint (SHA-256):
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
# Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Extended Validation Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```


\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\132\060\202\003\102\240\003\002\001\002\002\020\117
\322\053\217\365\144\310\063\236\117\064\130\146\043\160\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\107
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
\061\045\060\043\006\003\125\004\003\014\034\125\103\101\040\105
\170\164\145\156\144\145\144\040\126\141\154\151\144\141\164\151
\157\156\040\122\157\157\164\060\036\027\015\061\065\060\063\061
\063\060\060\060\060\060\060\132\027\015\063\070\061\062\063\061
\060\060\060\060\060\060\132\060\107\061\013\060\011\006\003\125
\004\006\023\002\103\116\061\021\060\017\006\003\125\004\012\014
\010\125\156\151\124\162\165\163\164\061\045\060\043\006\003\125
\004\003\014\034\125\103\101\040\105\170\164\145\156\144\145\144
\040\126\141\154\151\144\141\164\151\157\156\040\122\157\157\164
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\251\011\007\050\023\002\260\231\340\144\252\036\103\026\172
\163\261\221\240\165\076\250\372\343\070\000\172\354\211\152\040
\017\213\305\260\233\063\003\132\206\306\130\206\325\301\205\273
\117\306\234\100\115\312\276\356\151\226\270\255\201\060\232\174
\222\005\353\005\053\232\110\320\270\166\076\226\310\040\273\322
\260\361\217\330\254\105\106\377\252\147\140\264\167\176\152\037
\074\032\122\172\004\075\007\074\205\015\204\320\037\166\012\367
\152\024\337\162\343\064\174\127\116\126\001\076\171\361\252\051
\073\154\372\370\217\155\115\310\065\337\256\353\334\044\356\171
\105\247\205\266\005\210\336\210\135\045\174\227\144\147\011\331
\277\132\025\005\206\363\011\036\354\130\062\063\021\363\167\144
\260\166\037\344\020\065\027\033\362\016\261\154\244\052\243\163
\374\011\037\036\062\031\123\021\347\331\263\054\056\166\056\241

\243\336\176\152\210\011\350\362\007\212\370\262\315\020\347\342
\163\100\223\273\010\321\077\341\374\013\224\263\045\357\174\246
\327\321\257\237\377\226\232\365\221\173\230\013\167\324\176\350
\007\322\142\265\225\071\343\363\361\155\017\016\145\204\212\143
\124\305\200\266\340\236\113\175\107\046\247\001\010\135\321\210
\236\327\303\062\104\372\202\112\012\150\124\177\070\123\003\314
\244\000\063\144\121\131\013\243\202\221\172\136\354\026\302\363
\052\346\142\332\052\333\131\142\020\045\112\052\201\013\107\007
\103\006\160\207\322\372\223\021\051\172\110\115\353\224\307\160
\115\257\147\325\121\261\200\040\001\001\264\172\010\246\220\177
\116\340\357\007\101\207\257\152\245\136\213\373\317\120\262\232
\124\257\303\211\272\130\055\365\060\230\261\066\162\071\176\111
\004\375\051\247\114\171\344\005\127\333\224\271\026\123\215\106
\263\035\225\141\127\126\177\257\360\026\133\141\130\157\066\120
\021\013\330\254\053\225\026\032\016\037\010\315\066\064\145\020
\142\146\325\200\137\024\040\137\055\014\240\170\012\150\326\054
\327\351\157\053\322\112\005\223\374\236\157\153\147\377\210\361
\116\245\151\112\122\067\005\352\306\026\215\322\304\231\321\202
\053\073\272\065\165\367\121\121\130\363\310\007\335\344\264\003
\177\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035
\016\004\026\004\024\331\164\072\344\060\075\015\367\022\334\176
\132\005\237\036\064\232\367\341\024\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\066\215
\227\314\102\025\144\051\067\233\046\054\326\373\256\025\151\054
\153\032\032\367\137\266\371\007\114\131\352\363\311\310\271\256
\314\272\056\172\334\300\365\260\055\300\073\257\237\160\005\021
\152\237\045\117\001\051\160\343\345\014\341\352\132\174\334\111
\273\301\036\052\201\365\026\113\162\221\310\242\061\271\252\332
\374\235\037\363\135\100\002\023\374\116\034\006\312\263\024\220
\124\027\031\022\032\361\037\327\014\151\132\366\161\170\364\224
\175\221\013\216\354\220\124\216\274\157\241\114\253\374\164\144
\375\161\232\370\101\007\241\315\221\344\074\232\340\233\062\071
\163\253\052\325\151\310\170\221\046\061\175\342\307\060\361\374
\024\170\167\022\016\023\364\335\026\224\277\113\147\173\160\123
\205\312\260\273\363\070\115\054\220\071\300\015\302\135\153\351
\342\345\325\210\215\326\054\277\253\033\276\265\050\207\022\027
\164\156\374\175\374\217\320\207\046\260\033\373\271\154\253\342
\236\075\025\301\073\056\147\002\130\221\237\357\370\102\037\054
\267\150\365\165\255\317\265\366\377\021\175\302\360\044\245\255
\323\372\240\074\251\372\135\334\245\240\357\104\244\276\326\350
\345\344\023\226\027\173\006\076\062\355\307\267\102\274\166\243
\330\145\070\053\070\065\121\041\016\016\157\056\064\023\100\341
\053\147\014\155\112\101\060\030\043\132\062\125\231\311\027\340
\074\336\366\354\171\255\053\130\031\242\255\054\042\032\225\216
\276\226\220\135\102\127\304\371\024\003\065\053\034\055\121\127
\010\247\072\336\077\344\310\264\003\163\302\301\046\200\273\013

```
\102\037\255\015\257\046\162\332\314\276\263\243\203\130\015\202
\305\037\106\121\343\234\030\314\215\233\215\354\111\353\165\120
\325\214\050\131\312\164\064\332\214\013\041\253\036\352\033\345
\307\375\025\076\300\027\252\373\043\156\046\106\313\372\371\261
\162\153\151\317\042\204\013\142\017\254\331\031\000\224\242\166
\074\324\055\232\355\004\236\055\006\142\020\067\122\034\205\162
\033\047\345\314\306\061\354\067\354\143\131\233\013\035\166\314
\176\062\232\210\225\010\066\122\273\336\166\137\166\111\111\255
\177\275\145\040\262\311\301\053\166\030\166\237\126\261
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "UCA Extended Validation Root"

Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN

Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60

Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN

Not Valid Before: Fri Mar 13 00:00:00 2015

Not Valid After : Fri Dec 31 00:00:00 2038

Fingerprint (SHA-256):

D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24

Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "UCA Extended Validation Root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\243\241\260\157\044\141\043\112\343\066\245\302\067\374\246\377
\335\360\327\072
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\241\363\137\103\306\064\233\332\277\214\176\005\123\255\226\342
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Certigna Root CA"

#

Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1

Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

Not Valid Before: Tue Oct 01 08:32:27 2013

Not Valid After : Sat Oct 01 08:32:27 2033

Fingerprint (SHA-256):

D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68

Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certigna Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
\343\246\341

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\133\060\202\004\103\240\003\002\001\002\002\021\000
\312\351\033\211\361\125\003\015\243\346\101\155\304\343\246\341
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061\022
\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157\164
\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060\060

\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063\066
\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164\151
\147\156\141\040\122\157\157\164\040\103\101\060\036\027\015\061
\063\061\060\060\061\060\070\063\062\062\067\132\027\015\063\063
\061\060\060\061\060\070\063\062\062\067\132\060\132\061\013\060
\011\006\003\125\004\006\023\002\106\122\061\022\060\020\006\003
\125\004\012\014\011\104\150\151\155\171\157\164\151\163\061\034
\060\032\006\003\125\004\013\014\023\060\060\060\062\040\064\070
\061\064\066\063\060\070\061\060\060\060\063\066\061\031\060\027
\006\003\125\004\003\014\020\103\145\162\164\151\147\156\141\040
\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\315\030\071\145\032\131\261\352
\144\026\016\214\224\044\225\174\203\323\305\071\046\334\014\357
\026\127\215\327\330\254\243\102\177\202\312\355\315\133\333\016
\267\055\355\105\010\027\262\331\263\313\326\027\122\162\050\333
\216\116\236\212\266\013\371\236\204\232\115\166\336\042\051\134
\322\263\322\006\076\060\071\251\164\243\222\126\034\241\157\114
\012\040\155\237\043\172\264\306\332\054\344\035\054\334\263\050
\320\023\362\114\116\002\111\241\124\100\236\346\345\005\240\055
\204\310\377\230\154\320\353\212\032\204\010\036\267\150\043\356
\043\325\160\316\155\121\151\020\356\241\172\302\321\042\061\302
\202\205\322\362\125\166\120\174\045\172\311\204\134\013\254\335
\102\116\053\347\202\242\044\211\313\220\262\320\356\043\272\146
\114\273\142\244\371\123\132\144\173\174\230\372\243\110\236\017
\225\256\247\030\364\152\354\056\003\105\257\360\164\370\052\315
\172\135\321\276\104\046\062\051\361\361\365\154\314\176\002\041
\013\237\157\244\077\276\235\123\342\317\175\251\054\174\130\032
\227\341\075\067\067\030\146\050\322\100\305\121\212\214\303\055
\316\123\210\044\130\144\060\026\305\252\340\326\012\246\100\337
\170\366\365\004\174\151\023\204\274\321\321\247\006\317\001\367
\150\300\250\127\273\072\141\255\004\214\223\343\255\374\360\333
\104\155\131\334\111\131\256\254\232\231\066\060\101\173\166\063
\042\207\243\302\222\206\156\371\160\356\256\207\207\225\033\304
\172\275\061\363\324\322\345\231\377\276\110\354\165\365\170\026
\035\246\160\301\177\074\033\241\222\373\317\310\074\326\305\223
\012\217\365\125\072\166\225\316\131\230\212\011\225\167\062\232
\203\272\054\004\072\227\275\324\057\276\327\154\233\242\312\175
\155\046\311\125\325\317\303\171\122\010\011\231\007\044\055\144
\045\153\246\041\151\233\152\335\164\115\153\227\172\101\275\253
\027\371\220\027\110\217\066\371\055\325\305\333\356\252\205\105
\101\372\315\072\105\261\150\346\066\114\233\220\127\354\043\271
\207\010\302\304\011\361\227\206\052\050\115\342\164\300\332\304
\214\333\337\342\241\027\131\316\044\131\164\061\332\177\375\060
\155\331\334\341\152\341\374\137\002\003\001\000\001\243\202\001
\032\060\202\001\026\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004

\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037\326
\341\342\171\176\053\060\037\006\003\125\035\043\004\030\060\026
\200\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037
\326\341\342\171\176\053\060\104\006\003\125\035\040\004\075\060
\073\060\071\006\004\125\035\040\000\060\061\060\057\006\010\053
\006\001\005\005\007\002\001\026\043\150\164\164\160\163\072\057
\057\167\167\167\167\056\143\145\162\164\151\147\156\141\056\146
\162\057\141\165\164\157\162\151\164\145\163\057\060\155\006\003
\125\035\037\004\146\060\144\060\057\240\055\240\053\206\051\150
\164\164\160\072\057\057\143\162\154\056\143\145\162\164\151\147
\156\141\056\146\162\057\143\145\162\164\151\147\156\141\162\157
\157\164\143\141\056\143\162\154\060\061\240\057\240\055\206\053
\150\164\164\160\072\057\057\143\162\154\056\144\150\151\155\171
\157\164\151\163\056\143\157\155\057\143\145\162\164\151\147\156
\141\162\157\157\164\143\141\056\143\162\154\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\224
\270\236\117\360\343\225\010\042\347\315\150\101\367\034\125\325
\174\000\342\055\072\211\135\150\070\057\121\042\013\112\215\313
\351\273\135\076\273\134\075\261\050\376\344\123\125\023\317\241
\220\033\002\035\137\146\106\011\063\050\341\015\044\227\160\323
\020\037\352\144\127\226\273\135\332\347\304\214\117\114\144\106
\035\134\207\343\131\336\102\321\233\250\176\246\211\335\217\034
\311\060\202\355\073\234\315\300\351\031\340\152\330\002\165\067
\253\367\064\050\050\221\362\004\012\117\065\343\140\046\001\372
\320\021\214\371\021\152\356\257\075\303\120\323\217\137\063\171
\074\206\250\163\105\220\214\040\266\162\163\027\043\276\007\145
\345\170\222\015\272\001\300\353\214\034\146\277\254\206\167\001
\224\015\234\346\351\071\215\037\246\121\214\231\014\071\167\341
\264\233\372\034\147\127\157\152\152\216\251\053\114\127\171\172
\127\042\317\315\137\143\106\215\134\131\072\206\370\062\107\142
\243\147\015\030\221\334\373\246\153\365\110\141\163\043\131\216
\002\247\274\104\352\364\111\235\361\124\130\371\140\257\332\030
\244\057\050\105\334\172\240\210\206\135\363\073\347\377\051\065
\200\374\144\103\224\346\343\034\157\276\255\016\052\143\231\053
\311\176\205\366\161\350\006\003\225\376\336\217\110\034\132\324
\222\350\053\356\347\061\333\272\004\152\207\230\347\305\137\357
\175\247\042\367\001\330\115\371\211\320\016\232\005\131\244\236
\230\331\157\053\312\160\276\144\302\125\243\364\351\257\303\222
\051\334\210\026\044\231\074\215\046\230\266\133\267\314\316\267
\067\007\375\046\331\230\205\044\377\131\043\003\232\355\235\235
\250\344\136\070\316\327\122\015\157\322\077\155\261\005\153\111
\316\212\221\106\163\364\366\057\360\250\163\167\016\145\254\241
\215\146\122\151\176\113\150\014\307\036\067\047\203\245\214\307
\002\344\024\315\111\001\260\163\263\375\306\220\072\157\322\154
\355\073\356\354\221\276\242\103\135\213\000\112\146\045\104\160
\336\100\017\370\174\025\367\242\316\074\327\136\023\214\201\027
\030\027\321\275\361\167\020\072\324\145\071\301\047\254\127\054
\045\124\377\242\332\117\212\141\071\136\256\075\112\214\275

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Certigna Root CA"
# Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1
# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
# Not Valid Before: Tue Oct 01 08:32:27 2013
# Not Valid After : Sat Oct 01 08:32:27 2033
# Fingerprint (SHA-256):
D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68
# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\055\015\122\024\377\236\255\231\044\001\164\040\107\156\154\205
\047\047\365\103
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\016\134\060\142\047\353\133\274\327\256\142\272\351\325\337\167
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
\343\246\341
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "emSign Root CA - G1"
#
# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8

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```
# Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67
# Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\061\365\344\142\014\154\130\355\326\330
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\224\060\202\002\174\240\003\002\001\002\002\012\061
\365\344\142\014\154\130\355\326\330\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\060\147\061\013\060\011\006\003
\125\004\006\023\002\111\116\061\023\060\021\006\003\125\004\013
\023\012\145\155\123\151\147\156\040\120\113\111\061\045\060\043
\006\003\125\004\012\023\034\145\115\165\144\150\162\141\040\124
\145\143\150\156\157\154\157\147\151\145\163\040\114\151\155\151
\164\145\144\061\034\060\032\006\003\125\004\003\023\023\145\155
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\107
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
```


\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034
\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157
\147\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032
\006\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157
\157\164\040\103\101\040\055\040\107\061\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\223\113\273\351\146
\212\356\235\133\325\064\223\320\033\036\303\347\236\270\144\063
\177\143\170\150\264\315\056\161\165\327\233\040\306\115\051\274
\266\150\140\212\367\041\232\126\065\132\363\166\275\330\315\232
\377\223\126\113\245\131\006\241\223\064\051\335\026\064\165\116
\362\201\264\307\226\116\255\031\025\122\112\376\074\160\165\160
\315\257\053\253\025\232\063\074\252\263\213\252\315\103\375\365
\352\160\377\355\317\021\073\224\316\116\062\026\323\043\100\052
\167\263\257\074\001\054\154\355\231\054\213\331\116\151\230\262
\367\217\101\260\062\170\141\326\015\137\303\372\242\100\222\035
\134\027\346\160\076\065\347\242\267\302\142\342\253\244\070\114
\265\071\065\157\352\003\151\372\072\124\150\205\155\326\362\057
\103\125\036\221\015\016\330\325\152\244\226\321\023\074\054\170
\120\350\072\222\322\027\126\345\065\032\100\034\076\215\054\355
\071\337\102\340\203\101\164\337\243\315\302\206\140\110\150\343
\151\013\124\000\213\344\166\151\041\015\171\116\064\010\136\024
\302\314\261\267\255\327\174\160\212\307\205\002\003\001\000\001
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\373
\357\015\206\236\260\343\335\251\271\361\041\027\177\076\374\360
\167\053\032\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\001\001\000\131\377\362\214\365\207\175\161
\075\243\237\033\133\321\332\370\323\234\153\066\275\233\251\141
\353\336\026\054\164\075\236\346\165\332\327\272\247\274\102\027
\347\075\221\353\345\175\335\076\234\361\317\222\254\154\110\314
\302\042\077\151\073\305\266\025\057\243\065\306\150\052\034\127
\257\071\357\215\320\065\303\030\014\173\000\126\034\315\213\031
\164\336\276\017\022\340\320\252\241\077\002\064\261\160\316\235
\030\326\010\003\011\106\356\140\340\176\266\304\111\004\121\175
\160\140\274\252\262\377\171\162\172\246\035\075\137\052\370\312
\342\375\071\267\107\271\353\176\337\004\043\257\372\234\006\007
\351\373\143\223\200\100\265\306\154\012\061\050\316\014\237\317
\263\043\065\200\101\215\154\304\067\173\201\057\200\241\100\102
\205\351\331\070\215\350\241\123\315\001\277\151\350\132\006\362
\105\013\220\372\256\341\277\235\362\256\127\074\245\256\262\126
\364\213\145\100\351\375\061\201\054\364\071\011\330\356\153\247
\264\246\035\025\245\230\367\001\201\330\205\175\363\121\134\161
\210\336\272\314\037\200\176\112

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "emSign Root CA - G1"

Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8

Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

Not Valid Before: Sun Feb 18 18:30:00 2018

Not Valid After : Wed Feb 18 18:30:00 2043

Fingerprint (SHA-256):

40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67

Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "emSign Root CA - G1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\212\307\255\217\163\254\116\301\265\165\115\245\100\364\374\317
\174\265\216\214

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\234\102\204\127\335\313\013\247\056\225\255\266\363\332\274\254

END

CKA_ISSUER MULTILINE_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\012\061\365\344\142\014\154\130\355\326\330

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "emSign ECC Root CA - G3"

#

Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84

Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

Not Valid Before: Sun Feb 18 18:30:00 2018

Not Valid After : Wed Feb 18 18:30:00 2043

```
# Fingerprint (SHA-256):
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B
# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\074\366\007\251\150\160\016\332\213\204
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\116\060\202\001\323\240\003\002\001\002\002\012\074
\366\007\251\150\160\016\332\213\204\060\012\006\010\052\206\110
\316\075\004\003\003\060\153\061\013\060\011\006\003\125\004\006
\023\002\111\116\061\023\060\021\006\003\125\004\013\023\012\145
\155\123\151\147\156\040\120\113\111\061\045\060\043\006\003\125
\004\012\023\034\145\115\165\144\150\162\141\040\124\145\143\150
\156\157\154\157\147\151\145\163\040\114\151\155\151\164\145\144
\061\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040
\107\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060
\060\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060
\060\132\060\153\061\013\060\011\006\003\125\004\006\023\002\111
\116\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151
\147\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023
\034\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154
\157\147\151\145\163\040\114\151\155\151\164\145\144\061\040\060
```

```
\036\006\003\125\004\003\023\027\145\155\123\151\147\156\040\105
\103\103\040\122\157\157\164\040\103\101\040\055\040\107\063\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\043\245\014\270\055\022\365\050\363
\261\262\335\342\002\022\200\236\071\137\111\115\237\311\045\064
\131\164\354\273\006\034\347\300\162\257\350\256\057\341\101\124
\207\024\250\112\262\350\174\202\346\133\152\265\334\263\165\316
\213\006\320\206\043\277\106\325\216\017\077\004\364\327\034\222
\176\366\245\143\302\365\137\216\056\117\241\030\031\002\053\062
\012\202\144\175\026\223\321\243\102\060\100\060\035\006\003\125
\035\016\004\026\004\024\174\135\002\204\023\324\314\212\233\201
\316\027\034\056\051\036\234\110\143\102\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\276
\363\141\317\002\020\035\144\225\007\270\030\156\210\205\005\057
\203\010\027\220\312\037\212\114\350\015\033\172\261\255\325\201
\011\107\357\073\254\010\004\174\134\231\261\355\107\007\322\002
\061\000\235\272\125\374\251\112\350\355\355\346\166\001\102\173
\310\370\140\331\215\121\213\125\073\373\214\173\353\145\011\303
\370\226\315\107\250\202\362\026\125\167\044\176\022\020\225\004
\054\243
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "emSign ECC Root CA - G3"
```

```
# Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
```

```
# Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84
```

```
# Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
```

```
# Not Valid Before: Sun Feb 18 18:30:00 2018
```

```
# Not Valid After : Wed Feb 18 18:30:00 2043
```

```
# Fingerprint (SHA-256):
```

```
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B
```

```
# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "emSign ECC Root CA - G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\060\103\372\117\362\127\334\240\303\200\356\056\130\352\170\262
```

```
\077\346\273\301
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\316\013\162\321\237\210\216\320\120\003\350\343\270\213\147\100
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\074\366\007\251\150\160\016\332\213\204
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "emSign Root CA - C1"
#
# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2
# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F
# Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - C1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003

```

\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\013\000\256\317\000\272\304\317\062\370\103\262

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\163\060\202\002\133\240\003\002\001\002\002\013\000
\256\317\000\272\304\317\062\370\103\262\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\126\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125\004
\013\023\012\145\155\123\151\147\156\040\120\113\111\061\024\060
\022\006\003\125\004\012\023\013\145\115\165\144\150\162\141\040
\111\156\143\061\034\060\032\006\003\125\004\003\023\023\145\155
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\103
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013
\145\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\103\061\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\317\353\251\271\361\231
\005\314\330\050\041\112\363\163\064\121\204\126\020\365\240\117
\054\022\343\372\023\232\047\320\317\371\171\032\164\137\035\171
\071\374\133\370\160\216\340\222\122\367\344\045\371\124\203\331
\035\323\310\132\205\077\136\307\266\007\356\076\300\316\232\257
\254\126\102\052\071\045\160\326\277\265\173\066\255\254\366\163
\334\315\327\035\212\203\245\373\053\220\025\067\153\034\046\107
\334\073\051\126\223\152\263\301\152\072\235\075\365\301\227\070
\130\005\213\034\021\343\344\264\270\135\205\035\203\376\170\137
\013\105\150\030\110\245\106\163\064\073\376\017\310\166\273\307
\030\363\005\321\206\363\205\355\347\271\331\062\255\125\210\316
\246\266\221\260\117\254\176\025\043\226\366\077\360\040\064\026
\336\012\306\304\004\105\171\177\247\375\276\322\251\245\257\234
\305\043\052\367\074\041\154\275\257\217\116\305\072\262\363\064
\022\374\337\200\032\111\244\324\251\225\367\236\211\136\242\211
\254\224\313\250\150\233\257\212\145\047\315\211\356\335\214\265
\153\051\160\103\240\151\013\344\271\017\002\003\001\000\001\243
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\376\241
\340\160\036\052\003\071\122\132\102\276\134\221\205\172\030\252
\115\265\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\302\112\126\372\025\041\173\050\242
\351\345\035\373\370\055\304\071\226\101\114\073\047\054\304\154

```
\030\025\200\306\254\257\107\131\057\046\013\343\066\260\357\073
\376\103\227\111\062\231\022\025\133\337\021\051\377\253\123\370
\273\301\170\017\254\234\123\257\127\275\150\214\075\151\063\360
\243\240\043\143\073\144\147\042\104\255\325\161\313\126\052\170
\222\243\117\022\061\066\066\342\336\376\000\304\243\140\017\047
\255\240\260\212\265\066\172\122\241\275\047\364\040\047\142\350
\115\224\044\023\344\012\004\351\074\253\056\310\103\011\112\306
\141\004\345\111\064\176\323\304\310\365\017\300\252\351\272\124
\136\363\143\053\117\117\120\324\376\271\173\231\214\075\300\056
\274\002\053\323\304\100\344\212\007\061\036\233\316\046\231\023
\373\021\352\232\042\014\021\031\307\136\033\201\120\060\310\226
\022\156\347\313\101\177\221\073\242\107\267\124\200\033\334\000
\314\232\220\352\303\303\120\006\142\014\060\300\025\110\247\250
\131\174\341\256\042\242\342\012\172\017\372\142\253\122\114\341
\361\337\312\276\203\015\102
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Trust for "emSign Root CA - C1"

Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

Not Valid Before: Sun Feb 18 18:30:00 2018

Not Valid After : Wed Feb 18 18:30:00 2043

Fingerprint (SHA-256):

12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F

Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "emSign Root CA - C1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\347\056\361\337\374\262\011\050\317\135\324\325\147\067\261\121
\313\206\117\001
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\330\343\135\001\041\372\170\132\260\337\272\322\356\052\137\150
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\000\256\317\000\272\304\317\062\370\103\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "emSign ECC Root CA - C3"
#
# Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
# Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8
# Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3
# Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - C3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\173\161\266\202\126\270\022\174\234\250
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\053\060\202\001\261\240\003\002\001\002\002\012\173

```


\161\266\202\126\270\022\174\234\250\060\012\006\010\052\206\110
\316\075\004\003\003\060\132\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\023\060\021\006\003\125\004\013\023\012\145
\155\123\151\147\156\040\120\113\111\061\024\060\022\006\003\125
\004\012\023\013\145\115\165\144\150\162\141\040\111\156\143\061
\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147\156
\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040\103
\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013
\145\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\103\063\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\375\245\141\256\173\046\020\035\351\267\042
\060\256\006\364\201\263\261\102\161\225\071\274\323\122\343\257
\257\371\362\227\065\222\066\106\016\207\225\215\271\071\132\351
\273\337\320\376\310\007\101\074\273\125\157\203\243\152\373\142
\260\201\211\002\160\175\110\305\112\343\351\042\124\042\115\223
\273\102\014\257\167\234\043\246\175\327\141\021\316\145\307\370
\177\376\365\362\251\243\102\060\100\060\035\006\003\125\035\016
\004\026\004\024\373\132\110\320\200\040\100\362\250\351\000\007
\151\031\167\247\346\303\364\317\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\061\000\264\330\057
\002\211\375\266\114\142\272\103\116\023\204\162\265\256\335\034
\336\326\265\334\126\217\130\100\132\055\336\040\114\042\203\312
\223\250\176\356\022\100\307\326\207\117\370\337\205\002\060\034
\024\144\344\174\226\203\021\234\260\321\132\141\113\246\017\111
\323\000\374\241\374\344\245\377\177\255\327\060\320\307\167\177
\276\201\007\125\060\120\040\024\365\127\070\012\250\061\121

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "emSign ECC Root CA - C3"

Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8

Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

Not Valid Before: Sun Feb 18 18:30:00 2018

Not Valid After : Wed Feb 18 18:30:00 2043

Fingerprint (SHA-256):

BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3

Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - C3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\266\257\103\302\233\201\123\175\366\357\153\303\037\037\140\025
\014\356\110\146
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\123\263\243\201\356\327\020\370\323\260\035\027\222\365\325
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\173\161\266\202\126\270\022\174\234\250
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Hongkong Post Root CA 3"
#
# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4
# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
# Not Valid Before: Sat Jun 03 02:29:46 2017
# Not Valid After : Tue Jun 03 02:29:46 2042
# Fingerprint (SHA-256):
5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6
# Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113

```

\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\317\060\202\003\267\240\003\002\001\002\002\024\010
\026\137\212\114\245\354\000\311\223\100\337\304\306\256\043\270
\034\132\244\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\157\061\013\060\011\006\003\125\004\006\023\002\110
\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156\147
\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023\011
\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003\125
\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163
\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147
\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103
\101\040\063\060\036\027\015\061\067\060\066\060\063\060\062\062
\071\064\066\132\027\015\064\062\060\066\060\063\060\062\062\071
\064\066\132\060\157\061\013\060\011\006\003\125\004\006\023\002
\110\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156
\147\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023
\011\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003
\125\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157
\163\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156
\147\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040
\103\101\040\063\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\263\210\327\352\316\017\040\116\276\346\326
\003\155\356\131\374\302\127\337\051\150\241\203\016\076\150\307
\150\130\234\034\140\113\211\103\014\271\324\025\262\356\301\116
\165\351\265\247\357\345\351\065\231\344\314\034\347\113\137\215

\063\060\040\063\123\331\246\273\325\076\023\216\351\037\207\111
\255\120\055\120\312\030\276\001\130\242\023\160\226\273\211\210
\126\200\134\370\275\054\074\341\114\127\210\273\323\271\225\357
\313\307\366\332\061\164\050\246\346\124\211\365\101\061\312\345
\046\032\315\202\340\160\332\073\051\273\325\003\365\231\272\125
\365\144\321\140\016\263\211\111\270\212\057\005\322\204\105\050
\174\217\150\120\022\170\374\013\265\123\313\302\230\034\204\243
\236\260\276\043\244\332\334\310\053\036\332\156\105\036\211\230
\332\371\000\056\006\351\014\073\160\325\120\045\210\231\313\315
\163\140\367\325\377\065\147\305\241\274\136\253\315\112\270\105
\353\310\150\036\015\015\024\106\022\343\322\144\142\212\102\230
\274\264\306\010\010\370\375\250\114\144\234\166\001\275\057\251
\154\063\017\330\077\050\270\074\151\001\102\206\176\151\301\311
\006\312\345\172\106\145\351\302\326\120\101\056\077\267\344\355
\154\327\277\046\001\021\242\026\051\112\153\064\006\220\354\023
\322\266\373\152\166\322\074\355\360\326\055\335\341\025\354\243
\233\057\054\311\076\053\344\151\073\377\162\045\261\066\206\133
\307\177\153\213\125\033\112\305\040\141\075\256\313\120\341\010
\072\276\260\217\143\101\123\060\010\131\074\230\035\167\272\143
\221\172\312\020\120\140\277\360\327\274\225\207\217\227\305\376
\227\152\001\224\243\174\133\205\035\052\071\072\320\124\241\321
\071\161\235\375\041\371\265\173\360\342\340\002\217\156\226\044
\045\054\240\036\054\250\304\211\247\357\355\231\006\057\266\012
\114\117\333\242\314\067\032\257\107\205\055\212\137\304\064\064
\114\000\375\030\223\147\023\321\067\346\110\264\213\006\305\127
\173\031\206\012\171\313\000\311\122\257\102\377\067\217\341\243
\036\172\075\120\253\143\006\347\025\265\077\266\105\067\224\067
\261\176\362\110\303\177\305\165\376\227\215\105\217\032\247\032
\162\050\032\100\017\002\003\001\000\001\243\143\060\141\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\037\006\003\125\035\043\004\030\060\026\200\024\027\235\315\036
\213\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141
\060\035\006\003\125\035\016\004\026\004\024\027\235\315\036\213
\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\002\001\000\126\325\173\156\346\042\001\322\102\233\030\325\016
\327\146\043\134\343\376\240\307\222\322\351\224\255\113\242\306
\354\022\174\164\325\110\322\131\024\231\300\353\271\321\353\364
\110\060\133\255\247\127\163\231\251\323\345\267\321\056\131\044
\130\334\150\056\056\142\330\152\344\160\013\055\040\120\040\244
\062\225\321\000\230\273\323\375\367\062\362\111\256\306\172\340
\107\276\156\316\313\243\162\072\055\151\135\313\310\350\105\071
\324\372\102\301\021\114\167\135\222\373\152\377\130\104\345\353
\201\236\257\240\231\255\276\251\001\146\313\070\035\074\337\103
\037\364\115\156\264\272\027\106\374\175\375\207\201\171\152\015
\063\017\372\057\370\024\271\200\263\135\115\252\227\341\371\344
\030\305\370\325\070\214\046\074\375\362\050\342\356\132\111\210

```
\054\337\171\075\216\236\220\074\275\101\112\072\335\133\366\232
\264\316\077\045\060\177\062\175\242\003\224\320\334\172\241\122
\336\156\223\215\030\046\375\125\254\275\217\233\322\317\257\347
\206\054\313\037\011\157\243\157\251\204\324\163\277\115\241\164
\033\116\043\140\362\314\016\252\177\244\234\114\045\250\262\146
\073\070\377\331\224\060\366\162\204\276\150\125\020\017\306\163
\054\026\151\223\007\376\261\105\355\273\242\125\152\260\332\265
\112\002\045\047\205\327\267\267\206\104\026\211\154\200\053\076
\227\251\234\325\176\125\114\306\336\105\020\034\352\351\073\237
\003\123\356\356\172\001\002\026\170\324\350\302\276\106\166\210
\023\077\042\273\110\022\035\122\000\264\002\176\041\032\036\234
\045\364\363\075\136\036\322\034\371\263\055\266\367\067\134\306
\313\041\116\260\367\231\107\030\205\301\053\272\125\256\006\352
\320\007\262\334\253\320\202\226\165\316\322\120\376\231\347\317
\057\237\347\166\321\141\052\373\041\273\061\320\252\237\107\244
\262\042\312\026\072\120\127\304\133\103\147\305\145\142\003\111
\001\353\103\331\330\370\236\255\317\261\143\016\105\364\240\132
\054\233\055\305\246\300\255\250\107\364\047\114\070\015\056\033
\111\073\122\364\350\210\203\053\124\050\324\362\065\122\264\062
\203\142\151\144\014\221\234\237\227\352\164\026\375\037\021\006
\232\233\364
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Hongkong Post Root CA 3"
```

```
# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
```

```
# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4
```

```
# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
```

```
# Not Valid Before: Sat Jun 03 02:29:46 2017
```

```
# Not Valid After : Tue Jun 03 02:29:46 2042
```

```
# Fingerprint (SHA-256):
```

```
5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6
```

```
# Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\130\242\320\354\040\122\201\133\301\363\370\144\002\044\116\302
\216\002\113\002
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\021\374\237\275\163\060\002\212\375\077\363\130\271\313\040\360
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Entrust Root Certification Authority - G4"

#

Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58

Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Not Valid Before: Wed May 27 11:11:16 2015

Not Valid After : Sun Dec 27 11:41:16 2037

Fingerprint (SHA-256):

DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88

Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
```

\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\113\060\202\004\063\240\003\002\001\002\002\021\000
\331\265\103\177\257\251\071\017\000\000\000\000\125\145\255\130
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165\163
\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165\163
\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162\155
\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051\040
\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111\156
\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162\151
\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060\060
\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107\064
\060\036\027\015\061\065\060\065\062\067\061\061\061\061\061\066
\132\027\015\063\067\061\062\062\067\061\061\064\061\061\066\132
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051

\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\261\354\054\102\356\342\321\060\377\245\222\107\342\055
\303\272\144\227\155\312\367\015\265\131\301\263\313\250\150\031
\330\257\204\155\060\160\135\176\363\056\322\123\231\341\376\037
\136\331\110\257\135\023\215\333\377\143\063\115\323\000\002\274
\304\370\321\006\010\224\171\130\212\025\336\051\263\375\375\304
\117\350\252\342\240\073\171\315\277\153\103\062\335\331\164\020
\271\367\364\150\324\273\320\207\325\252\113\212\052\157\052\004
\265\262\246\307\240\172\346\110\253\322\321\131\314\326\176\043
\346\227\154\360\102\345\334\121\113\025\101\355\111\112\311\336
\020\227\326\166\301\357\245\265\066\024\227\065\330\170\042\065
\122\357\103\275\333\047\333\141\126\202\064\334\313\210\140\014
\013\132\345\054\001\306\124\257\327\252\301\020\173\322\005\132
\270\100\236\206\247\303\220\206\002\126\122\011\172\234\322\047
\202\123\112\145\122\152\365\074\347\250\362\234\257\213\275\323
\016\324\324\136\156\207\236\152\075\105\035\321\135\033\364\351
\012\254\140\231\373\211\264\377\230\054\317\174\035\351\002\252
\004\232\036\270\334\210\156\045\263\154\146\367\074\220\363\127
\301\263\057\365\155\362\373\312\241\370\051\235\106\213\263\152
\366\346\147\007\276\054\147\012\052\037\132\262\076\127\304\323
\041\041\143\145\122\221\033\261\231\216\171\176\346\353\215\000
\331\132\252\352\163\350\244\202\002\107\226\376\133\216\124\141
\243\353\057\113\060\260\213\043\165\162\174\041\074\310\366\361
\164\324\034\173\243\005\125\356\273\115\073\062\276\232\167\146
\236\254\151\220\042\007\037\141\072\226\276\345\232\117\314\005
\074\050\131\323\301\014\124\250\131\141\275\310\162\114\350\334
\237\207\177\275\234\110\066\136\225\243\016\271\070\044\125\374
\165\146\353\002\343\010\064\051\112\306\343\053\057\063\240\332
\243\206\245\022\227\375\200\053\332\024\102\343\222\275\076\362
\135\136\147\164\056\034\210\107\051\064\137\342\062\250\234\045
\067\214\272\230\000\227\213\111\226\036\375\045\212\254\334\332
\330\135\164\156\146\260\377\104\337\241\030\306\276\110\057\067
\224\170\370\225\112\077\177\023\136\135\131\375\164\206\103\143
\163\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\237\070\304\126\043\303\071\350\240
\161\154\350\124\114\344\350\072\261\277\147\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\022
\345\102\246\173\213\017\014\344\106\245\266\140\100\207\214\045
\176\255\270\150\056\133\306\100\166\074\003\370\311\131\364\363

\253\142\316\020\215\264\132\144\214\150\300\260\162\103\064\322
\033\013\366\054\123\322\312\220\113\206\146\374\252\203\042\364
\213\032\157\046\110\254\166\167\010\277\305\230\134\364\046\211
\236\173\303\271\144\062\001\177\323\303\335\130\155\354\261\253
\204\125\164\167\204\004\047\122\153\206\114\316\335\271\145\377
\326\306\136\237\232\020\231\113\165\152\376\152\351\227\040\344
\344\166\172\306\320\044\252\220\315\040\220\272\107\144\373\177
\007\263\123\170\265\012\142\362\163\103\316\101\053\201\152\056
\205\026\224\123\324\153\137\162\042\253\121\055\102\325\000\234
\231\277\336\273\224\073\127\375\232\365\206\313\126\073\133\210
\001\345\174\050\113\003\371\111\203\174\262\177\174\343\355\216
\241\177\140\123\216\125\235\120\064\022\017\267\227\173\154\207
\112\104\347\365\155\354\200\067\360\130\031\156\112\150\166\360
\037\222\344\352\265\222\323\141\121\020\013\255\247\331\137\307
\137\334\037\243\134\214\241\176\233\267\236\323\126\157\146\136
\007\226\040\355\013\164\373\146\116\213\021\025\351\201\111\176
\157\260\324\120\177\042\327\137\145\002\015\246\364\205\036\330
\256\006\113\112\247\322\061\146\302\370\316\345\010\246\244\002
\226\104\150\127\304\325\063\317\031\057\024\304\224\034\173\244
\331\360\237\016\261\200\342\321\236\021\144\251\210\021\072\166
\202\345\142\302\200\330\244\203\355\223\357\174\057\220\260\062
\114\226\025\150\110\122\324\231\010\300\044\350\034\343\263\245
\041\016\222\300\220\037\317\040\137\312\073\070\307\267\155\072
\363\346\104\270\016\061\153\210\216\160\353\234\027\122\250\101
\224\056\207\266\347\246\022\305\165\337\133\300\012\156\173\244
\344\136\206\371\066\224\337\167\303\351\015\300\071\361\171\273
\106\216\253\103\131\047\267\040\273\043\351\126\100\041\354\061
\075\145\252\103\362\075\337\160\104\341\272\115\046\020\073\230
\237\363\310\216\033\070\126\041\152\121\223\323\221\312\106\332
\211\267\075\123\203\054\010\037\213\217\123\335\377\254\037

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

Trust for "Entrust Root Certification Authority - G4"

Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:55:65:ad:58

Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Not Valid Before: Wed May 27 11:11:16 2015

Not Valid After : Sun Dec 27 11:41:16 2037

Fingerprint (SHA-256):

DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88

Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\024\210\116\206\046\067\260\046\257\131\142\134\100\167\354\065
\051\272\226\001
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\211\123\361\203\043\267\174\216\005\361\214\161\070\116\037\210
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Microsoft ECC Root Certificate Authority 2017"
#
# Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec
# Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Not Valid Before: Wed Dec 18 23:06:45 2019
# Not Valid After : Fri Jul 18 23:16:04 2042
# Fingerprint (SHA-256):
35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02
# Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

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\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\131\060\202\001\337\240\003\002\001\002\002\020\146
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\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\036\060\034\006\003
\125\004\012\023\025\115\151\143\162\157\163\157\146\164\040\103
\157\162\160\157\162\141\164\151\157\156\061\066\060\064\006\003
\125\004\003\023\055\115\151\143\162\157\163\157\146\164\040\105
\103\103\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060
\061\067\060\036\027\015\061\071\061\062\061\070\062\063\060\066
\064\065\132\027\015\064\062\060\067\061\070\062\063\061\066\060
\064\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\036\060\034\006\003\125\004\012\023\025\115\151\143\162
\157\163\157\146\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\066\060\064\006\003\125\004\003\023\055\115\151\143\162
\157\163\157\146\164\040\105\103\103\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\040\062\060\061\067\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\324\274\075\002\102\165\101\023\043\315\200\004\206\002\121
\057\152\250\201\142\013\145\314\366\312\235\036\157\112\146\121
\242\003\331\235\221\372\266\026\261\214\156\336\174\315\333\171
\246\057\316\273\316\161\057\345\245\253\050\354\143\004\146\231

\370\372\362\223\020\005\341\201\050\102\343\306\150\364\346\033
\204\140\112\211\257\355\171\017\073\316\361\366\104\365\001\170
\300\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\310\313\231\162\160\122\014\370\346\276\262\004\127\051\052
\317\102\020\355\065\060\020\006\011\053\006\001\004\001\202\067
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\060\130\362\115\352\014\371
\137\136\356\140\051\313\072\362\333\326\062\204\031\077\174\325
\057\302\261\314\223\256\120\273\011\062\306\306\355\176\311\066
\224\022\344\150\205\006\242\033\320\057\002\061\000\231\351\026
\264\016\372\126\110\324\244\060\026\221\170\333\124\214\145\001
\212\347\120\146\302\061\267\071\272\270\032\042\007\116\374\153
\124\026\040\377\053\265\347\114\014\115\246\117\163

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Microsoft ECC Root Certificate Authority 2017"

Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec

Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

Not Valid Before: Wed Dec 18 23:06:45 2019

Not Valid After : Fri Jul 18 23:16:04 2042

Fingerprint (SHA-256):

35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02

Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\231\232\144\303\177\364\175\237\253\225\361\107\151\211\024\140
\356\304\303\305

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\335\241\003\346\112\223\020\321\277\360\031\102\313\376\355\147

END

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151

\164\171\040\062\060\061\067

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001

\302\354

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Microsoft RSA Root Certificate Authority 2017"

#

Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

Serial Number: 1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3

Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

Not Valid Before: Wed Dec 18 22:51:22 2019

Not Valid After : Fri Jul 18 23:00:23 2042

Fingerprint (SHA-256):

C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0

Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163

\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061

\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163

\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162

\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151

\164\171\040\062\060\061\067

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163

\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061

\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163

\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162

\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151

\164\171\040\062\060\061\067

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\250\060\202\003\220\240\003\002\001\002\002\020\036
\323\227\011\137\330\264\263\107\160\036\252\276\177\105\263\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036\060
\034\006\003\125\004\012\023\025\115\151\143\162\157\163\157\146
\164\040\103\157\162\160\157\162\141\164\151\157\156\061\066\060
\064\006\003\125\004\003\023\055\115\151\143\162\157\163\157\146
\164\040\122\123\101\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\062\060\061\067\060\036\027\015\061\071\061\062\061\070\062
\062\065\061\062\062\132\027\015\064\062\060\067\061\070\062\063
\060\060\062\063\132\060\145\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\036\060\034\006\003\125\004\012\023\025\115
\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162\141
\164\151\157\156\061\066\060\064\006\003\125\004\003\023\055\115
\151\143\162\157\163\157\146\164\040\122\123\101\040\122\157\157
\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165
\164\150\157\162\151\164\171\040\062\060\061\067\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\133\276
\224\063\214\051\225\221\026\012\225\275\107\142\301\211\363\231
\066\337\106\220\311\245\355\170\152\157\107\221\150\370\047\147
\120\063\035\241\246\373\340\345\103\243\204\002\127\001\135\234
\110\100\202\123\020\274\277\307\073\150\220\266\202\055\345\364
\145\320\314\155\031\314\225\371\173\254\112\224\255\016\336\113
\103\035\207\007\222\023\220\200\203\144\065\071\004\374\345\351
\154\263\266\037\120\224\070\145\120\134\027\106\271\266\205\265
\034\265\027\350\326\105\235\330\262\046\260\312\304\160\112\256
\140\244\335\263\331\354\374\073\325\127\162\274\077\310\311\262
\336\113\153\370\043\154\003\300\005\275\225\307\315\163\073\146
\200\144\343\032\254\056\371\107\005\362\006\266\233\163\365\170
\063\133\307\241\373\047\052\241\264\232\221\214\221\323\072\202
\076\166\100\264\315\122\141\121\160\050\077\305\305\132\362\311
\214\111\273\024\133\115\310\377\147\115\114\022\226\255\365\376
\170\250\227\207\327\375\136\040\200\334\241\113\042\373\324\211
\255\272\316\107\227\107\125\173\217\105\310\147\050\204\225\034
\150\060\357\357\111\340\065\173\144\347\230\260\224\332\115\205
\073\076\125\304\050\257\127\363\236\023\333\106\047\237\036\242
\136\104\203\244\245\312\325\023\263\113\077\304\343\302\346\206
\141\244\122\060\271\172\040\117\157\017\070\123\313\063\014\023
\053\217\326\232\275\052\310\055\261\034\175\113\121\312\107\321
\110\047\162\135\207\353\325\105\346\110\145\235\257\122\220\272
\133\242\030\145\127\022\237\150\271\324\025\153\224\304\151\042
\230\364\063\340\355\371\121\216\101\120\311\064\117\166\220\254

\374\070\301\330\341\173\271\343\343\224\341\106\151\313\016\012
\120\153\023\272\254\017\067\132\267\022\265\220\201\036\126\256
\127\042\206\331\311\322\321\327\121\343\253\073\306\125\375\036
\016\323\164\012\321\332\252\352\151\270\227\050\217\110\304\007
\370\122\103\072\364\312\125\065\054\260\246\152\300\234\371\362
\201\341\022\152\300\105\331\147\263\316\377\043\242\211\012\124
\324\024\271\052\250\327\354\371\253\315\045\130\062\171\217\220
\133\230\071\304\010\006\301\254\177\016\075\000\245\002\003\001
\000\001\243\124\060\122\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\011\313\131\177\206\262\160\217\032\303\071\343\300\331
\351\277\273\115\262\043\060\020\006\011\053\006\001\004\001\202
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206
\367\015\001\001\014\005\000\003\202\002\001\000\254\257\076\135
\302\021\226\211\216\243\347\222\326\227\025\270\023\242\246\102
\056\002\315\026\005\131\047\312\040\350\272\270\350\032\354\115
\250\227\126\256\145\103\261\217\000\233\122\315\125\315\123\071
\155\142\114\213\015\133\174\056\104\277\203\020\217\363\123\202
\200\303\117\072\307\156\021\077\346\343\026\221\204\373\155\204
\177\064\164\255\211\247\316\271\327\327\237\204\144\222\276\225
\241\255\011\123\063\335\356\012\352\112\121\216\157\125\253\272
\265\224\106\256\214\177\330\242\120\045\145\140\200\106\333\063
\004\256\154\265\230\164\124\045\334\223\344\370\343\125\025\075
\270\155\303\012\244\022\301\151\205\156\337\144\361\123\231\341
\112\165\040\235\225\017\344\326\334\003\361\131\030\350\107\211
\262\127\132\224\266\251\330\027\053\027\111\345\166\313\301\126
\231\072\067\261\377\151\054\221\221\223\341\337\114\243\067\166
\115\241\237\370\155\036\035\323\372\354\373\364\105\035\023\155
\317\367\131\345\042\047\162\053\206\363\127\273\060\355\044\115
\334\175\126\273\243\263\370\064\171\211\301\340\362\002\141\367
\246\374\017\273\034\027\013\256\101\331\174\275\047\243\375\056
\072\321\223\224\261\163\035\044\213\257\133\040\211\255\267\147
\146\171\365\072\306\246\226\063\376\123\222\310\106\261\021\221
\306\231\177\217\311\326\146\061\040\101\020\207\055\014\326\301
\257\064\230\312\144\203\373\023\127\321\301\360\074\172\214\245
\301\375\225\041\240\161\301\223\147\161\022\352\217\210\012\151
\031\144\231\043\126\373\254\052\056\160\276\146\304\014\204\357
\345\213\363\223\001\370\152\220\223\147\113\262\150\243\265\142
\217\351\077\214\172\073\136\017\347\214\270\306\174\357\067\375
\164\342\310\117\063\162\341\224\071\155\275\022\257\276\014\116
\160\174\033\157\215\263\062\223\163\104\026\155\350\364\367\340
\225\200\217\226\135\070\244\364\253\336\012\060\207\223\330\115
\000\161\142\105\047\113\072\102\204\133\177\145\267\147\064\122
\055\234\026\153\252\250\330\173\243\102\114\161\307\014\312\076
\203\344\246\357\267\001\060\136\121\243\171\365\160\151\246\101
\104\017\206\260\054\221\306\075\352\256\017\204

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Microsoft RSA Root Certificate Authority 2017"
Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Serial Number:1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3
Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Not Valid Before: Wed Dec 18 22:51:22 2019
Not Valid After : Fri Jul 18 23:00:23 2042
Fingerprint (SHA-256):
C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0
Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\163\245\346\112\073\377\203\026\377\016\334\314\141\212\220\156
\116\256\115\164
END

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\020\377\000\377\317\311\370\307\172\300\356\065\216\311\017\107
END

CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263
END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Certificate "e-Szigno Root CA 2017"

Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a


```
# Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
# Not Valid Before: Tue Aug 22 12:07:06 2017
# Not Valid After : Fri Aug 22 12:07:06 2042
# Fingerprint (SHA-256):
BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99
# Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\100\060\202\001\345\240\003\002\001\002\002\014\001
\124\110\357\041\375\227\131\015\365\004\012\060\012\006\010\052
\206\110\316\075\004\003\002\060\161\061\013\060\011\006\003\125
\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007\014
\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003\125
\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164\144
\056\061\027\060\025\006\003\125\004\141\014\016\126\101\124\110
\125\055\062\063\065\070\064\064\071\067\061\036\060\034\006\003
\125\004\003\014\025\145\055\123\172\151\147\156\157\040\122\157
\157\164\040\103\101\040\062\060\061\067\060\036\027\015\061\067
\060\070\062\062\061\062\060\067\060\066\132\027\015\064\062\060
```

\070\062\062\061\062\060\067\060\066\132\060\161\061\013\060\011
\006\003\125\004\006\023\002\110\125\061\021\060\017\006\003\125
\004\007\014\010\102\165\144\141\160\145\163\164\061\026\060\024
\006\003\125\004\012\014\015\115\151\143\162\157\163\145\143\040
\114\164\144\056\061\027\060\025\006\003\125\004\141\014\016\126
\101\124\110\125\055\062\063\065\070\064\064\071\067\061\036\060
\034\006\003\125\004\003\014\025\145\055\123\172\151\147\156\157
\040\122\157\157\164\040\103\101\040\062\060\061\067\060\131\060
\023\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316
\075\003\001\007\003\102\000\004\226\334\075\212\330\260\173\157
\306\047\276\104\220\261\263\126\025\173\216\103\044\175\032\204
\131\356\143\150\262\306\136\207\320\025\110\036\250\220\255\275
\123\242\332\336\072\220\246\140\137\150\062\265\206\101\337\207
\133\054\173\305\376\174\172\332\243\143\060\141\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006
\003\125\035\016\004\026\004\024\207\021\025\010\321\252\301\170
\014\261\257\316\306\311\220\357\277\060\004\300\060\037\006\003
\125\035\043\004\030\060\026\200\024\207\021\025\010\321\252\301
\170\014\261\257\316\306\311\220\357\277\060\004\300\060\012\006
\010\052\206\110\316\075\004\003\002\003\111\000\060\106\002\041
\000\265\127\335\327\212\125\013\066\341\206\104\372\324\331\150
\215\270\334\043\212\212\015\324\057\175\352\163\354\277\115\154
\250\002\041\000\313\245\264\022\372\347\265\350\317\176\223\374
\363\065\217\157\116\132\174\264\274\116\262\374\162\252\133\131
\371\347\334\061

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "e-Szigno Root CA 2017"

Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a

Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

Not Valid Before: Tue Aug 22 12:07:06 2017

Not Valid After : Fri Aug 22 12:07:06 2042

Fingerprint (SHA-256):

BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99

Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "e-Szigno Root CA 2017"

CKA_CERT_SHA1_HASH MULTILINE OCTAL

\211\324\203\003\117\236\232\110\200\137\162\067\324\251\246\357

\313\174\037\321

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\336\037\366\236\204\256\247\264\041\316\036\130\175\321\204\230
END
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "certSIGN Root CA G2"
#
# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
# Serial Number:11:00:34:b6:4e:c6:36:2d:36
# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
# Not Valid Before: Mon Feb 06 09:27:35 2017
# Not Valid After : Thu Feb 06 09:27:35 2042
# Fingerprint (SHA-256):
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN Root CA G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```

\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\021\000\064\266\116\306\066\055\066

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\107\060\202\003\057\240\003\002\001\002\002\011\021
\000\064\266\116\306\066\055\066\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\101\061\013\060\011\006\003\125
\004\006\023\002\122\117\061\024\060\022\006\003\125\004\012\023
\013\103\105\122\124\123\111\107\116\040\123\101\061\034\060\032
\006\003\125\004\013\023\023\143\145\162\164\123\111\107\116\040
\122\117\117\124\040\103\101\040\107\062\060\036\027\015\061\067
\060\062\060\066\060\071\062\067\063\065\132\027\015\064\062\060
\062\060\066\060\071\062\067\063\065\132\060\101\061\013\060\011
\006\003\125\004\006\023\002\122\117\061\024\060\022\006\003\125
\004\012\023\013\103\105\122\124\123\111\107\116\040\123\101\061
\034\060\032\006\003\125\004\013\023\023\143\145\162\164\123\111
\107\116\040\122\117\117\124\040\103\101\040\107\062\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\300\305
\165\031\221\175\104\164\164\207\376\016\073\226\334\330\001\026
\314\356\143\221\347\013\157\316\073\012\151\032\174\302\343\257
\202\216\206\327\136\217\127\353\323\041\131\375\071\067\102\060
\276\120\352\266\017\251\210\330\056\055\151\041\347\321\067\030
\116\175\221\325\026\137\153\133\000\302\071\103\015\066\205\122
\271\123\145\017\035\102\345\217\317\005\323\356\334\014\032\331
\270\213\170\042\147\344\151\260\150\305\074\344\154\132\106\347
\315\307\372\357\304\354\113\275\152\244\254\375\314\050\121\357
\222\264\051\253\253\065\232\114\344\304\010\306\046\314\370\151
\237\344\234\360\051\323\134\371\306\026\045\236\043\303\040\301
\075\017\077\070\100\260\376\202\104\070\252\132\032\212\153\143
\130\070\264\025\323\266\021\151\173\036\124\356\214\032\042\254
\162\227\077\043\131\233\311\042\204\301\007\117\314\177\342\127
\312\022\160\273\246\145\363\151\165\143\275\225\373\033\227\315
\344\250\257\366\321\116\250\331\212\161\044\315\066\075\274\226
\304\361\154\251\256\345\317\015\156\050\015\260\016\265\312\121
\173\170\024\303\040\057\177\373\024\125\341\021\231\375\325\012
\241\236\002\343\142\137\353\065\113\054\270\162\350\076\075\117
\254\054\273\056\206\342\243\166\217\345\223\052\317\245\253\310
\134\215\113\006\377\022\106\254\170\313\024\007\065\340\251\337
\213\351\257\025\117\026\211\133\275\366\215\306\131\256\210\205
\016\301\211\353\037\147\305\105\216\377\155\067\066\053\170\146
\203\221\121\053\075\377\121\167\166\142\241\354\147\076\076\201

\203\340\126\251\120\037\037\172\231\253\143\277\204\027\167\361
\015\073\337\367\234\141\263\065\230\212\072\262\354\074\032\067
\077\176\217\222\317\331\022\024\144\332\020\002\025\101\377\117
\304\353\034\243\311\372\231\367\106\351\341\030\331\261\270\062
\055\313\024\014\120\330\203\145\203\356\271\134\317\313\005\132
\114\372\031\227\153\326\135\023\323\302\134\124\274\062\163\240
\170\365\361\155\036\313\237\245\246\237\042\334\321\121\236\202
\171\144\140\051\023\076\243\375\117\162\152\253\342\324\345\270
\044\125\054\104\113\212\210\104\234\312\204\323\052\073\002\003
\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004
\026\004\024\202\041\055\146\306\327\240\340\025\353\316\114\011
\167\304\140\236\124\156\003\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\002\001\000\140\336\032\270\347
\362\140\202\325\003\063\201\313\006\212\361\042\111\351\350\352
\221\177\306\063\136\150\031\003\206\073\103\001\317\007\160\344
\010\036\145\205\221\346\021\042\267\365\002\043\216\256\271\036
\175\037\176\154\346\275\045\325\225\032\362\005\246\257\205\002
\157\256\370\326\061\377\045\311\112\310\307\212\251\331\237\113
\111\233\021\127\231\222\103\021\336\266\063\244\314\327\215\144
\175\324\315\074\050\054\264\232\226\352\115\365\304\104\304\045
\252\040\200\330\051\125\367\340\101\374\006\046\377\271\066\365
\103\024\003\146\170\341\021\261\332\040\137\106\000\170\000\041
\245\036\000\050\141\170\157\250\001\001\217\235\064\232\377\364
\070\220\373\270\321\263\162\006\311\161\346\201\305\171\355\013
\246\171\362\023\013\234\367\135\016\173\044\223\264\110\333\206
\137\336\120\206\170\347\100\346\061\250\220\166\160\141\257\234
\067\054\021\265\202\267\252\256\044\064\133\162\014\151\015\315
\131\237\366\161\257\234\013\321\012\070\371\006\042\203\123\045
\014\374\121\304\346\276\342\071\225\013\044\255\257\321\225\344
\226\327\164\144\153\161\116\002\074\252\205\363\040\243\103\071
\166\133\154\120\376\232\234\024\036\145\024\212\025\275\243\202
\105\132\111\126\152\322\234\261\143\062\345\141\340\123\042\016
\247\012\111\352\313\176\037\250\342\142\200\366\020\105\122\230
\006\030\336\245\315\057\177\252\324\351\076\010\162\354\043\003
\002\074\246\252\330\274\147\164\075\024\027\373\124\113\027\343
\323\171\075\155\153\111\311\050\016\056\164\120\277\014\331\106
\072\020\206\311\247\077\351\240\354\177\353\245\167\130\151\161
\346\203\012\067\362\206\111\152\276\171\010\220\366\002\026\144
\076\345\332\114\176\014\064\311\371\137\266\263\050\121\247\247
\053\252\111\372\215\145\051\116\343\153\023\247\224\243\055\121
\155\170\014\104\313\337\336\010\157\316\243\144\253\323\225\204
\324\271\122\124\162\173\226\045\314\274\151\343\110\156\015\320
\307\235\047\232\252\370\023\222\335\036\337\143\237\065\251\026
\066\354\214\270\203\364\075\211\217\315\264\027\136\327\263\027
\101\020\135\047\163\140\205\127\111\042\007

END

```

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "certSIGN Root CA G2"
# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
# Serial Number:11:00:34:b6:4e:c6:36:2d:36
# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
# Not Valid Before: Mon Feb 06 09:27:35 2017
# Not Valid After : Thu Feb 06 09:27:35 2042
# Fingerprint (SHA-256):
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN Root CA G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\046\371\223\264\355\075\050\047\260\271\113\247\351\025\035\243
\215\222\345\062
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\214\361\165\212\306\031\317\224\267\367\145\040\207\303\227\307
END
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\021\000\064\266\116\306\066\055\066
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Trustwave Global Certification Authority"
#
# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US

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# Not Valid Before: Wed Aug 23 19:34:12 2017
# Not Valid After : Sat Aug 23 19:34:12 2042
# Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\332\060\202\003\302\240\003\002\001\002\002\014\005
\367\016\206\332\111\363\106\065\056\272\262\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\060\201\210\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006\003
\125\004\010\014\010\111\154\154\151\156\157\151\163\061\020\060
\016\006\003\125\004\007\014\007\103\150\151\143\141\147\157\061
\041\060\037\006\003\125\004\012\014\030\124\162\165\163\164\167
\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\003\014\050\124\162\165
\163\164\167\141\166\145\040\107\154\157\142\141\154\040\103\145
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\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\060\036\027\015\061\067\060\070\062\063\061
\071\063\064\061\062\132\027\015\064\062\060\070\062\063\061\071
\063\064\061\062\132\060\201\210\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\021\060\017\006\003\125\004\010\014\010
\111\154\154\151\156\157\151\163\061\020\060\016\006\003\125\004
\007\014\007\103\150\151\143\141\147\157\061\041\060\037\006\003
\125\004\012\014\030\124\162\165\163\164\167\141\166\145\040\110
\157\154\144\151\156\147\163\054\040\111\156\143\056\061\061\060
\057\006\003\125\004\003\014\050\124\162\165\163\164\167\141\166
\145\040\107\154\157\142\141\154\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\271\135\121\050\113\074\067\222\321\202\316\275\035\275\315
\335\270\253\317\012\076\341\135\345\334\252\011\271\127\002\076
\346\143\141\337\362\017\202\143\256\243\367\254\163\321\174\347
\263\013\257\010\000\011\131\177\315\051\052\210\223\207\027\030
\200\355\210\262\264\266\020\037\055\326\137\125\242\023\135\321
\306\353\006\126\211\210\376\254\062\235\375\134\303\005\307\156
\356\206\211\272\210\003\235\162\041\206\220\256\217\003\245\334
\237\210\050\313\243\222\111\017\354\320\017\342\155\104\117\200
\152\262\324\347\240\012\123\001\272\216\227\221\166\156\274\374
\325\153\066\346\100\210\326\173\057\137\005\350\054\155\021\363
\347\262\276\222\104\114\322\227\244\376\322\162\201\103\007\234
\351\021\076\365\213\032\131\175\037\150\130\335\004\000\054\226
\363\103\263\176\230\031\164\331\234\163\331\030\276\101\307\064
\171\331\364\142\302\103\271\263\047\260\042\313\371\075\122\307
\060\107\263\311\076\270\152\342\347\350\201\160\136\102\213\117
\046\245\376\072\302\040\156\273\370\026\216\315\014\251\264\033
\154\166\020\341\130\171\106\076\124\316\200\250\127\011\067\051
\033\231\023\217\014\310\326\054\034\373\005\350\010\225\075\145
\106\334\356\315\151\342\115\217\207\050\116\064\013\076\317\024
\331\273\335\266\120\232\255\167\324\031\326\332\032\210\310\116
\033\047\165\330\262\010\361\256\203\060\271\021\016\315\207\360
\204\215\025\162\174\241\357\314\362\210\141\272\364\151\273\014
\214\013\165\127\004\270\116\052\024\056\075\017\034\036\062\246
\142\066\356\146\342\042\270\005\100\143\020\042\363\063\035\164
\162\212\054\365\071\051\240\323\347\033\200\204\055\305\075\343
\115\261\375\032\157\272\145\007\073\130\354\102\105\046\373\330
\332\045\162\304\366\000\261\042\171\275\343\174\131\142\112\234
\005\157\075\316\346\326\107\143\231\306\044\157\162\022\310\254
\177\220\264\013\221\160\350\267\346\026\020\161\027\316\336\006
\117\110\101\175\065\112\243\211\362\311\113\173\101\021\155\147
\267\010\230\114\345\021\031\256\102\200\334\373\220\005\324\370
\120\312\276\344\255\307\302\224\327\026\235\346\027\217\257\066
\373\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125

\035\016\004\026\004\024\231\340\031\147\015\142\333\166\263\332
\075\270\133\350\375\102\322\061\016\207\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\230\163
\160\342\260\323\355\071\354\114\140\331\251\022\206\027\036\226
\320\350\124\050\073\144\055\041\246\370\235\126\023\152\110\075
\117\307\076\051\333\155\130\203\124\075\207\175\043\005\324\344
\034\334\350\070\145\206\305\165\247\132\333\065\005\275\167\336
\273\051\067\100\005\007\303\224\122\237\312\144\335\361\033\053
\334\106\012\020\002\061\375\112\150\015\007\144\220\346\036\365
\052\241\250\273\074\135\371\243\010\013\021\014\361\077\055\020
\224\157\376\342\064\207\203\326\317\345\033\065\155\322\003\341
\260\015\250\240\252\106\047\202\066\247\025\266\010\246\102\124
\127\266\231\132\342\013\171\220\327\127\022\121\065\031\210\101
\150\045\324\067\027\204\025\373\001\162\334\225\336\122\046\040
\230\046\342\166\365\047\157\372\000\073\112\141\331\015\313\121
\223\052\375\026\006\226\247\043\232\043\110\376\121\275\266\304
\260\261\124\316\336\154\101\255\026\147\176\333\375\070\315\271
\070\116\262\301\140\313\235\027\337\130\236\172\142\262\046\217
\164\225\233\344\133\035\322\017\335\230\034\233\131\271\043\323
\061\240\246\377\070\335\317\040\117\351\130\126\072\147\303\321
\366\231\231\235\272\066\266\200\057\210\107\117\206\277\104\072
\200\344\067\034\246\272\352\227\230\021\320\204\142\107\144\036
\252\356\100\277\064\261\234\217\116\341\362\222\117\037\216\363
\236\227\336\363\246\171\152\211\161\117\113\047\027\110\376\354
\364\120\017\117\111\175\314\105\343\275\172\100\305\101\334\141
\126\047\006\151\345\162\101\201\323\266\001\211\240\057\072\162
\171\376\072\060\277\101\354\307\142\076\221\113\307\331\061\166
\102\371\367\074\143\354\046\214\163\014\175\032\035\352\250\174
\207\250\302\047\174\341\063\101\017\317\317\374\000\240\042\200
\236\112\247\157\000\260\101\105\267\042\312\150\110\305\102\242
\256\335\035\362\340\156\116\005\130\261\300\220\026\052\244\075
\020\100\276\217\142\143\203\251\234\202\175\055\002\351\203\060
\174\313\047\311\375\036\146\000\260\056\323\041\057\216\063\026
\154\230\355\020\250\007\326\314\223\317\333\321\151\034\344\312
\311\340\266\234\351\316\161\161\336\154\077\026\244\171

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Trustwave Global Certification Authority"
Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:34:12 2017

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# Not Valid After : Sat Aug 23 19:34:12 2042
# Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\217\066\117\341\130\227\104\041\131\207\245\052\232\320\151
\225\046\177\265
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\034\030\055\057\272\137\155\241\154\274\307\253\221\307\016
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Trustwave Global ECC P256 Certification Authority"
#
# Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d
# Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:35:10 2017
# Not Valid After : Sat Aug 23 19:35:10 2042
# Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4
# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\015\152\137\010\077\050\134\076\121\225\337\135
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\140\060\202\002\007\240\003\002\001\002\002\014\015
\152\137\010\077\050\134\076\121\225\337\135\060\012\006\010\052
\206\110\316\075\004\003\002\060\201\221\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120
\062\065\066\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\067\060\070\062\063\061\071\063\065\061\060\132\027\015\064\062
```

\060\070\062\063\061\071\063\065\061\060\132\060\201\221\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105
\103\103\040\120\062\065\066\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060
\131\060\023\006\007\052\206\110\316\075\002\001\006\010\052\206
\110\316\075\003\001\007\003\102\000\004\176\373\154\346\043\343
\163\062\010\312\140\346\123\234\272\164\215\030\260\170\220\122
\200\335\070\300\112\035\321\250\314\223\244\227\006\070\312\015
\025\142\306\216\001\052\145\235\252\337\064\221\056\201\301\344
\063\222\061\304\375\011\072\246\077\255\243\103\060\101\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\017\006\003\125\035\017\001\001\377\004\005\003\003\007\006\000
\060\035\006\003\125\035\016\004\026\004\024\243\101\006\254\220
\155\321\112\353\165\245\112\020\231\263\261\241\213\112\367\060
\012\006\010\052\206\110\316\075\004\003\002\003\107\000\060\104
\002\040\007\346\124\332\016\240\132\262\256\021\237\207\305\266
\377\151\336\045\276\370\240\267\010\363\104\316\052\337\010\041
\014\067\002\040\055\046\003\240\005\275\153\321\366\134\370\145
\314\206\155\263\234\064\110\143\204\011\305\215\167\032\342\314
\234\341\164\173

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Trustwave Global ECC P256 Certification Authority"

Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US

Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d

Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US

Not Valid Before: Wed Aug 23 19:35:10 2017

Not Valid After : Sat Aug 23 19:35:10 2042

Fingerprint (SHA-256):

94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4

Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\264\220\202\335\105\014\276\213\133\261\146\323\342\244\010\046
\315\355\102\317

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\133\104\343\215\135\066\206\046\350\015\005\322\131\247\203\124

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\014\015\152\137\010\077\050\134\076\121\225\337\135

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Trustwave Global ECC P384 Certification Authority"

#

Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US

Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b

Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US

Not Valid Before: Wed Aug 23 19:36:43 2017

Not Valid After : Sat Aug 23 19:36:43 2042

Fingerprint (SHA-256):

55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97

Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156

\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\014\010\275\205\227\154\231\047\244\200\150\107\073

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\235\060\202\002\044\240\003\002\001\002\002\014\010
\275\205\227\154\231\047\244\200\150\107\073\060\012\006\010\052
\206\110\316\075\004\003\003\060\201\221\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120
\063\070\064\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\067\060\070\062\063\061\071\063\066\064\063\132\027\015\064\062
\060\070\062\063\061\071\063\066\064\063\132\060\201\221\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105
\103\103\040\120\063\070\064\040\103\145\162\164\151\146\151\143

\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\153\332\015\165\065\010\061\107\005
\256\105\231\125\361\021\023\056\112\370\020\061\043\243\176\203
\323\177\050\010\072\046\032\072\317\227\202\037\200\267\047\011
\217\321\216\060\304\012\233\016\254\130\004\253\367\066\175\224
\043\244\233\012\212\213\253\353\375\071\045\146\361\136\376\214
\256\215\101\171\235\011\140\316\050\251\323\212\155\363\326\105
\324\362\230\204\070\145\240\243\103\060\101\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\017\006\003
\125\035\017\001\001\377\004\005\003\003\007\006\000\060\035\006
\003\125\035\016\004\026\004\024\125\251\204\211\322\301\062\275
\030\313\154\246\007\116\310\347\235\276\202\220\060\012\006\010
\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067
\001\222\227\105\022\176\240\363\076\255\031\072\162\335\364\120
\223\003\022\276\104\322\117\101\244\214\234\235\037\243\366\302
\222\347\110\024\376\116\233\245\221\127\256\306\067\162\273\002
\060\147\045\012\261\014\136\356\251\143\222\157\345\220\013\376
\146\042\312\107\375\212\061\367\203\376\172\277\020\276\030\053
\036\217\366\051\036\224\131\357\216\041\067\313\121\230\245\156
\113

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Trustwave Global ECC P384 Certification Authority"

Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US

Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b

Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US

Not Valid Before: Wed Aug 23 19:36:43 2017

Not Valid After : Sat Aug 23 19:36:43 2042

Fingerprint (SHA-256):

55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97

Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\347\363\243\310\317\157\303\004\056\155\016\147\062\305\236\150
\225\015\136\322

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\352\317\140\304\073\271\025\051\100\241\227\355\170\047\223\326

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\014\010\275\205\227\154\231\047\244\200\150\107\073

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "NAVER Global Root Certification Authority"

#

Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

Not Valid Before: Fri Aug 18 08:58:42 2017

Not Valid After : Tue Aug 18 23:59:59 2037

Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104
\161\370\326\120\115\015

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\242\060\202\003\212\240\003\002\001\002\002\024\001
\224\060\036\242\013\335\365\305\063\052\261\103\104\161\370\326
\120\115\015\060\015\006\011\052\206\110\206\367\015\001\001\014
\005\000\060\151\061\013\060\011\006\003\125\004\006\023\002\113
\122\061\046\060\044\006\003\125\004\012\014\035\116\101\126\105
\122\040\102\125\123\111\116\105\123\123\040\120\114\101\124\106
\117\122\115\040\103\157\162\160\056\061\062\060\060\006\003\125
\004\003\014\051\116\101\126\105\122\040\107\154\157\142\141\154
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036\027
\015\061\067\060\070\061\070\060\070\065\070\064\062\132\027\015
\063\067\060\070\061\070\062\063\065\071\065\071\132\060\151\061
\013\060\011\006\003\125\004\006\023\002\113\122\061\046\060\044
\006\003\125\004\012\014\035\116\101\126\105\122\040\102\125\123
\111\116\105\123\123\040\120\114\101\124\106\117\122\115\040\103
\157\162\160\056\061\062\060\060\006\003\125\004\003\014\051\116
\101\126\105\122\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\266\324\361\223\134\265\100
\211\012\253\015\220\133\120\143\256\220\224\164\027\105\162\326
\173\145\132\051\113\247\126\240\113\270\057\102\165\351\331\173
\044\132\061\145\253\027\027\321\063\072\331\021\334\100\066\207
\337\307\152\351\046\136\131\212\167\343\350\110\234\061\026\372
\076\221\261\312\311\243\342\237\316\041\123\243\002\066\060\313
\122\002\345\332\062\135\303\305\346\371\356\021\307\213\311\104
\036\204\223\030\112\264\237\345\022\144\151\320\046\205\142\001
\266\311\002\035\276\203\121\273\134\332\370\255\025\152\231\367
\222\124\367\064\133\351\277\352\051\201\022\324\123\221\226\263
\221\132\335\376\220\163\050\373\060\106\265\312\010\007\307\161
\162\311\146\323\064\227\366\214\364\030\112\341\320\075\132\105
\266\151\247\051\373\043\316\210\330\022\234\000\110\250\246\017
\263\073\222\215\161\016\164\305\213\310\114\371\364\233\216\270

\074\151\355\157\073\120\057\130\355\304\260\320\034\033\152\014
\342\274\104\252\330\315\024\135\224\170\141\277\016\156\332\052
\274\057\014\013\161\246\263\026\077\234\346\371\314\237\123\065
\342\003\240\240\030\277\273\361\276\364\326\214\207\015\102\367
\006\271\361\155\355\004\224\250\376\266\323\006\306\100\141\337
\235\235\363\124\166\316\123\072\001\246\222\101\354\004\243\217
\015\242\325\011\312\326\313\232\361\357\103\135\300\253\245\101
\317\134\123\160\160\311\210\246\055\324\153\141\163\120\046\206
\141\016\137\033\302\053\342\214\325\273\235\301\003\102\272\224
\332\137\251\260\312\314\115\012\357\107\151\003\057\042\373\361
\050\316\277\135\120\145\250\220\155\263\164\260\010\307\254\250
\321\353\076\234\374\135\032\203\056\053\313\265\363\104\235\072
\247\027\141\226\242\161\323\160\226\025\115\267\114\163\356\031
\134\305\133\076\101\376\254\165\140\073\033\143\316\000\335\332
\010\220\142\264\345\055\356\110\247\153\027\231\124\276\207\112
\343\251\136\004\114\353\020\155\124\326\357\361\350\362\142\026
\313\200\153\355\075\355\365\037\060\245\256\113\311\023\355\212
\001\001\311\270\121\130\300\146\072\261\146\113\304\325\061\002
\142\351\164\204\014\333\115\106\055\002\003\001\000\001\243\102
\060\100\060\035\006\003\125\035\016\004\026\004\024\322\237\210
\337\241\315\054\275\354\365\073\001\001\223\063\047\262\353\140
\113\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\014\005
\000\003\202\002\001\000\062\312\200\263\235\075\124\006\335\322
\322\056\360\244\001\041\013\147\110\312\155\216\340\310\252\015
\252\215\041\127\217\306\076\172\312\333\121\324\122\263\324\226
\204\245\130\140\177\345\013\216\037\365\334\012\025\201\345\073
\266\267\042\057\011\234\023\026\261\154\014\065\010\155\253\143
\162\355\334\276\354\307\127\346\060\040\161\326\327\020\301\023
\125\001\214\052\103\344\101\361\317\072\172\123\222\316\242\003
\005\015\070\337\002\273\020\056\331\073\322\233\172\300\241\246
\370\265\061\346\364\165\311\271\123\231\165\107\042\132\024\025
\307\170\033\266\235\351\014\370\033\166\361\205\204\336\241\332
\022\357\244\342\020\227\172\170\336\014\121\227\250\041\100\213
\206\275\015\360\136\116\113\066\273\073\040\037\212\102\126\341
\013\032\277\173\320\042\103\054\104\214\373\345\052\264\154\034
\034\272\224\340\023\176\041\346\232\302\313\305\102\144\264\036
\224\173\010\045\310\161\314\207\105\127\205\323\237\051\142\042
\203\121\227\000\030\227\167\152\230\222\311\174\140\154\337\154
\175\112\344\160\114\302\236\270\035\367\320\064\307\017\314\373
\247\377\003\276\255\160\220\332\013\335\310\155\227\137\232\177
\011\062\101\375\315\242\314\132\155\114\362\252\111\376\146\370
\351\330\065\353\016\050\036\356\110\057\072\320\171\011\070\174
\246\042\202\223\225\320\003\276\276\002\240\005\335\040\042\343
\157\035\210\064\140\306\346\012\271\011\165\013\360\007\350\151
\226\065\307\373\043\201\216\070\071\270\105\053\103\170\242\321
\054\024\377\015\050\162\162\225\233\136\011\333\211\104\230\252

```
\241\111\273\161\122\362\277\366\377\047\241\066\257\270\266\167
\210\335\072\244\155\233\064\220\334\024\135\060\277\267\353\027
\344\207\267\161\320\241\327\167\025\324\102\327\362\363\061\231
\135\233\335\026\155\077\352\006\043\370\106\242\042\355\223\366
\335\232\346\052\207\261\230\124\361\042\367\153\105\343\342\216
\166\035\232\215\304\006\215\066\267\024\363\235\124\151\267\216
\074\325\244\155\223\201\267\255\366\275\144\173\302\311\150\071
\240\222\234\315\064\206\221\220\372\144\121\235\376\376\353\245
\365\165\336\211\367\162
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "NAVER Global Root Certification Authority"

Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

Not Valid Before: Fri Aug 18 08:58:42 2017

Not Valid After : Tue Aug 18 23:59:59 2037

Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\217\153\362\251\047\112\332\024\240\304\364\216\141\047\371\300
\036\170\135\321
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\310\176\101\366\045\073\365\011\263\027\350\106\075\277\320\233
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104
\161\370\326\120\115\015
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

#

Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95

Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

Not Valid Before: Thu Dec 20 09:37:33 2018

Not Valid After : Sun Dec 20 09:37:33 2043

Fingerprint (SHA-256):

55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB

Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225

END

CKA_VALUE MULTILINE_OCTAL

```
\060\202\002\156\060\202\001\363\240\003\002\001\002\002\020\142
\366\062\154\345\304\343\150\134\033\142\335\234\056\235\225\060
\012\006\010\052\206\110\316\075\004\003\003\060\170\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003
\125\004\012\014\010\106\116\115\124\055\122\103\115\061\016\060
\014\006\003\125\004\013\014\005\103\145\162\145\163\061\030\060
\026\006\003\125\004\141\014\017\126\101\124\105\123\055\121\062
\070\062\066\060\060\064\112\061\054\060\052\006\003\125\004\003
\014\043\101\103\040\122\101\111\132\040\106\116\115\124\055\122
\103\115\040\123\105\122\126\111\104\117\122\105\123\040\123\105
\107\125\122\117\123\060\036\027\015\061\070\061\062\062\060\060
\071\063\067\063\063\132\027\015\064\063\061\062\062\060\060\071
\063\067\063\063\132\060\170\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\021\060\017\006\003\125\004\012\014\010\106
\116\115\124\055\122\103\115\061\016\060\014\006\003\125\004\013
\014\005\103\145\162\145\163\061\030\060\026\006\003\125\004\141
\014\017\126\101\124\105\123\055\121\062\070\062\066\060\060\064
\112\061\054\060\052\006\003\125\004\003\014\043\101\103\040\122
\101\111\132\040\106\116\115\124\055\122\103\115\040\123\105\122
\126\111\104\117\122\105\123\040\123\105\107\125\122\117\123\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\366\272\127\123\310\312\253\337\066
\112\122\041\344\227\322\203\147\236\360\145\121\320\136\207\307
\107\261\131\362\127\107\233\000\002\223\104\027\151\333\102\307
\261\262\072\030\016\264\135\214\263\146\135\241\064\371\066\054
\111\333\363\106\374\263\104\151\104\023\146\375\327\305\375\257
\066\115\316\003\115\007\161\317\257\152\005\322\242\103\132\012
\122\157\001\003\116\216\213\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\001\271\057\357\277\021\206\140\362
\117\320\101\156\253\163\037\347\322\156\111\060\012\006\010\052
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\256
\112\343\053\100\303\164\021\362\225\255\026\043\336\116\014\032
\346\135\245\044\136\153\104\173\374\070\342\117\313\234\105\027
\021\114\024\047\046\125\071\165\112\003\314\023\220\237\222\002
\061\000\372\112\154\140\210\163\363\356\270\230\142\251\316\053
\302\331\212\246\160\061\035\257\260\224\114\353\117\306\343\321
\363\142\247\074\377\223\056\007\134\111\001\147\151\022\002\162
\277\347
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

```
# Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
# Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95
# Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
# Not Valid Before: Thu Dec 20 09:37:33 2018
# Not Valid After : Sun Dec 20 09:37:33 2043
# Fingerprint (SHA-256):
55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB
# Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\142\377\331\236\300\145\015\003\316\165\223\322\355\077\055\062
\311\343\345\112
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\031\066\234\122\003\057\322\321\273\043\314\335\036\022\125\273
END
CKA_ISSUER MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Secure Mail Root R45"
#
# Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
# Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc
# Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 18 00:00:00 2020
```

```
# Not Valid After : Sat Mar 18 00:00:00 2045
# Fingerprint (SHA-256):
31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74
# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\160\060\202\003\130\240\003\002\001\002\002\020\166
\123\376\250\114\120\253\237\215\062\265\035\003\217\127\334\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\122
\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060
\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151
\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125\004
\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123\145
\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040\122
\064\065\060\036\027\015\062\060\060\063\061\070\060\060\060\060
\060\060\132\027\015\064\065\060\063\061\070\060\060\060\060\060
\060\132\060\122\061\013\060\011\006\003\125\004\006\023\002\102
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142
\141\154\123\151\147\156\040\156\166\055\163\141\061\050\060\046
\006\003\125\004\003\023\037\107\154\157\142\141\154\123\151\147
\156\040\123\145\143\165\162\145\040\115\141\151\154\040\122\157
\157\164\040\122\064\065\060\202\002\042\060\015\006\011\052\206
```

\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\334\171\314\155\006\371\155\273\340
\126\004\154\177\340\165\314\055\005\111\350\113\334\124\354\133
\167\225\162\277\177\142\235\205\251\212\044\120\137\123\345\333
\164\157\244\051\133\023\052\011\255\232\305\057\302\367\166\073
\241\105\106\252\103\346\044\376\053\260\157\062\160\031\106\132
\171\046\057\374\075\175\137\144\313\127\314\141\141\250\331\225
\156\343\225\240\156\177\107\022\030\326\357\003\311\373\212\372
\232\275\202\025\251\125\167\113\021\117\131\340\153\303\161\363
\014\330\124\325\201\150\076\023\271\025\056\207\212\074\104\047
\066\142\044\156\370\054\005\162\060\141\275\102\221\043\304\235
\045\247\331\124\232\024\243\061\255\200\171\014\247\143\154\230
\243\254\127\107\063\037\145\226\341\320\322\065\332\371\161\367
\241\246\045\265\101\135\337\076\140\330\321\366\237\245\362\270
\314\023\252\217\371\262\156\341\203\055\223\335\076\205\032\335
\350\261\134\046\001\313\111\205\374\374\322\324\177\205\142\206
\164\371\313\354\065\042\242\014\060\217\073\253\171\353\126\362
\372\102\363\355\371\037\105\211\100\051\255\352\222\164\352\122
\375\126\264\053\332\242\355\165\302\156\253\316\122\220\113\366
\336\360\111\217\232\110\324\210\031\155\105\346\314\214\271\335
\144\140\140\002\100\370\271\317\274\130\353\075\205\271\306\012
\323\234\007\146\217\307\030\071\043\106\341\074\036\243\057\120
\141\222\013\075\053\154\361\243\107\070\127\221\253\015\217\306
\235\115\004\322\046\122\134\345\245\375\052\055\026\052\001\151
\347\251\175\341\066\267\261\052\305\331\261\215\275\271\213\316
\314\213\241\076\013\110\315\120\225\064\304\330\010\131\330\153
\046\364\276\365\324\042\027\000\127\311\256\233\004\060\063\237
\013\373\337\126\242\311\156\124\166\332\261\227\142\047\131\017
\021\212\042\033\144\226\077\250\361\267\044\112\215\074\123\174
\155\203\166\075\262\046\110\163\365\104\026\001\055\011\052\216
\026\226\120\320\163\006\135\273\042\110\202\114\012\106\132\077
\200\377\134\362\362\232\254\054\010\340\326\352\360\022\070\201
\117\246\020\355\106\253\314\026\234\013\317\144\246\231\002\205
\104\147\106\255\375\115\347\002\003\001\000\001\243\102\060\100
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\240\223\025\050
\156\356\217\010\262\065\306\236\142\171\164\247\261\016\053\173
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003
\202\002\001\000\105\012\370\321\134\254\142\201\320\004\327\266
\377\127\121\211\013\014\313\336\044\145\067\373\253\236\355\146
\364\352\014\031\151\211\270\031\261\060\126\264\331\366\367\276
\306\256\227\313\105\366\021\214\072\060\144\114\301\237\131\300
\106\102\010\006\107\144\027\170\340\225\007\006\326\214\242\254
\251\331\077\323\173\126\117\374\304\207\050\337\266\053\026\043
\300\237\037\133\343\326\104\136\042\117\043\004\214\065\026\265
\171\007\206\134\057\227\342\366\010\144\246\334\333\250\212\343
\244\173\167\015\321\051\223\050\040\264\123\243\113\116\137\336

\301\366\165\043\374\037\074\170\117\160\061\170\057\242\065\124
\161\004\254\310\304\155\303\366\221\261\376\315\356\104\156\201
\366\100\305\076\052\001\277\253\114\261\003\077\015\021\344\017
\322\044\343\042\210\233\237\137\107\075\121\111\340\011\067\176
\027\041\061\166\267\147\161\110\050\113\045\327\020\350\237\141
\131\026\305\076\062\116\037\014\316\243\314\017\344\307\021\007
\042\057\070\010\335\133\227\353\102\154\131\232\232\356\172\320
\235\337\305\333\011\103\056\012\252\031\075\153\350\152\060\172
\127\346\277\263\152\071\251\217\343\361\117\145\150\266\275\237
\050\217\241\026\132\011\120\072\062\056\035\057\104\021\102\246
\000\346\061\230\377\055\241\017\346\244\140\126\317\171\327\262
\116\327\260\372\156\014\127\043\307\316\037\245\261\114\155\031
\111\236\016\177\160\217\161\077\130\050\237\165\335\141\340\072
\267\071\266\356\227\324\065\121\373\213\111\140\310\074\146\256
\227\356\215\046\131\127\273\170\360\172\120\060\011\260\140\252
\237\116\334\311\076\036\072\334\142\223\063\260\072\124\164\157
\054\061\105\321\153\021\062\152\150\166\366\075\366\152\023\136
\044\230\347\352\035\232\317\170\202\007\140\367\115\020\323\201
\232\105\215\236\257\233\334\200\307\103\262\225\150\244\303\016
\350\012\107\025\277\124\063\334\001\347\325\246\036\163\330\172
\262\277\057\255\343\125\060\236\337\016\101\274\340\021\365\241
\014\250\042\341\343\000\243\116\160\174\222\343\004\321\172\102
\212\165\220\131\343\233\321\114\242\144\275\163\171\233\157\362
\263\301\366\074

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Secure Mail Root R45"

Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

Serial Number: 76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc

Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

Not Valid Before: Wed Mar 18 00:00:00 2020

Not Valid After : Sat Mar 18 00:00:00 2045

Fingerprint (SHA-256):

31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74

Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\166\030\321\363\200\044\075\122\100\306\021\152\255\127\167\011
\175\201\060\240

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\223\304\173\263\016\124\107\034\103\054\213\276\160\205\142\051

END

CKA_ISSUER MULTILINE_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GlobalSign Secure Mail Root E45"

#

Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a

Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

Not Valid Before: Wed Mar 18 00:00:00 2020

Not Valid After : Sat Mar 18 00:00:00 2045

Fingerprint (SHA-256):

5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19

Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154

\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\041\060\202\001\247\240\003\002\001\002\002\020\166
\123\376\252\047\035\225\106\135\326\361\236\345\270\220\012\060
\012\006\010\052\206\110\316\075\004\003\003\060\122\061\013\060
\011\006\003\125\004\006\023\002\102\105\061\031\060\027\006\003
\125\004\012\023\020\107\154\157\142\141\154\123\151\147\156\040
\156\166\055\163\141\061\050\060\046\006\003\125\004\003\023\037
\107\154\157\142\141\154\123\151\147\156\040\123\145\143\165\162
\145\040\115\141\151\154\040\122\157\157\164\040\105\064\065\060
\036\027\015\062\060\060\063\061\070\060\060\060\060\060\132
\027\015\064\065\060\063\061\070\060\060\060\060\060\132\060
\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031
\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123
\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125
\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123
\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040
\105\064\065\060\166\060\020\006\007\052\206\110\316\075\002\001
\006\005\053\201\004\000\042\003\142\000\004\371\171\213\201\107
\067\211\226\077\105\111\120\177\032\046\013\223\062\176\056\300
\300\247\010\232\303\156\217\233\076\013\042\354\067\123\267\157
\212\260\274\047\067\113\155\251\106\073\331\037\377\245\241\104
\273\055\163\277\236\101\007\134\123\233\121\010\072\132\273\157
\070\307\026\221\170\302\112\023\151\035\202\337\132\057\000\210
\226\242\056\034\164\371\235\176\146\067\212\243\102\060\100\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\337\023\136\213\137
\302\100\002\375\126\267\224\114\266\036\325\246\261\024\226\060
\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060\145
\002\060\023\260\276\327\161\040\076\344\253\234\316\066\022\175
\137\114\037\052\265\151\105\063\137\323\055\132\262\344\210\307
\336\012\066\102\062\171\235\246\153\272\341\371\104\052\173\212
\303\022\002\061\000\240\146\034\116\207\235\207\311\355\231\114
\033\012\356\055\140\303\067\307\035\315\265\162\260\331\306\357
\274\362\377\077\360\122\335\010\347\252\144\171\303\344\151\127
\221\057\244\313\174

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Secure Mail Root E45"

Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a

Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

Not Valid Before: Wed Mar 18 00:00:00 2020

Not Valid After : Sat Mar 18 00:00:00 2045

Fingerprint (SHA-256):

5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19

Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\030\056\037\062\117\211\337\276\376\210\211\360\223\302\304\240
\053\147\165\041

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\305\374\306\056\237\364\122\055\052\250\244\272\373\147\062\377

END

CKA_ISSUER MULTILINE_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GlobalSign Root R46"

#

Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1

Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

Not Valid Before: Wed Mar 20 00:00:00 2019

Not Valid After : Tue Mar 20 00:00:00 2046

```
# Fingerprint (SHA-256):
4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9
# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root R46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\132\060\202\003\102\240\003\002\001\002\002\022\021
\322\273\271\327\043\030\236\100\137\012\235\055\320\337\045\147
\321\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066\060\036\027\015\061\071\060\063
\062\060\060\060\060\060\060\060\132\027\015\064\066\060\063\062
\060\060\060\060\060\060\060\132\060\106\061\013\060\011\006\003
\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004\012
\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166\055
\163\141\061\034\060\032\006\003\125\004\003\023\023\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\122\064\066
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\254\254\164\062\350\263\145\345\272\355\103\046\035\246\211
\015\105\272\051\210\262\244\035\143\335\323\301\054\011\127\211
\071\241\125\351\147\064\167\014\156\344\125\035\122\045\322\023
```

\153\136\341\035\251\267\175\211\062\137\015\236\237\054\172\143
\140\100\037\246\260\266\170\217\231\124\226\010\130\256\344\006
\274\142\005\002\026\277\257\250\043\003\266\224\017\274\156\154
\302\313\325\246\273\014\351\366\301\002\373\041\336\146\335\027
\253\164\102\357\360\164\057\045\364\352\153\125\133\220\333\235
\337\136\207\012\100\373\255\031\153\373\367\312\140\210\336\332
\301\217\326\256\325\177\324\074\203\356\327\026\114\203\105\063
\153\047\320\206\320\034\055\153\363\253\175\361\205\251\365\050
\322\255\357\363\204\113\034\207\374\023\243\072\162\242\132\021
\053\326\047\161\047\355\201\055\155\146\201\222\207\264\033\130
\172\314\077\012\372\106\117\115\170\134\370\053\110\343\004\204
\313\135\366\264\152\263\145\374\102\236\121\046\043\040\313\075
\024\371\201\355\145\026\000\117\032\144\227\146\010\317\214\173
\343\053\300\235\371\024\362\033\361\126\152\026\277\054\205\205
\315\170\070\232\353\102\152\002\064\030\203\027\116\224\126\370
\266\202\265\363\226\335\075\363\276\177\040\167\076\173\031\043
\153\054\324\162\163\103\127\175\340\370\327\151\117\027\066\004
\371\300\220\140\067\105\336\346\014\330\164\215\256\234\242\155
\164\135\102\276\006\365\331\144\156\002\020\254\211\260\114\073
\007\115\100\176\044\305\212\230\202\171\216\244\247\202\040\215
\043\372\047\161\311\337\306\101\164\240\115\366\221\026\334\106
\214\137\051\143\061\131\161\014\330\157\302\266\062\175\373\346
\135\123\246\176\025\374\273\165\174\135\354\370\366\027\034\354
\307\153\031\313\363\173\360\053\007\245\331\154\171\124\166\154
\235\034\246\156\016\351\171\014\250\043\152\243\337\033\060\061
\237\261\124\173\376\152\313\146\252\334\145\320\242\236\112\232
\007\041\153\201\217\333\304\131\372\336\042\300\004\234\343\252
\133\066\223\350\075\275\172\241\235\013\166\261\013\307\235\375
\317\230\250\006\302\370\052\243\241\203\240\267\045\162\245\002
\343\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\003\134\253\163\201\207\250\314\260\246
\325\224\342\066\226\111\377\005\231\054\060\015\006\011\052\206
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\174\170
\354\366\002\054\273\133\176\222\053\135\071\334\276\330\035\242
\102\063\115\371\357\244\052\073\104\151\036\254\331\105\243\116
\074\247\330\044\121\262\124\034\223\116\304\357\173\223\205\140
\046\352\011\110\340\365\273\307\351\150\322\273\152\061\161\314
\171\256\021\250\360\231\375\345\037\274\057\250\314\127\353\166
\304\041\246\107\123\125\115\150\277\005\244\356\327\046\253\142
\332\103\067\113\342\306\265\345\262\203\031\072\307\323\333\115
\236\010\172\363\356\317\076\142\373\254\350\140\314\321\307\241
\134\203\105\304\105\314\363\027\153\024\311\004\002\076\322\044
\246\171\351\036\316\242\347\301\131\025\237\035\342\113\232\076
\237\166\010\055\153\330\272\127\024\332\203\352\376\214\125\351
\320\116\251\314\167\061\261\104\021\172\134\261\076\323\024\105
\025\030\142\044\023\322\313\115\316\134\203\301\066\362\020\265

```
\016\210\155\270\341\126\237\211\336\226\146\071\107\144\054\156
\115\256\142\173\277\140\164\031\270\126\254\222\254\026\062\355
\255\150\125\376\230\272\323\064\336\364\311\141\303\016\206\366
\113\204\140\356\015\173\265\062\130\171\221\125\054\201\103\263
\164\037\172\252\045\236\035\327\241\213\271\315\102\056\004\244
\146\203\115\211\065\266\154\250\066\112\171\041\170\042\320\102
\274\321\100\061\220\241\276\004\317\312\147\355\365\360\200\323
\140\311\203\052\042\005\320\007\073\122\277\014\236\252\053\371
\273\346\037\217\045\272\205\215\027\036\002\376\135\120\004\127
\317\376\055\274\357\134\300\032\253\266\237\044\306\337\163\150
\110\220\054\024\364\077\122\032\344\322\313\024\303\141\151\317
\342\371\030\305\272\063\237\024\243\004\135\271\161\367\265\224
\330\366\063\301\132\301\064\213\174\233\335\223\072\347\023\242
\160\141\237\257\217\353\330\305\165\370\063\146\324\164\147\072
\067\167\234\347\335\244\017\166\103\146\212\103\362\237\373\014
\102\170\143\321\342\017\157\173\324\241\075\164\227\205\267\110
\071\101\326\040\374\320\072\263\372\350\157\304\212\272\161\067
\276\213\227\261\170\061\117\263\347\266\003\023\316\124\235\256
\045\131\314\177\065\137\010\367\100\105\061\170\052\172
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Root R46"
```

```
# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
```

```
# Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1
```

```
# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
```

```
# Not Valid Before: Wed Mar 20 00:00:00 2019
```

```
# Not Valid After : Tue Mar 20 00:00:00 2046
```

```
# Fingerprint (SHA-256):
```

```
4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9
```

```
# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root R46"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\123\242\260\113\312\153\326\105\346\071\212\216\304\015\322\277
\167\303\242\220
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\304\024\060\344\372\146\103\224\052\152\033\044\137\031\320\357
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
```

```
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GlobalSign Root E46"

#

Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43

Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

Not Valid Before: Wed Mar 20 00:00:00 2019

Not Valid After : Tue Mar 20 00:00:00 2046

Fingerprint (SHA-256):

CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58

Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GlobalSign Root E46"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103
```


END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\013\060\202\001\221\240\003\002\001\002\002\022\021
\322\273\272\063\156\324\274\346\044\150\305\015\204\035\230\350
\103\060\012\006\010\052\206\110\316\075\004\003\003\060\106\061
\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060\027
\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151\147
\156\040\156\166\055\163\141\061\034\060\032\006\003\125\004\003
\023\023\107\154\157\142\141\154\123\151\147\156\040\122\157\157
\164\040\105\064\066\060\036\027\015\061\071\060\063\062\060\060
\060\060\060\060\132\027\015\064\066\060\063\062\060\060\060
\060\060\060\060\132\060\106\061\013\060\011\006\003\125\004\006
\023\002\102\105\061\031\060\027\006\003\125\004\012\023\020\107
\154\157\142\141\154\123\151\147\156\040\156\166\055\163\141\061
\034\060\032\006\003\125\004\003\023\023\107\154\157\142\141\154
\123\151\147\156\040\122\157\157\164\040\105\064\066\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\234\016\261\317\267\350\236\122\167\165\064
\372\245\106\247\255\062\031\062\264\007\251\047\312\224\273\014
\322\012\020\307\332\211\260\227\014\160\023\011\001\216\330\352
\107\352\276\262\200\053\315\374\050\015\333\254\274\244\206\067
\355\160\010\000\165\352\223\013\173\056\122\234\043\150\043\006
\103\354\222\057\123\204\333\373\107\024\007\350\137\224\147\135
\311\172\201\074\040\243\102\060\100\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\061\012\220\217\266\306\235\322\104\113\200
\265\242\346\037\261\022\117\033\225\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\061\000\337\124\220
\355\233\357\213\224\002\223\027\202\231\276\263\236\054\366\013
\221\214\237\112\024\261\366\144\274\273\150\121\023\014\003\367
\025\213\204\140\271\213\377\122\216\347\214\274\034\002\060\074
\371\021\324\214\116\300\301\141\302\025\114\252\253\035\013\061
\137\073\034\342\000\227\104\061\346\376\163\226\057\332\226\323
\376\010\007\263\064\211\274\005\237\367\036\206\356\213\160

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Root E46"
Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43
Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 20 00:00:00 2019
Not Valid After : Tue Mar 20 00:00:00 2046
Fingerprint (SHA-256):
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58

```

# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root E46"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\071\264\154\325\376\200\006\353\342\057\112\273\010\063\240\257
\333\271\335\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\265\270\146\355\336\010\203\343\311\342\001\064\006\254\121\157
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GLOBALTRUST 2020"
#
# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5
# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
# Not Valid Before: Mon Feb 10 00:00:00 2020
# Not Valid After : Sun Jun 10 00:00:00 2040
# Fingerprint (SHA-256):
9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A
# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GLOBALTRUST 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061

```

\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\013\132\113\275\132\373\117\212\133\372\145\345

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\202\060\202\003\152\240\003\002\001\002\002\013\132
\113\275\132\373\117\212\133\372\145\345\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\115\061\013\060\011\006
\003\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004
\012\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157
\156\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060
\027\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122
\125\123\124\040\062\060\062\060\060\060\036\027\015\062\060\060\062
\061\060\060\060\060\060\060\060\132\027\015\064\060\060\066\061
\060\060\060\060\060\060\060\132\060\115\061\013\060\011\006\003
\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004\012
\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157\156
\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060\027
\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122\125
\123\124\040\062\060\062\060\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\256\056\126\255\033\034\357\366
\225\217\240\167\033\053\323\143\217\204\115\105\242\017\237\133
\105\253\131\173\121\064\371\354\213\212\170\305\335\153\257\275
\304\337\223\105\036\277\221\070\013\256\016\026\347\101\163\370
\333\273\321\270\121\340\313\203\073\163\070\156\167\212\017\131
\143\046\315\247\052\316\124\373\270\342\300\174\107\316\140\174
\077\262\163\362\300\031\266\212\222\207\065\015\220\050\242\344
\025\004\143\076\272\257\356\174\136\314\246\213\120\262\070\367
\101\143\312\316\377\151\217\150\016\225\066\345\314\271\214\011
\312\113\335\061\220\226\310\314\037\375\126\226\064\333\216\034
\352\054\276\205\056\143\335\252\251\225\323\375\051\225\023\360
\310\230\223\331\055\026\107\220\021\203\242\072\042\242\050\127
\242\353\376\300\214\050\240\246\175\347\052\102\073\202\200\143
\245\143\037\031\314\174\262\146\250\302\323\155\067\157\342\176
\006\121\331\105\204\037\022\316\044\122\144\205\013\110\200\116

\207\261\042\042\060\252\353\256\276\340\002\340\100\350\260\102
\200\003\121\252\264\176\252\104\327\103\141\363\242\153\026\211
\111\244\243\244\053\212\002\304\170\364\150\212\301\344\172\066
\261\157\033\226\033\167\111\215\324\311\006\162\217\317\123\343
\334\027\205\040\112\334\230\047\323\221\046\053\107\036\151\007
\257\336\242\344\344\324\153\013\263\136\174\324\044\200\107\051
\151\073\156\350\254\375\100\353\330\355\161\161\053\362\350\130
\035\353\101\227\042\305\037\324\071\320\047\217\207\343\030\364
\340\251\106\015\365\164\072\202\056\320\156\054\221\243\061\134
\073\106\352\173\004\020\126\136\200\035\365\245\145\350\202\374
\342\007\214\142\105\365\040\336\106\160\206\241\274\223\323\036
\164\246\154\260\054\367\003\014\210\014\313\324\162\123\206\274
\140\106\363\230\152\302\361\277\103\371\160\040\167\312\067\101
\171\125\122\143\215\133\022\237\305\150\304\210\235\254\362\060
\253\267\243\061\227\147\255\217\027\017\154\307\163\355\044\224
\153\310\203\232\320\232\067\111\004\253\261\026\310\154\111\111
\055\253\241\320\214\222\362\101\112\171\041\045\333\143\327\266
\234\247\176\102\151\373\072\143\002\003\001\000\001\243\143\060
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\035\006\003\125\035\016\004\026\004\024\334\056\037
\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150\234
\042\060\037\006\003\125\035\043\004\030\060\026\200\024\334\056
\037\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150
\234\042\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\003\202\002\001\000\221\360\102\002\150\100\356\303\150\300
\124\057\337\354\142\303\303\236\212\240\061\050\252\203\216\244
\126\226\022\020\206\126\272\227\162\322\124\060\174\255\031\325
\035\150\157\373\024\102\330\215\016\363\265\321\245\343\002\102
\136\334\350\106\130\007\065\002\060\340\274\164\112\301\103\052
\377\333\032\320\260\257\154\303\375\313\263\365\177\155\003\056
\131\126\235\055\055\065\214\262\326\103\027\054\222\012\313\135
\350\214\017\113\160\103\320\202\377\250\314\277\244\224\300\276
\207\275\212\343\223\173\306\217\233\026\235\047\145\274\172\305
\102\202\154\134\007\320\251\301\210\140\104\351\230\205\026\137
\370\217\312\001\020\316\045\303\371\140\033\240\305\227\303\323
\054\210\061\242\275\060\354\320\320\300\022\361\301\071\343\345
\365\370\326\112\335\064\315\373\157\301\117\343\000\213\126\342
\222\367\050\262\102\167\162\043\147\307\077\021\025\262\304\003
\005\276\273\021\173\012\277\250\156\347\377\130\103\317\233\147
\240\200\007\266\035\312\255\155\352\101\021\176\055\164\223\373
\302\274\276\121\104\305\357\150\045\047\200\343\310\240\324\022
\354\331\245\067\035\067\174\264\221\312\332\324\261\226\201\357
\150\134\166\020\111\257\176\245\067\200\261\034\122\275\063\201
\114\217\371\335\145\331\024\315\212\045\130\364\342\305\203\245
\011\220\324\154\024\143\265\100\337\353\300\374\304\130\176\015
\024\026\207\124\047\156\126\344\160\204\270\154\062\022\176\202
\061\103\276\327\335\174\241\255\256\326\253\040\022\357\012\303

```
\020\214\111\226\065\334\013\165\136\261\117\325\117\064\016\021
\040\007\165\103\105\351\243\021\332\254\243\231\302\266\171\047
\342\271\357\310\342\366\065\051\172\164\372\305\177\202\005\142
\246\012\352\150\262\171\107\006\156\362\127\250\025\063\306\367
\170\112\075\102\173\153\176\376\367\106\352\321\353\216\357\210
\150\133\350\301\331\161\176\375\144\357\377\147\107\210\130\045
\057\076\206\007\275\373\250\345\202\250\254\245\323\151\103\315
\061\210\111\204\123\222\300\261\071\033\071\203\001\060\304\362
\251\372\320\003\275\162\067\140\126\037\066\174\275\071\221\365
\155\015\277\173\327\222
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GLOBALTRUST 2020"
```

```
# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
```

```
# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5
```

```
# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
```

```
# Not Valid Before: Mon Feb 10 00:00:00 2020
```

```
# Not Valid After : Sun Jun 10 00:00:00 2040
```

```
# Fingerprint (SHA-256):
```

```
9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A
```

```
# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GLOBALTRUST 2020"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\320\147\301\023\121\001\014\252\320\307\152\145\067\061\026\046
\117\123\161\242
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\212\307\157\313\155\343\314\242\361\174\203\372\016\170\327\350
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\013\132\113\275\132\373\117\212\133\372\145\345
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "ANF Secure Server Root CA"

#

Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510

Serial Number:0d:d3:e3:bc:6c:f9:6b:b1

Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510

Not Valid Before: Wed Sep 04 10:00:38 2019

Not Valid After : Tue Aug 30 10:00:38 2039

Fingerprint (SHA-256):

FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99

Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ANF Secure Server Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\015\323\343\274\154\371\153\261

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\357\060\202\003\327\240\003\002\001\002\002\010\015
\323\343\274\154\371\153\261\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\204\061\022\060\020\006\003\125
\004\005\023\011\107\066\063\062\070\067\065\061\060\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\047\060\045\006\003
\125\004\012\023\036\101\116\106\040\101\165\164\157\162\151\144
\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141\143
\151\157\156\061\024\060\022\006\003\125\004\013\023\013\101\116
\106\040\103\101\040\122\141\151\172\061\042\060\040\006\003\125
\004\003\023\031\101\116\106\040\123\145\143\165\162\145\040\123
\145\162\166\145\162\040\122\157\157\164\040\103\101\060\036\027
\015\061\071\060\071\060\064\061\060\060\060\063\070\132\027\015
\063\071\060\070\063\060\061\060\060\060\063\070\132\060\201\204
\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062\070
\067\065\061\060\061\013\060\011\006\003\125\004\006\023\002\105
\123\061\047\060\045\006\003\125\004\012\023\036\101\116\106\040
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\061\024\060\022\006\003
\125\004\013\023\013\101\116\106\040\103\101\040\122\141\151\172
\061\042\060\040\006\003\125\004\003\023\031\101\116\106\040\123
\145\143\165\162\145\040\123\145\162\166\145\162\040\122\157\157
\164\040\103\101\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\333\353\153\053\346\144\124\225\202\220\243
\162\244\031\001\235\234\013\201\137\163\111\272\247\254\363\004
\116\173\226\013\354\021\340\133\246\034\316\033\322\015\203\034
\053\270\236\035\176\105\062\140\017\007\351\167\130\176\237\152
\310\141\116\266\046\301\114\215\377\114\357\064\262\037\145\330
\271\170\365\255\251\161\271\357\117\130\035\245\336\164\040\227
\241\355\150\114\336\222\027\113\274\253\377\145\232\236\373\107
\331\127\162\363\011\241\256\166\104\023\156\234\055\104\071\274
\371\307\073\244\130\075\101\275\264\302\111\243\310\015\322\227
\057\007\145\122\000\247\156\310\257\150\354\364\024\226\266\127
\037\126\303\071\237\053\155\344\363\076\366\065\144\332\014\034
\241\204\113\057\113\113\342\054\044\235\155\223\100\353\265\043
\216\062\312\157\105\323\250\211\173\036\317\036\372\133\103\213
\315\315\250\017\152\312\014\136\271\236\107\217\360\331\266\012
\013\130\145\027\063\271\043\344\167\031\175\313\112\056\222\173
\117\057\020\167\261\215\057\150\234\142\314\340\120\370\354\221
\247\124\114\127\011\325\166\143\305\350\145\036\356\155\152\317
\011\235\372\174\117\255\140\010\375\126\231\017\025\054\173\251
\200\253\214\141\217\112\007\166\102\336\075\364\335\262\044\063
\133\270\265\243\104\311\254\177\167\074\035\043\354\202\251\246
\342\310\006\114\002\376\254\134\231\231\013\057\020\212\246\364
\177\325\207\164\015\131\111\105\366\360\161\134\071\051\326\277
\112\043\213\365\137\001\143\322\207\163\050\265\113\012\365\370
\253\202\054\176\163\045\062\035\013\143\012\027\201\000\377\266

\166\136\347\264\261\100\312\041\273\325\200\121\345\110\122\147
\054\322\141\211\007\015\017\316\102\167\300\104\163\234\104\120
\240\333\020\012\055\225\034\201\257\344\034\345\024\036\361\066
\101\001\002\057\175\163\247\336\102\314\114\351\211\015\126\367
\237\221\324\003\306\154\311\217\333\330\034\340\100\230\135\146
\231\230\200\156\055\377\001\305\316\313\106\037\254\002\306\103
\346\256\242\204\074\305\116\036\075\155\311\024\114\343\056\101
\273\312\071\277\066\074\052\031\252\101\207\116\245\316\113\062
\171\335\220\111\177\002\003\001\000\001\243\143\060\141\060\037
\006\003\125\035\043\004\030\060\026\200\024\234\137\320\154\143
\243\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060
\035\006\003\125\035\016\004\026\004\024\234\137\320\154\143\243
\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\002\001\000\116\036\271\212\306\240\230\077\156\303\151\300\152
\134\111\122\254\313\053\135\170\070\301\325\124\204\237\223\360
\207\031\075\054\146\211\353\015\102\374\314\360\165\205\077\213
\364\200\135\171\345\027\147\275\065\202\342\362\074\216\175\133
\066\313\132\200\000\051\362\316\053\054\361\217\252\155\005\223
\154\162\307\126\353\337\120\043\050\345\105\020\075\350\147\243
\257\016\125\017\220\011\142\357\113\131\242\366\123\361\300\065
\344\057\301\044\275\171\057\116\040\042\073\375\032\040\260\244
\016\054\160\355\164\077\270\023\225\006\121\310\350\207\046\312
\244\133\152\026\041\222\335\163\140\236\020\030\336\074\201\352
\350\030\303\174\211\362\213\120\076\275\021\342\025\003\250\066
\175\063\001\154\110\025\327\210\220\231\004\305\314\346\007\364
\274\364\220\355\023\342\352\213\303\217\243\063\017\301\051\114
\023\116\332\025\126\161\163\162\202\120\366\232\063\174\242\261
\250\032\064\164\145\134\316\321\353\253\123\340\032\200\330\352
\072\111\344\046\060\233\345\034\212\250\251\025\062\206\231\222
\012\020\043\126\022\340\366\316\114\342\273\276\333\215\222\163
\001\146\057\142\076\262\162\047\105\066\355\115\126\343\227\231
\377\072\065\076\245\124\112\122\131\113\140\333\356\376\170\021
\177\112\334\024\171\140\266\153\144\003\333\025\203\341\242\276
\366\043\227\120\360\011\063\066\247\161\226\045\363\271\102\175
\333\070\077\054\130\254\350\102\341\016\330\323\073\114\056\202
\351\203\056\153\061\331\335\107\206\117\155\227\221\056\117\342
\050\161\065\026\321\362\163\376\045\053\007\107\044\143\047\310
\370\366\331\153\374\022\061\126\010\300\123\102\257\234\320\063
\176\374\006\360\061\104\003\024\361\130\352\362\152\015\251\021
\262\203\276\305\032\277\007\352\131\334\243\210\065\357\234\166
\062\074\115\006\042\316\025\345\335\236\330\217\332\336\322\304
\071\345\027\201\317\070\107\353\177\210\155\131\033\337\237\102
\024\256\176\317\250\260\146\145\332\067\257\237\252\075\352\050
\266\336\325\061\130\026\202\133\352\273\031\165\002\163\032\312
\110\032\041\223\220\012\216\223\204\247\175\073\043\030\222\211


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\240\215\254
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "ANF Secure Server Root CA"
# Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
# Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
# Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
# Not Valid Before: Wed Sep 04 10:00:38 2019
# Not Valid After : Tue Aug 30 10:00:38 2039
# Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
# Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\133\156\150\320\314\025\266\240\137\036\301\137\256\002\374\153
\057\135\157\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\246\104\132\331\257\116\057\262\035\266\145\260\116\350\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\015\323\343\274\154\371\153\261
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

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#
# Certificate "Certum EC-384 CA"
#
# Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4
# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Not Valid Before: Mon Mar 26 07:24:54 2018
# Not Valid After : Thu Mar 26 07:24:54 2043
# Fingerprint (SHA-256):
6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6
# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum EC-384 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\145\060\202\001\353\240\003\002\001\002\002\020\170
\217\047\134\201\022\122\040\245\004\320\055\335\272\163\364\060
\012\006\010\052\206\110\316\075\004\003\003\060\164\061\013\060
\011\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003
\125\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141

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\040\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060
\045\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\061\031\060\027\006\003\125\004\003\023
\020\103\145\162\164\165\155\040\105\103\055\063\070\064\040\103
\101\060\036\027\015\061\070\060\063\062\066\060\067\062\064\065
\064\132\027\015\064\063\060\063\062\066\060\067\062\064\065\064
\132\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143
\157\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027
\006\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103
\055\063\070\064\040\103\101\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\304
\050\216\253\030\133\152\276\156\144\067\143\344\315\354\253\072
\367\314\241\270\016\202\111\327\206\051\237\241\224\362\343\140
\170\230\201\170\006\115\362\354\232\016\127\140\203\237\264\346
\027\057\032\263\135\002\133\211\043\074\302\021\005\052\247\210
\023\030\363\120\204\327\275\064\054\047\211\125\377\316\114\347
\337\246\037\050\304\360\124\303\271\174\267\123\255\353\302\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\215
\006\146\164\044\166\072\363\211\367\274\326\275\107\175\057\274
\020\137\113\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\003\125\055\246\346\030\304\174\357\311
\120\156\301\047\017\234\207\257\156\325\033\010\030\275\222\051
\301\357\224\221\170\322\072\034\125\211\142\345\033\011\036\272
\144\153\361\166\264\324\002\061\000\264\102\204\231\377\253\347
\236\373\221\227\047\135\334\260\133\060\161\316\136\070\032\152
\331\045\347\352\367\141\222\126\370\352\332\066\302\207\145\226
\056\162\045\057\177\337\303\023\311

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certum EC-384 CA"

Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

Serial Number: 78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4

Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

Not Valid Before: Mon Mar 26 07:24:54 2018

Not Valid After : Thu Mar 26 07:24:54 2043

Fingerprint (SHA-256):

6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6

Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED

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CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum EC-384 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\363\076\170\074\254\337\364\242\314\254\147\125\151\126\327\345
\026\074\341\355
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\266\145\263\226\140\227\022\241\354\116\341\075\243\306\311\361
END
CKA_ISSUER MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Trusted Root CA"
#
# Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed
# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Not Valid Before: Fri Mar 16 12:10:13 2018
# Not Valid After : Mon Mar 16 12:10:13 2043
# Fingerprint (SHA-256):
FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD
# Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

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CKA_SUBJECT MULTILINE_OCTAL

\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355

END

CKA_VALUE MULTILINE_OCTAL

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\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\172
\061\013\060\011\006\003\125\004\006\023\002\120\114\061\041\060
\037\006\003\125\004\012\023\030\101\163\163\145\143\157\040\104
\141\164\141\040\123\171\163\164\145\155\163\040\123\056\101\056
\061\047\060\045\006\003\125\004\013\023\036\103\145\162\164\165
\155\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\061\037\060\035\006\003\125
\004\003\023\026\103\145\162\164\165\155\040\124\162\165\163\164
\145\144\040\122\157\157\164\040\103\101\060\036\027\015\061\070
\060\063\061\066\061\062\061\060\061\063\132\027\015\064\063\060
\063\061\066\061\062\061\060\061\063\132\060\172\061\013\060\011
\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003\125
\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141\040
\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060\045
\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\061\037\060\035\006\003\125\004\003\023\026
\103\145\162\164\165\155\040\124\162\165\163\164\145\144\040\122
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202

\002\012\002\202\002\001\000\321\055\216\273\267\066\352\155\067
\221\237\116\223\247\005\344\051\003\045\316\034\202\367\174\231
\237\101\006\315\355\243\272\300\333\011\054\301\174\337\051\176
\113\145\057\223\247\324\001\153\003\050\030\243\330\235\005\301
\052\330\105\361\221\336\337\073\320\200\002\214\317\070\017\352
\247\134\170\021\244\301\310\205\134\045\323\323\262\347\045\317
\021\124\227\253\065\300\036\166\034\357\000\123\237\071\334\024
\245\054\042\045\263\162\162\374\215\263\345\076\010\036\024\052
\067\013\210\074\312\260\364\310\302\241\256\274\301\276\051\147
\125\342\374\255\131\134\376\275\127\054\260\220\215\302\355\067
\266\174\231\210\265\325\003\232\075\025\015\075\072\250\250\105
\360\225\116\045\131\035\315\230\151\273\323\314\062\311\215\357
\201\376\255\175\211\273\272\140\023\312\145\225\147\240\363\031
\366\003\126\324\152\323\047\342\241\255\203\360\112\022\042\167
\034\005\163\342\031\161\102\300\354\165\106\232\220\130\340\152
\216\053\245\106\060\004\216\031\262\027\343\276\251\272\177\126
\361\044\003\327\262\041\050\166\016\066\060\114\171\325\101\232
\232\250\270\065\272\014\072\362\104\033\040\210\367\305\045\327
\075\306\343\076\103\335\207\376\304\352\365\123\076\114\145\377
\073\112\313\170\132\153\027\137\015\307\303\117\116\232\052\242
\355\127\115\042\342\106\232\077\017\221\064\044\175\125\343\214
\225\067\323\032\360\011\053\054\322\311\215\264\015\000\253\147
\051\050\330\001\365\031\004\266\035\276\166\376\162\134\304\205
\312\322\200\101\337\005\250\243\325\204\220\117\013\363\340\077
\233\031\322\067\211\077\362\173\122\034\214\366\341\367\074\007
\227\214\016\242\131\201\014\262\220\075\323\343\131\106\355\017
\251\247\336\200\153\132\252\007\266\031\313\274\127\363\227\041
\172\014\261\053\164\076\353\332\247\147\055\114\304\230\236\066
\011\166\146\146\374\032\077\352\110\124\034\276\060\275\200\120
\277\174\265\316\000\366\014\141\331\347\044\003\340\343\001\201
\016\275\330\205\064\210\275\262\066\250\173\134\010\345\104\200
\214\157\370\057\325\041\312\035\034\320\373\304\265\207\321\072
\116\307\166\265\065\110\265\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\214\373\034\165
\274\002\323\237\116\056\110\331\371\140\124\252\304\263\117\372
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000\003
\202\002\001\000\110\242\325\000\013\056\320\077\274\034\325\265
\124\111\036\132\153\364\344\362\340\100\067\340\314\024\173\271
\311\372\065\265\165\027\223\152\005\151\205\234\315\117\031\170
\133\031\201\363\143\076\303\316\133\217\365\057\136\001\166\023
\077\054\000\271\315\226\122\071\111\155\004\116\305\351\017\206
\015\341\372\263\137\202\022\361\072\316\146\006\044\064\053\350
\314\312\347\151\334\207\235\302\064\327\171\321\323\167\270\252
\131\130\376\235\046\372\070\206\076\235\212\207\144\127\345\027
\072\342\371\215\271\343\063\170\301\220\330\270\335\267\203\121
\344\304\314\043\325\006\174\346\121\323\315\064\061\300\366\106

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\273\013\255\374\075\020\005\052\073\112\221\045\356\214\324\204
\207\200\052\274\011\214\252\072\023\137\350\064\171\120\301\020
\031\371\323\050\036\324\321\121\060\051\263\256\220\147\326\037
\012\143\261\305\251\306\102\061\143\027\224\357\151\313\057\372
\214\024\175\304\103\030\211\331\360\062\100\346\200\342\106\137
\345\343\301\000\131\250\371\350\040\274\211\054\016\107\064\013
\352\127\302\123\066\374\247\324\257\061\315\376\002\345\165\372
\271\047\011\371\363\365\073\312\175\237\251\042\313\210\311\252
\321\107\075\066\167\250\131\144\153\047\317\357\047\301\343\044
\265\206\367\256\176\062\115\260\171\150\321\071\350\220\130\303
\203\274\017\054\326\227\353\316\014\341\040\307\332\267\076\303
\077\277\057\334\064\244\373\053\041\315\147\217\113\364\343\352
\324\077\347\117\272\271\245\223\105\034\146\037\041\372\144\136
\157\340\166\224\062\313\165\365\156\345\366\217\307\270\244\314
\250\226\175\144\373\044\132\112\003\154\153\070\306\350\003\103
\232\367\127\271\263\051\151\223\070\364\003\362\273\373\202\153
\007\040\321\122\037\232\144\002\173\230\146\333\134\115\132\017
\320\204\225\240\074\024\103\006\312\312\333\270\101\066\332\152
\104\147\207\257\257\343\105\021\025\151\010\262\276\026\071\227
\044\157\022\105\321\147\135\011\250\311\025\332\372\322\246\137
\023\141\037\277\205\254\264\255\255\005\224\010\203\036\165\027
\323\161\073\223\120\043\131\240\355\074\221\124\235\166\000\305
\303\270\070\333
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Certum Trusted Root CA"
```

```
# Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
```

```
# Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed
```

```
# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
```

```
# Not Valid Before: Fri Mar 16 12:10:13 2018
```

```
# Not Valid After : Mon Mar 16 12:10:13 2043
```

```
# Fingerprint (SHA-256):
```

```
FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD
```

```
# Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certum Trusted Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\310\203\104\300\030\256\237\314\361\207\267\217\042\321\305\327
\105\204\272\345
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\121\341\302\347\376\114\204\257\131\016\057\364\124\157\352\051
```

```

END
CKA_ISSUER MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TunTrust Root CA"
#
# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN
# Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13
# Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN
# Not Valid Before: Fri Apr 26 08:57:56 2019
# Not Valid After : Tue Apr 26 08:57:56 2044
# Fingerprint (SHA-256):
2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41
# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TunTrust Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```


\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
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END

CKA_VALUE MULTILINE_OCTAL

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\076\374\023\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\141\061\013\060\011\006\003\125\004\006\023\002\124
\116\061\067\060\065\006\003\125\004\012\014\056\101\147\145\156
\143\145\040\116\141\164\151\157\156\141\154\145\040\144\145\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\105\154
\145\143\164\162\157\156\151\161\165\145\061\031\060\027\006\003
\125\004\003\014\020\124\165\156\124\162\165\163\164\040\122\157
\157\164\040\103\101\060\036\027\015\061\071\060\064\062\066\060
\070\065\067\065\066\132\027\015\064\064\060\064\062\066\060\070
\065\067\065\066\132\060\141\061\013\060\011\006\003\125\004\006
\023\002\124\116\061\067\060\065\006\003\125\004\012\014\056\101
\147\145\156\143\145\040\116\141\164\151\157\156\141\154\145\040
\144\145\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\105\154\145\143\164\162\157\156\151\161\165\145\061\031\060
\027\006\003\125\004\003\014\020\124\165\156\124\162\165\163\164
\040\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\303\315\323\374\275\004\123
\335\014\040\072\325\210\056\005\113\101\365\203\202\176\367\131
\237\236\236\143\350\163\332\366\006\251\117\037\264\371\013\037
\071\214\232\040\320\176\006\324\354\064\331\206\274\165\133\207
\210\360\322\331\324\243\012\262\154\033\353\111\054\076\254\135
\330\224\003\240\354\064\345\060\304\065\175\373\046\115\033\156
\060\124\330\365\200\105\234\071\255\234\311\045\004\115\232\220
\076\116\100\156\212\153\315\051\147\306\314\055\340\164\350\005
\127\012\110\120\372\172\103\332\176\354\133\232\016\142\166\376
\352\235\035\205\162\354\021\273\065\350\037\047\277\301\241\307
\273\110\026\335\126\327\314\116\240\341\271\254\333\325\203\031
\032\205\321\224\227\327\312\243\145\013\363\070\371\002\256\335
\366\147\317\311\077\365\212\054\107\032\231\157\005\015\375\320
\035\202\061\374\051\314\000\130\227\221\114\200\000\034\063\205
\226\057\313\101\302\213\020\204\303\011\044\211\037\265\017\331
\331\167\107\030\222\224\140\134\307\231\003\074\376\367\225\247

\175\120\241\200\302\251\203\255\130\226\125\041\333\206\131\324
\257\306\274\335\201\156\007\333\140\142\376\354\020\156\332\150
\001\364\203\033\251\076\242\133\043\327\144\306\337\334\242\175
\330\113\272\202\322\121\370\146\277\006\106\344\171\052\046\066
\171\217\037\116\231\035\262\217\014\016\034\377\311\135\300\375
\220\020\246\261\067\363\315\072\044\156\264\205\220\277\200\271
\014\214\325\233\326\310\361\126\077\032\200\211\172\251\342\033
\062\121\054\076\362\337\173\366\135\172\051\031\216\345\310\275
\066\161\213\135\114\302\035\077\255\130\242\317\075\160\115\246
\120\230\045\334\043\371\270\130\101\010\161\277\117\270\204\240
\217\000\124\025\374\221\155\130\247\226\073\353\113\226\047\315
\153\242\241\206\254\015\174\124\346\146\114\146\137\220\276\041
\232\002\106\055\344\203\302\200\271\317\113\076\350\177\074\001
\354\217\136\315\177\322\050\102\001\225\212\342\227\075\020\041
\175\366\235\034\305\064\241\354\054\016\012\122\054\022\125\160
\044\075\313\302\024\065\103\135\047\116\276\300\275\252\174\226
\347\374\236\141\255\104\323\000\227\002\003\001\000\001\243\143
\060\141\060\035\006\003\125\035\016\004\026\004\024\006\232\233
\037\123\175\361\365\244\310\323\206\076\241\163\131\264\367\104
\041\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\006
\232\233\037\123\175\361\365\244\310\323\206\076\241\163\131\264
\367\104\041\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\002\001\000\252\005\156\266\335\025\311\277\263
\306\040\366\006\107\260\206\223\045\323\215\271\310\000\077\227
\365\122\047\210\161\311\164\375\353\312\144\333\133\357\036\135
\272\277\321\353\356\134\151\272\026\310\363\271\217\323\066\056
\100\111\007\015\131\336\213\020\260\111\005\342\377\221\077\113
\267\335\002\216\370\201\050\134\314\334\155\257\137\024\234\175
\130\170\015\366\200\011\271\351\016\227\051\031\270\267\353\370
\026\313\125\022\344\306\175\273\304\354\370\265\034\116\076\147
\277\305\137\033\155\155\107\050\252\004\130\141\326\166\277\042
\177\320\007\152\247\144\123\360\227\215\235\200\077\273\301\007
\333\145\257\346\233\062\232\303\124\223\304\034\010\303\104\373
\173\143\021\103\321\152\032\141\152\171\155\220\117\051\216\107
\005\301\022\151\151\326\306\066\061\341\374\372\200\272\134\117
\304\353\267\062\254\370\165\141\027\327\020\031\271\361\322\011
\357\172\102\235\133\132\013\324\306\225\116\052\316\377\007\327
\117\176\030\006\210\361\031\265\331\230\273\256\161\304\034\347
\164\131\130\357\014\211\317\213\037\165\223\032\004\024\222\110
\120\251\353\127\051\000\026\343\066\034\310\370\277\360\063\325
\101\017\304\314\074\335\351\063\103\001\221\020\053\036\321\271
\135\315\062\031\213\217\214\040\167\327\042\304\102\334\204\026
\233\045\155\350\264\125\161\177\260\174\263\323\161\111\271\317
\122\244\004\077\334\075\240\273\257\063\236\012\060\140\216\333
\235\135\224\250\275\140\347\142\200\166\201\203\014\214\314\060
\106\111\342\014\322\250\257\353\141\161\357\347\042\142\251\367

```
\134\144\154\237\026\214\147\066\047\105\365\011\173\277\366\020
\012\361\260\215\124\103\214\004\272\243\077\357\342\065\307\371
\164\340\157\064\101\320\277\163\145\127\040\371\233\147\172\146
\150\044\116\200\145\275\020\231\006\131\362\145\257\270\306\107
\273\375\220\170\213\101\163\056\257\125\037\334\073\222\162\156
\204\323\320\141\114\015\314\166\127\342\055\205\042\025\066\015
\353\001\235\353\330\353\304\204\231\373\300\014\314\062\350\343
\167\332\203\104\213\236\125\050\300\213\130\323\220\076\116\033
\000\361\025\255\203\053\232
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TunTrust Root CA"

Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

Not Valid Before: Fri Apr 26 08:57:56 2019

Not Valid After : Tue Apr 26 08:57:56 2044

Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TunTrust Root CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\317\351\160\204\017\340\163\017\235\366\014\177\054\113\356\040
\106\064\234\273
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\205\023\271\220\133\066\134\266\136\270\132\370\340\061\127\264
```

CKA_ISSUER MULTILINE_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
\273\262\153\076\374\023
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "HARICA TLS RSA Root CA 2021"
```

```
#
```

```
# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e
```

```
# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Not Valid Before: Fri Feb 19 10:55:38 2021
```

```
# Not Valid After : Mon Feb 13 10:55:37 2045
```

```
# Fingerprint (SHA-256):
```

```
D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D
```

```
# Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
```

```
END
```

```
CKA_ID UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
```

```
END
```

```
CKA_VALUE MULTILINE_OCTAL
```

```
\060\202\005\244\060\202\003\214\240\003\002\001\002\002\020\071
\312\223\034\357\103\363\306\216\223\307\364\144\211\070\176\060
```

\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\154
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\101\061\044\060\042\006\003\125\004\003\014
\033\110\101\122\111\103\101\040\124\114\123\040\122\123\101\040
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015
\062\061\060\062\061\071\061\060\065\065\063\070\132\027\015\064
\065\060\062\061\063\061\060\065\065\063\067\132\060\154\061\013
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156
\163\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110
\101\122\111\103\101\040\124\114\123\040\122\123\101\040\122\157
\157\164\040\103\101\040\062\060\062\061\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\213\302\347\257\145
\233\005\147\226\311\015\044\271\320\016\144\374\316\342\044\030
\054\204\177\167\121\313\004\021\066\270\136\355\151\161\247\236
\344\045\011\227\147\301\107\302\317\221\026\066\142\075\070\004
\341\121\202\377\254\322\264\151\335\056\354\021\243\105\356\153
\153\073\114\277\214\215\244\036\235\021\271\351\070\371\172\016
\014\230\342\043\035\321\116\143\324\347\270\101\104\373\153\257
\153\332\037\323\305\221\210\133\244\211\222\321\201\346\214\071
\130\240\326\151\103\251\255\230\122\130\156\333\012\373\153\317
\150\372\343\244\136\072\105\163\230\007\352\137\002\162\336\014
\245\263\237\256\251\035\267\035\263\374\212\131\347\156\162\145
\255\365\060\224\043\007\363\202\026\113\065\230\234\123\273\057
\312\344\132\331\307\215\035\374\230\231\373\054\244\202\153\360
\052\037\216\013\137\161\134\134\256\102\173\051\211\201\313\003
\243\231\312\210\236\013\100\011\101\063\333\346\130\172\375\256
\231\160\300\132\017\326\023\206\161\057\166\151\374\220\335\333
\055\156\321\362\233\365\032\153\236\157\025\214\172\360\113\050
\240\042\070\200\044\154\066\244\073\362\060\221\363\170\023\317
\301\077\065\253\361\035\021\043\265\103\042\236\001\222\267\030
\002\345\021\321\202\333\025\000\314\141\067\301\052\174\232\341
\320\272\263\120\106\356\202\254\235\061\370\373\043\342\003\000
\110\160\243\011\046\171\025\123\140\363\070\134\255\070\352\201
\000\143\024\271\063\136\335\013\333\240\105\007\032\063\011\370
\115\264\247\002\246\151\364\302\131\005\210\145\205\126\256\113
\313\340\336\074\175\055\032\310\351\373\037\243\141\112\326\052
\023\255\167\114\032\030\233\221\017\130\330\006\124\305\227\370
\252\077\040\212\246\205\246\167\366\246\374\034\342\356\156\224
\063\052\203\120\204\012\345\117\206\370\120\105\170\000\201\353
\133\150\343\046\215\314\173\134\121\364\024\054\100\276\032\140
\035\172\162\141\035\037\143\055\210\252\316\242\105\220\010\374

\153\276\263\120\052\132\375\250\110\030\106\326\220\100\222\220
\012\204\136\150\061\370\353\355\015\323\035\306\175\231\030\125
\126\047\145\056\215\105\305\044\354\316\343\002\003\001\000\001
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\012\110\043\246\140\244\222\012\063\352\223\133\305\127\352\045
\115\275\022\356\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\076\220\110\252\156\142\025\045
\146\173\014\325\214\213\211\235\327\355\116\007\357\234\320\024
\137\136\120\275\150\226\220\244\024\021\252\150\155\011\065\071
\100\011\332\364\011\054\064\245\173\131\204\111\051\227\164\310
\007\036\107\155\362\316\034\120\046\343\236\075\100\123\077\367
\177\226\166\020\305\106\245\320\040\113\120\364\065\073\030\364
\125\152\101\033\107\006\150\074\273\011\010\142\331\137\125\102
\252\254\123\205\254\225\126\066\126\253\344\005\214\305\250\332
\037\243\151\275\123\017\304\377\334\312\343\176\362\114\210\206
\107\106\032\363\000\365\200\221\242\334\103\102\224\233\040\360
\321\315\262\353\054\123\302\123\170\112\117\004\224\101\232\217
\047\062\301\345\111\031\277\361\362\302\213\250\012\071\061\050
\264\175\142\066\054\115\354\037\063\266\176\167\155\176\120\360
\237\016\327\021\217\317\030\305\343\047\376\046\357\005\235\317
\317\067\305\320\173\332\073\260\026\204\014\072\223\326\276\027
\333\017\076\016\031\170\011\307\251\002\162\042\113\367\067\166
\272\165\304\205\003\132\143\325\261\165\005\302\271\275\224\255
\214\025\231\247\223\175\366\305\363\252\164\317\004\205\224\230
\000\364\342\371\312\044\145\277\340\142\257\310\305\372\262\311
\236\126\110\332\171\375\226\166\025\276\243\216\126\304\263\064
\374\276\107\364\301\264\250\374\325\060\210\150\356\313\256\311
\143\304\166\276\254\070\030\341\136\134\317\256\072\042\121\353
\321\213\263\363\053\063\007\124\207\372\264\262\023\173\272\123
\004\142\001\235\361\300\117\356\341\072\324\213\040\020\372\002
\127\346\357\301\013\267\220\106\234\031\051\214\334\157\240\112
\151\151\224\267\044\145\240\377\254\077\316\001\373\041\056\375
\150\370\233\362\245\317\061\070\134\025\252\346\227\000\301\337
\132\245\247\071\252\351\204\177\074\121\250\072\331\224\133\214
\277\117\010\161\345\333\250\134\324\322\246\376\000\243\306\026
\307\017\350\200\316\034\050\144\164\031\010\323\102\343\316\000
\135\177\261\334\023\260\341\005\313\321\040\252\206\164\236\071
\347\221\375\377\133\326\367\255\246\057\003\013\155\343\127\124
\353\166\123\030\215\021\230\272

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "HARICA TLS RSA Root CA 2021"

Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

```
# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e
# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 10:55:38 2021
# Not Valid After : Mon Feb 13 10:55:37 2045
# Fingerprint (SHA-256):
D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D
# Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\002\055\005\202\372\210\316\024\014\006\171\336\177\024\020\351
\105\327\245\155
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\145\107\233\130\206\335\054\360\374\242\204\037\036\226\304\221
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA TLS ECC Root CA 2021"
#
# Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce
# Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 11:01:10 2021
# Not Valid After : Mon Feb 13 11:01:09 2045
# Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
# Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\124\060\202\001\333\240\003\002\001\002\002\020\147
\164\235\215\167\330\073\152\333\042\364\377\131\342\277\316\060
\012\006\010\052\206\110\316\075\004\003\003\060\154\061\013\060
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110\101
\122\111\103\101\040\124\114\123\040\105\103\103\040\122\157\157
\164\040\103\101\040\062\060\062\061\060\036\027\015\062\061\060
\062\061\071\061\061\060\061\061\060\132\027\015\064\065\060\062
\061\063\061\061\060\061\060\071\132\060\154\061\013\060\011\006
\003\125\004\006\023\002\107\122\061\067\060\065\006\003\125\004
\012\014\056\110\145\154\154\145\156\151\143\040\101\143\141\144
\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143
\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040\103
\101\061\044\060\042\006\003\125\004\003\014\033\110\101\122\111
\103\101\040\124\114\123\040\105\103\103\040\122\157\157\164\040
```


\103\101\040\062\060\062\061\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\070
\010\376\261\240\226\322\172\254\257\111\072\320\300\340\303\073
\050\252\361\162\155\145\000\107\210\204\374\232\046\153\252\113
\272\154\004\012\210\136\027\362\125\207\374\060\260\064\342\064
\130\127\032\204\123\351\060\331\251\362\226\164\303\121\037\130
\111\061\314\230\116\140\021\207\165\323\162\224\220\117\233\020
\045\052\250\170\055\276\220\101\130\220\025\162\247\241\267\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\311
\033\123\201\022\376\004\325\026\321\252\274\232\157\267\240\225
\031\156\312\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\206\060\012\006\010\052\206\110\316\075\004\003\003\003
\147\000\060\144\002\060\021\336\256\370\334\116\210\260\251\360
\042\255\302\121\100\357\140\161\055\356\217\002\304\135\003\160
\111\244\222\352\305\024\210\160\246\323\015\260\252\312\054\100
\234\373\351\202\156\232\002\060\053\107\232\007\306\321\302\201
\174\312\013\226\030\101\033\243\364\060\011\236\265\043\050\015
\237\024\266\074\123\242\114\006\151\175\372\154\221\306\052\111
\105\346\354\267\023\341\072\154

END

CKA_NSS_Mozilla_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "HARICA TLS ECC Root CA 2021"

Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce

Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Not Valid Before: Fri Feb 19 11:01:10 2021

Not Valid After : Mon Feb 13 11:01:09 2045

Fingerprint (SHA-256):

3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01

Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\274\260\301\235\351\230\222\160\031\070\127\351\215\247\264\135
\156\356\001\110

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\256\367\114\345\146\065\321\267\233\214\042\223\164\323\113\260

END

CKA_ISSUER MULTILINE_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061

```
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "HARICA Client RSA Root CA 2021"

#

Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e

Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Not Valid Before: Fri Feb 19 10:58:46 2021

Not Valid After : Mon Feb 13 10:58:45 2045

Fingerprint (SHA-256):

1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D

Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
```

\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\252\060\202\003\222\240\003\002\001\002\002\020\125
\122\370\036\333\033\044\054\236\273\226\030\315\002\050\076\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\157
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003\014
\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040\122
\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061\060
\036\027\015\062\061\060\062\061\071\061\060\065\070\064\066\132
\027\015\064\065\060\062\061\063\061\060\065\070\064\065\132\060
\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067
\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151
\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122
\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164
\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003
\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040
\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\201\333\127\102\220\054\164\065\364\370\270\164\031\115\253
\011\132\167\105\201\163\142\260\065\237\370\320\267\063\000\207
\023\266\226\253\016\124\022\060\007\274\233\267\110\327\321\031
\203\256\216\330\251\361\251\000\204\260\214\136\236\350\014\217
\124\151\277\366\324\010\117\046\160\376\030\101\143\032\263\062
\213\100\370\007\253\127\061\360\306\026\166\147\232\264\335\057
\362\321\153\305\320\222\204\221\161\156\017\056\143\351\037\123
\244\335\122\023\314\011\203\051\201\014\305\123\165\104\261\016
\147\123\030\320\303\037\210\113\237\224\044\264\051\274\273\350
\116\375\157\322\025\035\111\334\215\160\362\021\032\040\121\125
\021\272\210\157\304\367\120\171\326\252\061\342\204\075\136\062
\310\167\052\120\161\345\013\057\351\266\352\357\253\012\063\071
\016\375\217\245\147\103\202\216\230\151\011\011\033\100\315\070
\147\107\352\311\354\227\161\022\336\044\365\162\074\321\367\103
\114\046\367\220\262\211\351\105\113\125\075\061\005\172\101\342
\225\272\103\300\027\305\266\205\075\031\215\144\160\363\133\254

\315\237\323\051\165\207\113\225\147\152\246\370\321\335\274\220
\206\211\103\051\251\067\133\365\135\260\046\132\123\102\166\220
\053\317\236\126\154\053\124\317\134\232\145\337\133\213\110\140
\070\174\373\305\013\317\166\004\143\002\063\052\175\365\203\147
\347\372\306\103\375\053\017\324\046\057\167\244\062\301\044\352
\144\235\277\263\070\161\061\104\362\107\270\242\146\101\241\373
\233\173\274\307\106\152\165\277\132\242\214\350\152\104\301\270
\226\265\300\062\010\055\173\164\065\163\262\312\306\376\257\021
\162\030\366\347\310\302\317\245\052\352\173\326\131\350\174\240
\262\152\100\011\151\016\245\226\333\321\000\271\361\210\156\066
\360\210\262\235\361\122\362\303\174\277\060\211\074\012\151\371
\042\244\145\341\233\340\164\306\261\205\227\226\054\256\224\217
\120\246\071\022\037\276\107\362\201\170\323\165\066\236\175\132
\040\227\342\122\256\231\237\306\174\233\146\363\376\330\317\356
\275\227\006\035\055\205\334\076\066\123\226\173\040\272\350\310
\341\255\226\142\076\021\174\263\000\204\236\247\114\161\253\112
\067\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\240\326\007\075\136\044\367\173\240\104
\056\044\122\015\031\252\053\004\221\247\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\015\107
\371\011\146\061\122\354\171\356\302\250\362\150\076\355\226\105
\313\072\246\230\143\077\352\053\115\116\003\320\034\202\341\313
\323\345\326\253\133\147\050\274\235\376\014\231\012\200\125\247
\316\033\043\141\015\260\127\360\376\340\312\276\346\220\333\203
\054\276\203\216\364\171\266\376\320\015\102\247\130\037\151\352
\201\365\005\245\376\106\150\353\154\170\311\340\352\347\346\336
\061\305\322\325\054\202\143\050\235\135\250\032\176\210\346\347
\053\361\054\325\320\005\236\334\055\275\067\146\324\004\242\247
\255\277\072\302\250\073\255\377\215\235\063\340\271\232\204\241
\207\037\166\364\202\164\327\016\371\060\110\076\133\210\076\252
\134\153\326\057\014\350\216\163\302\030\221\203\071\266\146\132
\320\037\140\047\135\115\343\366\072\015\146\120\234\170\173\253
\363\023\020\256\017\057\253\350\144\263\030\040\235\106\065\144
\045\163\352\233\020\134\130\065\211\261\106\110\247\364\254\324
\035\236\133\314\251\245\032\023\117\044\120\252\331\033\155\261
\100\373\235\335\130\164\304\302\157\024\162\354\333\065\237\270
\124\165\105\303\246\310\032\050\065\072\256\145\362\251\230\316
\257\133\311\070\214\061\073\177\314\334\226\375\342\133\326\320
\131\364\166\272\013\313\117\203\020\307\100\320\035\140\351\052
\345\110\130\167\014\105\151\276\031\161\004\044\342\343\044\037
\112\310\301\076\231\365\226\230\070\110\045\241\025\260\033\327
\342\204\030\133\366\161\065\232\150\173\100\314\030\134\014\044
\235\324\225\365\231\252\106\352\256\254\277\364\024\031\044\350
\214\354\343\365\274\006\150\212\052\014\005\137\012\227\165\247
\334\176\300\375\327\172\030\337\060\321\070\113\037\260\230\160
\277\314\174\163\360\156\304\061\245\244\227\035\254\277\316\154

```
\041\112\276\047\043\147\363\006\126\201\012\221\216\266\341\003
\005\063\054\332\064\010\115\116\120\043\255\037\245\305\324\172
\376\352\011\354\247\050\140\213\106\174\265\352\233\335\117\371
\347\153\025\306\210\317\103\333\345\047\334\004\126\156\157\106
\025\361\126\055\350\134\014\163\303\043\201\070\040\313\311\014
\151\317\054\253\073\204\140\063\031\122\375\151\024\063
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "HARICA Client RSA Root CA 2021"
```

```
# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e
```

```
# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Not Valid Before: Fri Feb 19 10:58:46 2021
```

```
# Not Valid After : Mon Feb 13 10:58:45 2045
```

```
# Fingerprint (SHA-256):
```

```
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
```

```
# Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\106\306\220\012\167\072\266\274\364\145\255\254\374\343\367\007
\000\156\336\156
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\157\355\134\327\210\314\070\251\334\351\335\331\135\333\330\355
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "HARICA Client ECC Root CA 2021"

#

Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0

Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Not Valid Before: Fri Feb 19 11:03:34 2021

Not Valid After : Mon Feb 13 11:03:33 2045

Fingerprint (SHA-256):

8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B

Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\132\060\202\001\341\240\003\002\001\002\002\020\061
\150\331\330\341\142\127\036\322\031\104\210\346\020\175\360\060

\012\006\010\052\206\110\316\075\004\003\003\060\157\061\013\060
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110\101
\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103\040
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015
\062\061\060\062\061\071\061\061\060\063\063\064\132\027\015\064
\065\060\062\061\063\061\061\060\063\063\063\132\060\157\061\013
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156
\163\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110
\101\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103
\040\122\157\157\164\040\103\101\040\062\060\062\061\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\007\030\255\225\226\224\320\134\017\202\367
\052\100\372\002\311\311\075\066\246\243\004\152\301\155\225\001
\210\140\022\124\154\134\242\053\156\023\072\210\225\014\034\046
\206\066\112\211\031\267\030\336\073\350\250\120\037\312\337\133
\277\111\200\025\333\343\060\341\035\132\307\052\212\001\007\376
\155\054\064\357\050\050\227\274\301\371\127\206\225\213\065\317
\236\132\321\150\225\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\122\010\322\276\062\201\045\375\365\032\227
\354\116\137\032\273\123\315\220\255\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\206\060\012\006\010\052\206\110
\316\075\004\003\003\003\147\000\060\144\002\060\114\061\105\106
\117\250\346\276\303\167\262\032\030\113\055\210\173\130\346\253
\224\153\104\003\260\027\377\337\202\163\104\121\054\375\223\035
\006\173\024\322\211\354\100\014\357\041\001\056\002\060\057\311
\056\132\154\054\035\331\225\340\236\260\271\134\122\174\366\370
\070\312\056\361\324\035\362\242\111\242\225\370\301\130\136\117
\376\163\012\357\061\260\253\043\130\023\214\213\336\073

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "HARICA Client ECC Root CA 2021"
Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0
Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 11:03:34 2021
Not Valid After : Mon Feb 13 11:03:33 2045
Fingerprint (SHA-256):

```
8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B
# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\276\144\323\332\024\113\322\153\315\257\217\333\246\246\162\370
\336\046\371\000
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\255\270\120\246\251\202\172\154\075\032\252\244\322\143\244\104
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Serial Number: 1b:70:e9:d2:ff:ae:6c:71
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Not Valid Before: Tue Sep 23 15:22:07 2014
# Not Valid After : Mon May 05 15:22:07 2036
# Fingerprint (SHA-256):
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
# Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```


CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068 1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\033\160\351\322\377\256\154\161

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\033
\160\351\322\377\256\154\161\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\121\061\013\060\011\006\003\125\004
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040
\101\066\062\066\063\064\060\066\070\060\036\027\015\061\064\060
\071\062\063\061\065\062\062\060\067\132\027\015\063\066\060\065
\060\065\061\065\062\062\060\067\132\060\121\061\013\060\011\006
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354

\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001
\000\001\243\201\357\060\201\354\060\035\006\003\125\035\016\004
\026\004\024\145\315\353\253\065\036\000\076\176\325\164\300\034
\264\163\107\016\032\144\057\060\022\006\003\125\035\023\001\001
\377\004\010\060\006\001\001\377\002\001\001\060\201\246\006\003
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060
\000\061\000\067\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\164\207\050\002\053\167\037\146
\211\144\355\217\164\056\106\034\273\250\370\370\013\035\203\266
\072\247\350\105\212\007\267\340\076\040\313\341\010\333\023\010
\370\050\241\065\262\200\263\013\121\300\323\126\232\215\063\105
\111\257\111\360\340\075\007\172\105\023\132\377\310\227\330\323
\030\054\175\226\370\335\242\145\103\160\223\220\025\272\220\337
\350\031\260\333\054\212\140\017\267\157\224\007\036\035\246\311
\205\366\275\064\370\100\170\142\020\160\072\276\175\113\071\201

\251\020\324\226\101\273\370\137\034\013\035\010\362\261\260\211
\172\362\367\240\340\304\217\213\170\265\073\130\245\043\216\117
\125\376\066\073\340\014\267\312\052\060\101\040\264\200\315\256
\374\166\146\163\250\256\156\341\174\332\003\350\224\040\346\042
\243\320\037\220\135\040\123\024\046\127\332\124\227\337\026\104
\020\001\036\210\146\217\162\070\223\335\040\267\064\276\327\361
\356\143\216\107\171\050\006\374\363\131\105\045\140\042\063\033
\243\137\250\272\052\332\032\075\315\100\352\214\356\005\025\225
\325\245\054\040\057\247\230\050\356\105\374\361\270\210\000\054
\217\102\332\121\325\234\345\023\150\161\105\103\213\236\013\041
\074\113\134\005\334\032\237\230\216\332\275\042\236\162\315\255
\012\313\314\243\147\233\050\164\304\233\327\032\074\004\130\246
\202\235\255\307\173\157\377\200\226\351\370\215\152\275\030\220
\035\377\111\032\220\122\067\223\057\074\002\135\202\166\013\121
\347\026\307\127\370\070\371\247\315\233\042\124\357\143\260\025
\155\123\145\003\112\136\112\240\262\247\216\111\000\131\070\325
\307\364\200\144\365\156\225\120\270\021\176\025\160\070\112\260
\177\320\304\062\160\300\031\377\311\070\055\024\054\146\364\102
\104\346\125\166\033\200\025\127\377\300\247\247\252\071\252\330
\323\160\320\056\272\353\224\152\372\137\064\206\347\142\265\375
\212\360\060\205\224\311\257\044\002\057\157\326\335\147\376\343
\260\125\117\004\230\117\244\101\126\342\223\320\152\350\326\363
\373\145\340\316\165\304\061\131\014\356\202\310\014\140\063\112
\031\272\204\147\047\017\274\102\135\275\044\124\015\354\035\160
\006\137\244\274\372\040\174\125

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"

Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

Serial Number:1b:70:e9:d2:ff:ae:6c:71

Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

Not Valid Before: Tue Sep 23 15:22:07 2014

Not Valid After : Mon May 05 15:22:07 2036

Fingerprint (SHA-256):

57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A

Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068 1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\013\276\302\047\042\111\313\071\252\333\065\134\123\343\214\256

\170\377\266\376

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\116\156\233\124\114\312\267\372\110\344\220\261\025\113\034\243
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "vTrus ECC Root CA"
#
# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Not Valid Before: Tue Jul 31 07:26:44 2018
# Not Valid After : Fri Jul 31 07:26:44 2043
# Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060

```

```
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\017\060\202\001\225\240\003\002\001\002\002\024\156
\152\274\131\252\123\276\230\071\147\242\322\153\244\073\346\155
\034\326\332\060\012\006\010\052\206\110\316\075\004\003\003\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061\034
\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103\150
\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060\030
\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103\103
\040\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067
\063\061\060\067\062\066\064\064\132\027\015\064\063\060\067\063
\061\060\067\062\066\064\064\132\060\107\061\013\060\011\006\003
\125\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012
\023\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056
\054\114\164\144\056\061\032\060\030\006\003\125\004\003\023\021
\166\124\162\165\163\040\105\103\103\040\122\157\157\164\040\103
\101\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\145\120\112\256\214\171\226
\112\252\034\010\303\243\242\315\376\131\126\101\167\375\046\224
\102\273\035\315\010\333\163\262\133\165\363\317\234\116\202\364
\277\370\141\046\205\154\326\205\133\162\160\322\375\333\142\264
\337\123\213\275\261\104\130\142\102\011\307\372\177\133\020\347
\376\100\375\300\330\303\053\062\347\160\246\267\246\040\125\035
\173\200\135\113\217\147\114\361\020\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\230\071\315\276\330\262\214\367
\262\253\341\255\044\257\173\174\241\333\037\317\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\127\235\335\126\361\307\343\351\270\111\120\153\233\151\303\157
\354\303\175\045\344\127\225\023\100\233\122\323\073\363\100\031
\274\046\307\055\006\236\265\173\066\237\365\045\324\143\153\000
\002\061\000\351\323\306\236\126\232\052\314\241\332\077\310\146
\053\323\130\234\040\205\372\253\221\212\160\160\021\070\140\144
\013\142\011\221\130\000\371\115\373\064\150\332\011\255\041\006
\030\224\316
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "vTrus ECC Root CA"
```

```

# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Not Valid Before: Tue Jul 31 07:26:44 2018
# Not Valid After : Fri Jul 31 07:26:44 2043
# Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\366\234\333\260\374\366\002\023\266\122\062\246\243\221\077\026
\160\332\303\341
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\336\113\301\365\122\214\233\103\341\076\217\125\124\027\215\205
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "vTrus Root CA"
#
# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45
# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Not Valid Before: Tue Jul 31 07:24:05 2018
# Not Valid After : Fri Jul 31 07:24:05 2043
# Fingerprint (SHA-256):
8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87
# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\126\060\202\003\076\240\003\002\001\002\002\024\103
\343\161\023\330\263\131\024\135\267\316\214\375\065\375\157\274
\005\215\105\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\103\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\034\060\032\006\003\125\004\012\023\023\151\124\162\165
\163\103\150\151\156\141\040\103\157\056\054\114\164\144\056\061
\026\060\024\006\003\125\004\003\023\015\166\124\162\165\163\040
\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067\063
\061\060\067\062\064\060\065\132\027\015\064\063\060\067\063\061
\060\067\062\064\060\065\132\060\103\061\013\060\011\006\003\125
\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012\023
\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056\054
\114\164\144\056\061\026\060\024\006\003\125\004\003\023\015\166
\124\162\165\163\040\122\157\157\164\040\103\101\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\275\125\174
\141\323\270\035\004\142\005\240\256\154\267\160\264\101\352\113
\003\136\020\077\220\132\034\213\073\260\146\213\154\110\246\034
\042\272\325\100\222\356\063\262\043\131\311\216\274\130\332\213
\236\320\031\362\057\131\306\214\143\132\272\237\243\013\260\263
\232\134\272\021\270\022\351\014\273\317\156\154\200\207\051\024
\003\054\215\044\232\310\144\203\265\152\254\023\054\063\361\237
\334\054\141\074\032\077\160\125\233\255\000\122\177\317\004\271
```

\376\066\372\234\300\026\256\142\376\226\114\103\176\125\024\276
\032\263\322\155\302\257\166\146\225\153\052\260\224\167\205\136
\004\017\142\035\143\165\367\153\347\313\133\232\160\354\076\147
\005\360\376\007\010\200\317\050\333\005\306\024\047\057\206\175
\360\047\336\377\346\176\063\110\347\013\036\130\321\047\053\123
\016\127\112\145\327\373\242\200\140\374\114\274\065\123\001\152
\227\162\202\257\361\035\160\350\234\365\357\136\302\154\307\107
\176\132\224\205\046\115\073\272\353\114\350\260\011\302\145\302
\235\235\011\233\116\265\227\005\254\365\006\240\367\066\005\176
\364\220\262\153\304\264\371\144\352\351\032\012\310\015\250\355
\047\311\324\347\263\271\253\202\042\220\047\075\052\350\174\220
\357\274\117\375\342\012\044\247\336\145\044\244\135\352\300\166
\060\323\167\120\370\015\004\233\224\066\001\163\312\006\130\246
\323\073\334\372\004\106\023\125\212\311\104\107\270\121\071\032
\056\350\064\342\171\313\131\112\012\177\274\246\357\037\003\147
\152\131\053\045\142\223\331\123\031\146\074\047\142\051\206\115
\244\153\356\377\324\116\272\325\264\342\216\110\132\000\031\011
\361\005\331\316\221\261\367\353\351\071\117\366\157\004\103\232
\125\365\076\005\024\275\277\263\131\264\330\216\063\204\243\220
\122\252\263\002\225\140\371\014\114\150\371\356\325\027\015\370
\161\127\265\045\344\051\356\145\135\257\321\356\074\027\013\132
\103\305\245\206\352\044\236\342\005\007\334\064\102\022\221\326
\071\164\256\114\101\202\333\362\246\110\321\263\233\363\063\252
\363\246\300\305\116\365\364\235\166\143\346\002\306\042\113\301
\225\077\120\144\054\124\345\266\360\074\051\317\127\002\003\001
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\124\142\160\143\361\165\204\103\130\216\321\026\040\261\306
\254\032\274\366\211\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\002\001\000\051\272\222\111\247\255
\360\361\160\303\344\227\360\237\251\045\325\153\236\064\376\346
\032\144\366\072\153\122\262\020\170\032\237\114\332\212\332\354
\034\067\122\340\102\113\373\154\166\312\044\013\071\022\025\235
\237\021\055\374\171\144\334\340\340\365\335\340\127\311\245\262
\166\160\120\244\376\267\012\160\325\240\064\361\165\327\115\111
\272\021\321\263\330\354\202\377\353\016\304\277\144\055\175\143
\156\027\170\354\135\174\210\310\353\216\127\166\331\131\004\372
\274\122\037\105\254\360\172\200\354\354\157\166\256\221\333\020
\216\004\334\222\337\240\366\346\256\111\323\301\154\022\033\314
\051\252\371\010\245\342\067\024\312\261\270\146\357\032\202\344
\360\370\361\247\026\151\267\333\251\141\074\237\365\061\313\344
\000\106\302\057\164\261\261\327\201\356\250\046\225\274\210\257
\114\065\007\052\002\312\170\024\155\107\053\100\126\351\313\052
\140\241\147\003\240\316\214\274\260\162\147\304\061\316\333\064
\345\045\003\140\045\173\161\230\344\300\033\053\137\164\102\322
\113\305\131\010\007\207\276\305\303\177\347\226\331\341\334\050
\227\326\217\005\343\365\233\116\312\035\120\107\005\123\260\312


```
\071\347\205\240\211\301\005\073\001\067\323\077\111\342\167\353
\043\310\210\146\073\075\071\166\041\106\361\354\137\043\270\353
\242\146\165\164\301\100\367\330\150\232\223\342\055\251\056\275
\034\243\036\310\164\306\244\055\172\040\253\073\270\260\106\375
\157\335\137\122\125\165\142\360\227\240\174\327\070\375\045\337
\315\240\233\020\317\213\270\070\136\136\305\264\246\002\066\241
\036\137\034\317\342\226\235\051\252\375\230\256\122\341\363\101
\122\373\251\056\162\226\237\047\343\252\163\175\370\032\043\146
\173\073\253\145\260\062\001\113\025\076\075\242\117\014\053\065
\242\306\331\147\022\065\060\315\166\056\026\263\231\236\115\117
\116\055\073\064\103\341\232\016\015\244\146\227\272\322\034\112
\114\054\052\213\213\201\117\161\032\251\335\134\173\173\010\305
\000\015\067\100\343\174\173\124\137\057\205\137\166\366\367\247
\260\034\127\126\301\162\350\255\242\257\215\063\111\272\037\212
\334\346\164\174\140\206\157\207\227\173
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "vTrus Root CA"

Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45

Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

Not Valid Before: Tue Jul 31 07:24:05 2018

Not Valid After : Fri Jul 31 07:24:05 2043

Fingerprint (SHA-256):

8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87

Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "vTrus Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\204\032\151\373\365\315\032\045\064\023\075\343\370\374\270\231
\320\311\024\267
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\270\311\067\337\372\153\061\204\144\305\352\021\152\033\165\374
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ISRG Root X2"
#
# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US
# Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52
# Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US
# Not Valid Before: Fri Sep 04 00:00:00 2020
# Not Valid After : Mon Sep 17 16:00:00 2040
# Fingerprint (SHA-256):
69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70
# Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\002\033\060\202\001\241\240\003\002\001\002\002\020\101
\322\235\321\162\352\356\247\200\301\054\154\351\057\207\122\060
\012\006\010\052\206\110\316\075\004\003\003\060\117\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006\003
\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123\145
\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150\040
\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023\014
\111\123\122\107\040\122\157\157\164\040\130\062\060\036\027\015
\062\060\060\071\060\064\060\060\060\060\060\132\027\015\064
\060\060\071\061\067\061\066\060\060\060\060\132\060\117\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006
\003\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123
\145\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150
\040\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023
\014\111\123\122\107\040\122\157\157\164\040\130\062\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\315\233\325\237\200\203\012\354\011\112\363
\026\112\076\134\317\167\254\336\147\005\015\035\007\266\334\026
\373\132\213\024\333\342\161\140\304\272\105\225\021\211\216\352
\006\337\367\052\026\034\244\271\305\305\062\340\003\340\036\202
\030\070\213\327\105\330\012\152\156\346\000\167\373\002\121\175
\042\330\012\156\232\133\167\337\360\372\101\354\071\334\165\312
\150\007\014\037\352\243\102\060\100\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\174\102\226\256\336\113\110\073\372\222\370
\236\214\317\155\213\251\162\067\225\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\060\173\171\116\106
\120\204\302\104\207\106\033\105\160\377\130\231\336\364\375\244
\322\125\246\040\055\164\326\064\274\101\243\120\137\001\047\126
\264\276\047\165\006\257\022\056\165\230\215\374\002\061\000\213
\365\167\154\324\310\145\252\340\013\054\356\024\235\047\067\244
\371\123\245\121\344\051\203\327\370\220\061\133\102\237\012\365
\376\256\000\150\347\214\111\017\266\157\133\133\025\362\347

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "ISRG Root X2"

Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US

Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52

Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US

Not Valid Before: Fri Sep 04 00:00:00 2020

Not Valid After : Mon Sep 17 16:00:00 2040

Fingerprint (SHA-256):

69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70

Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\275\261\271\074\325\227\215\105\306\046\024\125\370\333\225\307
\132\321\123\257
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\323\236\304\036\043\074\246\337\317\243\176\155\340\024\346\345
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HiPKI Root CA - G1"
#
# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60
# Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
# Not Valid Before: Fri Feb 22 09:46:04 2019
# Not Valid After : Thu Dec 31 15:59:59 2037
# Fingerprint (SHA-256):
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HiPKI Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061

```

\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\055
\335\254\316\142\227\224\241\103\350\260\315\166\152\136\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151\120
\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061\060
\036\027\015\061\071\060\062\062\062\060\071\064\066\060\064\132
\027\015\063\067\061\062\063\061\061\065\065\071\065\071\132\060
\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043
\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167
\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114
\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151
\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\364\036\177\122\163\062\014\163\344\275\023\164\243\324\060
\250\320\256\113\330\266\337\165\107\146\364\174\347\071\004\036
\152\160\040\322\132\107\162\147\125\364\245\350\235\325\036\041
\241\360\147\272\314\041\150\276\104\123\277\215\371\342\334\057
\125\310\067\077\037\244\300\234\263\344\167\134\240\106\376\167
\372\032\240\070\352\355\232\162\336\053\275\224\127\072\272\354
\171\347\137\175\102\144\071\172\046\066\367\044\360\325\057\272
\225\230\021\146\255\227\065\326\165\001\200\340\257\364\204\141
\214\015\036\137\174\207\226\136\101\257\353\207\352\370\135\361
\056\210\005\076\114\042\273\332\037\052\335\122\106\144\071\363
\102\316\331\236\014\263\260\167\227\144\234\300\364\243\056\037

\225\007\260\027\337\060\333\000\030\226\114\241\201\113\335\004
\155\123\243\075\374\007\254\324\305\067\202\353\344\225\010\031
\050\202\322\102\072\243\330\123\354\171\211\140\110\140\310\162
\222\120\334\003\217\203\077\262\102\127\132\333\152\351\021\227
\335\205\050\274\060\114\253\343\302\261\105\104\107\037\340\212
\026\007\226\322\041\017\123\300\355\251\176\324\116\354\233\011
\354\257\102\254\060\326\277\321\020\105\340\246\026\262\245\305
\323\117\163\224\063\161\002\241\152\243\326\063\227\117\041\143
\036\133\217\331\301\136\105\161\167\017\201\135\137\041\232\255
\203\314\372\136\326\215\043\137\033\075\101\257\040\165\146\132
\112\366\237\373\253\030\367\161\300\266\035\061\354\073\040\353
\313\342\270\365\256\222\262\367\341\204\113\362\242\362\223\232
\042\236\323\024\157\066\124\275\037\136\131\025\271\163\250\301
\174\157\173\142\351\026\154\107\132\145\363\016\021\233\106\331
\375\155\334\326\234\300\264\175\245\260\335\077\126\157\241\371
\366\344\022\110\375\006\177\022\127\266\251\043\117\133\003\303
\340\161\052\043\267\367\260\261\073\274\230\275\326\230\250\014
\153\366\216\022\147\246\362\262\130\344\002\011\023\074\251\273
\020\264\322\060\105\361\354\367\000\021\337\145\370\334\053\103
\125\277\026\227\304\017\325\054\141\204\252\162\206\376\346\072
\176\302\077\175\356\374\057\024\076\346\205\335\120\157\267\111
\355\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\362\167\027\372\136\250\376\366\075\161
\325\150\272\311\106\014\070\330\257\260\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\120\121
\360\165\334\160\004\343\377\252\165\324\161\242\313\236\217\250
\251\323\257\165\307\124\317\072\034\004\231\042\254\304\021\342
\357\063\112\246\043\035\016\015\107\330\067\307\157\257\064\177
\117\201\153\065\117\351\162\245\061\342\170\347\367\116\224\030
\133\100\175\317\153\041\124\206\346\225\172\373\306\312\352\234
\110\116\127\011\135\057\254\364\245\264\227\063\130\325\254\171
\251\314\137\371\205\372\122\305\215\370\221\024\353\072\015\027
\320\122\302\173\343\302\163\216\106\170\006\070\054\350\134\332
\146\304\364\244\360\126\031\063\051\132\145\222\005\107\106\112
\253\204\303\036\047\241\037\021\222\231\047\165\223\017\274\066
\073\227\127\217\046\133\014\273\234\017\324\156\060\007\324\334
\137\066\150\146\071\203\226\047\046\212\310\304\071\376\232\041
\157\325\162\206\351\177\142\345\227\116\320\044\320\100\260\320
\165\010\216\275\150\356\010\327\156\174\020\160\106\033\174\340
\210\262\236\162\206\231\001\343\277\237\111\031\264\045\276\126
\145\256\027\143\345\036\337\350\377\107\245\277\341\046\005\204
\344\260\300\257\347\010\231\250\014\136\046\200\105\324\370\150
\057\226\217\256\342\112\034\234\026\014\023\157\070\207\366\273
\310\064\137\222\003\121\171\160\246\337\313\365\231\115\171\315
\116\274\127\237\103\116\153\056\053\030\370\152\163\214\272\305
\065\357\071\152\101\036\317\161\250\242\262\206\007\133\072\311

```
\341\357\077\145\004\200\107\062\104\160\225\116\061\147\152\164
\133\020\105\165\352\260\237\320\346\065\376\116\237\213\314\053
\222\105\133\156\045\140\205\106\315\321\252\260\166\146\223\167
\226\276\203\276\070\266\044\116\046\013\314\355\172\126\032\340
\351\132\306\144\255\114\172\000\110\104\057\271\100\273\023\076
\276\025\170\235\205\201\112\052\127\336\325\031\103\332\333\312
\133\107\206\203\013\077\266\015\166\170\163\171\042\136\261\200
\037\317\276\321\077\126\020\230\053\225\207\241\037\235\144\024
\140\071\054\263\000\125\056\344\365\263\016\127\304\221\101\000
\234\077\350\245\337\352\366\377\310\360\255\155\122\250\027\253
\233\141\374\022\121\065\344\045\375\257\252\152\206\071
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "HiPKI Root CA - G1"
```

```
# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
```

```
# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60
```

```
# Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
```

```
# Not Valid Before: Fri Feb 22 09:46:04 2019
```

```
# Not Valid After : Thu Dec 31 15:59:59 2037
```

```
# Fingerprint (SHA-256):
```

```
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
```

```
# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "HiPKI Root CA - G1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\152\222\344\250\356\033\354\226\105\067\343\051\127\111\315\226
\343\345\322\140
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\151\105\337\026\145\113\350\150\232\217\166\137\377\200\236\323
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign ECC Root CA - R4"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Not Valid Before: Tue Nov 13 00:00:00 2012
# Not Valid After : Tue Jan 19 03:14:07 2038
# Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
# Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\334\060\202\001\203\240\003\002\001\002\002\015\002
\003\345\176\365\077\223\375\245\011\041\262\246\060\012\006\010
\052\206\110\316\075\004\003\002\060\120\061\044\060\042\006\003
\125\004\013\023\033\107\154\157\142\141\154\123\151\147\156\040

```


\105\103\103\040\122\157\157\164\040\103\101\040\055\040\122\064
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\062
\061\061\061\063\060\060\060\060\060\060\132\027\015\063\070\060
\061\061\071\060\063\061\064\060\067\132\060\120\061\044\060\042
\006\003\125\004\013\023\033\107\154\157\142\141\154\123\151\147
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040
\122\064\061\023\060\021\006\003\125\004\012\023\012\107\154\157
\142\141\154\123\151\147\156\061\023\060\021\006\003\125\004\003
\023\012\107\154\157\142\141\154\123\151\147\156\060\131\060\023
\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316\075
\003\001\007\003\102\000\004\270\306\171\323\217\154\045\016\237
\056\071\031\034\003\244\256\232\345\071\007\011\026\312\143\261
\271\206\370\212\127\301\127\316\102\372\163\241\367\145\102\377
\036\301\000\262\156\163\016\377\307\041\345\030\244\252\331\161
\077\250\324\271\316\214\035\243\102\060\100\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\124\260\173\255\105\270\342\100\177
\373\012\156\373\276\063\311\074\243\204\325\060\012\006\010\052
\206\110\316\075\004\003\002\003\107\000\060\104\002\040\042\117
\164\162\271\140\257\361\346\234\240\026\005\120\137\303\136\073
\156\141\164\357\276\001\304\276\030\110\131\141\202\062\002\040
\046\235\124\143\100\336\067\140\120\317\310\330\355\235\202\256
\067\230\274\243\217\114\114\251\064\053\154\357\373\225\233\046
END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign ECC Root CA - R4"
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Not Valid Before: Tue Nov 13 00:00:00 2012
Not Valid After : Tue Jan 19 03:14:07 2038
Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\153\240\260\230\341\161\357\132\255\376\110\025\200\167\020\364
\275\157\013\050

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END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\051\370\155\341\210\277\242\145\177\252\304\315\017\177\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R1"
#
# Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17
# Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF
# Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145

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\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002
\003\345\223\157\061\260\023\111\210\153\242\027\060\015\006\011
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157
\164\040\122\061\060\036\027\015\061\066\060\066\062\062\060\060
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003
\023\013\107\124\123\040\122\157\157\164\040\122\061\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\266\021
\002\213\036\343\241\167\233\073\334\277\224\076\267\225\247\100
\074\241\375\202\371\175\062\006\202\161\366\366\214\177\373\350
\333\274\152\056\227\227\243\214\113\371\053\366\261\371\316\204
\035\261\371\305\227\336\357\271\362\243\351\274\022\211\136\247
\252\122\253\370\043\047\313\244\261\234\143\333\327\231\176\360
\012\136\353\150\246\364\306\132\107\015\115\020\063\343\116\261
\023\243\310\030\154\113\354\374\011\220\337\235\144\051\045\043
\007\241\264\322\075\056\140\340\317\322\011\207\273\315\110\360
\115\302\302\172\210\212\273\272\317\131\031\326\257\217\260\007
\260\236\061\361\202\301\300\337\056\246\155\154\031\016\265\330
\176\046\032\105\003\075\260\171\244\224\050\255\017\177\046\345
\250\010\376\226\350\074\150\224\123\356\203\072\210\053\025\226
\011\262\340\172\214\056\165\326\234\353\247\126\144\217\226\117
\150\256\075\227\302\204\217\300\274\100\300\013\134\275\366\207
\263\065\154\254\030\120\177\204\340\114\315\222\323\040\351\063
\274\122\231\257\062\265\051\263\045\052\264\110\371\162\341\312
\144\367\346\202\020\215\350\235\302\212\210\372\070\146\212\374
\143\371\001\371\170\375\173\134\167\372\166\207\372\354\337\261
\016\171\225\127\264\275\046\357\326\001\321\353\026\012\273\216
\013\265\305\305\212\125\253\323\254\352\221\113\051\314\031\244
\062\045\116\052\361\145\104\320\002\316\252\316\111\264\352\237
\174\203\260\100\173\347\103\253\247\154\243\217\175\211\201\372
\114\245\377\325\216\303\316\113\340\265\330\263\216\105\317\166
\300\355\100\053\375\123\017\260\247\325\073\015\261\212\242\003

\336\061\255\314\167\352\157\173\076\326\337\221\042\022\346\276
\372\330\062\374\020\143\024\121\162\336\135\326\026\223\275\051
\150\063\357\072\146\354\007\212\046\337\023\327\127\145\170\047
\336\136\111\024\000\242\000\177\232\250\041\266\251\261\225\260
\245\271\015\026\021\332\307\154\110\074\100\340\176\015\132\315
\126\074\321\227\005\271\313\113\355\071\113\234\304\077\322\125
\023\156\044\260\326\161\372\364\301\272\314\355\033\365\376\201
\101\330\000\230\075\072\310\256\172\230\067\030\005\225\002\003
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\344\257\053\046\161\032\053\110\047\205\057\122\146
\054\357\360\211\023\161\076\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\003\202\002\001\000\237\252\102\046\333
\013\233\276\377\036\226\222\056\076\242\145\112\152\230\272\042
\313\175\301\072\330\202\012\006\306\366\245\336\300\116\207\146
\171\241\371\246\130\234\252\371\265\346\140\347\340\350\261\036
\102\101\063\013\067\075\316\211\160\025\312\265\044\250\317\153
\265\322\100\041\230\317\042\064\317\073\305\042\204\340\305\016
\212\174\135\210\344\065\044\316\233\076\032\124\036\156\333\262
\207\247\374\363\372\201\125\024\142\012\131\251\042\005\061\076
\202\326\356\333\127\064\274\063\225\323\027\033\350\047\242\213
\173\116\046\032\172\132\144\266\321\254\067\361\375\240\363\070
\354\162\360\021\165\235\313\064\122\215\346\166\153\027\306\337
\206\253\047\216\111\053\165\146\201\020\041\246\352\076\364\256
\045\377\174\025\336\316\214\045\077\312\142\160\012\367\057\011
\146\007\310\077\034\374\360\333\105\060\337\142\210\301\265\017
\235\303\237\112\336\131\131\107\305\207\042\066\346\202\247\355
\012\271\342\007\240\215\173\172\112\074\161\322\342\003\241\037
\062\007\335\033\344\102\316\014\000\105\141\200\265\013\040\131
\051\170\275\371\125\313\143\305\074\114\364\266\377\333\152\137
\061\153\231\236\054\301\153\120\244\327\346\030\024\275\205\077
\147\253\106\237\240\377\102\247\072\177\134\313\135\260\160\035
\053\064\365\324\166\011\014\353\170\114\131\005\363\063\102\303
\141\025\020\033\167\115\316\042\214\324\205\362\105\175\267\123
\352\357\100\132\224\012\134\040\137\116\100\135\142\042\166\337
\377\316\141\275\214\043\170\322\067\002\340\216\336\321\021\067
\211\366\277\355\111\007\142\256\222\354\100\032\257\024\011\331
\320\116\262\242\367\276\356\356\330\377\334\032\055\336\270\066
\161\342\374\171\267\224\045\321\110\163\133\241\065\347\263\231
\147\165\301\031\072\053\107\116\323\102\216\375\061\310\026\146
\332\322\014\074\333\263\216\311\241\015\200\017\173\026\167\024
\277\377\333\011\224\262\223\274\040\130\025\351\333\161\103\363
\336\020\303\000\334\250\052\225\266\302\326\077\220\153\166\333
\154\376\214\274\362\160\065\014\334\231\031\065\334\327\310\106
\143\325\066\161\256\127\373\267\202\155\334

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GTS Root R1"

Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17

Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

Not Valid After : Sun Jun 22 00:00:00 2036

Fingerprint (SHA-256):

D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF

Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GTS Root R1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\345\214\034\304\221\073\070\143\113\351\020\156\343\255\216\153

\235\331\201\112

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\005\376\320\277\161\250\243\166\143\332\001\340\330\122\334\100

END

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145

\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040

\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124

\123\040\122\157\157\164\040\122\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GTS Root R2"

#

Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa

Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

Not Valid After : Sun Jun 22 00:00:00 2036

Fingerprint (SHA-256):

8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8

Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GTS Root R2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002
\003\345\256\305\215\004\045\032\253\021\045\252\060\015\006\011
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157
\164\040\122\062\060\036\027\015\061\066\060\066\062\062\060\060
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003
\023\013\107\124\123\040\122\157\157\164\040\122\062\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\316\336
\375\246\373\354\354\024\064\074\007\006\132\154\131\367\031\065
\335\367\301\235\125\252\323\315\073\244\223\162\357\012\372\155
\235\366\360\205\200\133\241\110\122\237\071\305\267\356\050\254
\357\313\166\150\024\271\337\255\001\154\231\037\304\042\035\237
\376\162\167\340\054\133\257\344\004\277\117\162\240\032\064\230

\350\071\150\354\225\045\173\166\241\346\151\271\205\031\275\211
\214\376\255\355\066\352\163\274\377\203\342\313\175\301\322\316
\112\263\215\005\236\213\111\223\337\301\133\320\156\136\360\056
\060\056\202\374\372\274\264\027\012\110\345\210\233\305\233\153
\336\260\312\264\003\360\332\364\220\270\145\144\367\134\114\255
\350\176\146\136\231\327\270\302\076\310\320\023\235\255\356\344
\105\173\211\125\367\212\037\142\122\204\022\263\302\100\227\343
\212\037\107\221\246\164\132\322\370\261\143\050\020\270\263\011
\270\126\167\100\242\046\230\171\306\376\337\045\356\076\345\240
\177\324\141\017\121\113\074\077\214\332\341\160\164\330\302\150
\241\371\301\014\351\241\342\177\273\125\074\166\006\356\152\116
\314\222\210\060\115\232\275\117\013\110\232\204\265\230\243\325
\373\163\301\127\141\335\050\126\165\023\256\207\216\347\014\121
\011\020\165\210\114\274\215\371\173\074\324\042\110\037\052\334
\353\153\273\104\261\313\063\161\062\106\257\255\112\361\214\350
\164\072\254\347\032\042\163\200\322\060\367\045\102\307\042\073
\073\022\255\226\056\306\303\166\007\252\040\267\065\111\127\351
\222\111\350\166\026\162\061\147\053\226\176\212\243\307\224\126
\042\277\152\113\176\001\041\262\043\062\337\344\232\104\155\131
\133\135\365\000\240\034\233\306\170\227\215\220\377\233\310\252
\264\257\021\121\071\136\331\373\147\255\325\133\021\235\062\232
\033\275\325\272\133\245\311\313\045\151\123\125\047\134\340\312
\066\313\210\141\373\036\267\320\313\356\026\373\323\246\114\336
\222\245\324\342\337\365\006\124\336\056\235\113\264\223\060\252
\201\316\335\032\334\121\163\015\117\160\351\345\266\026\041\031
\171\262\346\211\013\165\144\312\325\253\274\011\301\030\241\377
\324\124\241\205\074\375\024\044\003\262\207\323\244\267\002\003
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\273\377\312\216\043\237\117\231\312\333\342\150\246
\245\025\047\027\036\331\016\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\003\202\002\001\000\037\312\316\335\307
\276\241\237\331\047\114\013\334\027\230\021\152\210\336\075\346
\161\126\162\262\236\032\116\234\325\053\230\044\135\233\153\173
\260\063\202\011\275\337\045\106\352\230\236\266\033\376\203\074
\322\142\141\301\004\355\316\340\305\311\310\023\023\125\347\250
\143\255\214\173\001\376\167\060\341\316\150\233\005\370\022\356
\171\061\240\101\105\065\050\012\161\244\044\117\214\334\074\202
\007\137\146\334\175\020\376\014\141\263\005\225\356\341\256\201
\017\250\370\307\217\115\250\043\002\046\153\035\203\122\125\316
\265\057\000\312\200\100\340\341\164\254\140\365\207\200\235\256
\066\144\221\135\260\150\030\352\212\141\311\167\250\227\304\311
\307\245\374\125\113\363\360\177\271\145\075\047\150\320\314\153
\372\123\235\341\221\032\311\135\032\226\155\062\207\355\003\040
\310\002\316\132\276\331\352\375\262\115\304\057\033\337\137\172
\365\370\213\306\356\061\072\045\121\125\147\215\144\062\173\351
\236\303\202\272\052\055\351\036\264\340\110\006\242\374\147\257

```
\037\042\002\163\373\040\012\257\235\124\113\241\315\377\140\107
\260\077\135\357\033\126\275\227\041\226\055\012\321\136\235\070
\002\107\154\271\364\366\043\045\270\240\152\232\053\167\010\372
\304\261\050\220\046\130\010\074\342\176\252\327\075\157\272\061
\210\012\005\353\047\265\241\111\356\240\105\124\173\346\047\145
\231\040\041\250\243\274\373\030\226\273\122\157\014\355\203\121
\114\351\131\342\040\140\305\302\145\222\202\214\363\020\037\016
\212\227\276\167\202\155\077\217\035\135\274\111\047\275\314\117
\017\341\316\166\206\004\043\305\300\214\022\133\375\333\204\240
\044\361\110\377\144\174\320\276\134\026\321\357\231\255\300\037
\373\313\256\274\070\042\006\046\144\332\332\227\016\077\050\025
\104\250\117\000\312\360\232\314\317\164\152\264\076\074\353\225
\354\265\323\132\330\201\231\351\103\030\067\353\263\273\321\130
\142\101\363\146\322\217\252\170\225\124\040\303\132\056\164\053
\325\321\276\030\151\300\254\325\244\317\071\272\121\204\003\145
\351\142\300\142\376\330\115\125\226\342\320\021\372\110\064\021
\354\236\355\005\035\344\310\326\035\206\313
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GTS Root R2"
```

```
# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US
```

```
# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa
```

```
# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US
```

```
# Not Valid Before: Wed Jun 22 00:00:00 2016
```

```
# Not Valid After : Sun Jun 22 00:00:00 2036
```

```
# Fingerprint (SHA-256):
```

```
8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8
```

```
# Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GTS Root R2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\232\104\111\166\062\333\336\372\320\274\373\132\173\027\275\236
\126\011\044\224
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\036\071\300\123\346\036\051\202\013\312\122\125\066\135\127\334
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
```



```

\123\040\122\157\157\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R3"
#
# Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66
# Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48
# Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002
\003\345\270\202\353\040\370\045\047\155\075\146\060\012\006\010

```

\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122
\063\060\036\027\015\061\066\060\066\062\062\060\060\060\060
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107
\124\123\040\122\157\157\164\040\122\063\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\037\117\063\207\063\051\212\241\204\336\313\307\041\130
\101\211\352\126\235\053\113\205\306\035\114\047\274\177\046\121
\162\157\342\237\326\243\312\314\105\024\106\213\255\357\176\206
\214\354\261\176\057\377\251\161\235\030\204\105\004\101\125\156
\053\352\046\177\273\220\001\343\113\031\272\344\124\226\105\011
\261\325\154\221\104\255\204\023\216\232\214\015\200\014\062\366
\340\047\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\301\361\046\272\240\055\256\205\201\317\323\361\052\022
\275\270\012\147\375\274\060\012\006\010\052\206\110\316\075\004
\003\003\003\151\000\060\146\002\061\000\366\341\040\225\024\173
\124\243\220\026\021\277\204\310\352\157\153\027\236\036\106\230
\040\233\237\323\015\331\254\323\057\315\174\370\133\056\125\273
\277\335\222\367\244\014\334\061\341\242\002\061\000\374\227\146
\146\345\103\026\023\203\335\307\337\057\276\024\070\355\001\316
\261\027\032\021\165\351\275\003\217\046\176\204\345\311\140\246
\225\327\124\131\267\347\021\054\211\324\271\356\027

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GTS Root R3"

Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66

Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

Not Valid After : Sun Jun 22 00:00:00 2036

Fingerprint (SHA-256):

34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48

Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\355\345\161\200\053\310\222\271\133\203\074\322\062\150\077\011
\315\240\036\106
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\347\235\130\002\224\106\121\224\345\340\042\112\213\347\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R4"
#
# Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52
# Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D
# Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
END

```

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002
\003\345\300\150\357\143\032\234\162\220\120\122\060\012\006\010
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122
\064\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107
\124\123\040\122\157\157\164\040\122\064\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\363\164\163\247\150\213\140\256\103\270\065\305\201\060
\173\113\111\235\373\301\141\316\346\336\106\275\153\325\141\030
\065\256\100\335\163\367\211\221\060\132\353\074\356\205\174\242
\100\166\073\251\306\270\107\330\052\347\222\221\152\163\351\261
\162\071\237\051\237\242\230\323\137\136\130\206\145\017\241\204
\145\006\321\334\213\311\307\163\310\214\152\057\345\304\253\321
\035\212\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\200\114\326\353\164\377\111\066\243\325\330\374\265\076
\305\152\360\224\035\214\060\012\006\010\052\206\110\316\075\004
\003\003\003\151\000\060\146\002\061\000\350\100\377\203\336\003
\364\237\256\035\172\247\056\271\257\117\366\203\035\016\055\205
\001\035\321\331\152\354\017\302\257\307\136\126\136\134\325\034
\130\042\050\013\367\060\266\057\261\174\002\061\000\360\141\074
\247\364\240\202\343\041\325\204\035\163\206\234\055\257\312\064
\233\361\237\271\043\066\342\274\140\003\235\200\263\232\126\310
\341\342\273\024\171\312\315\041\324\224\265\111\103

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GTS Root R4"

Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52

Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

Not Valid After : Sun Jun 22 00:00:00 2036

Fingerprint (SHA-256):

34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D

Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GTS Root R4"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\167\323\003\147\265\340\014\025\366\014\070\141\337\174\341\073
\222\106\115\107

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\103\226\203\167\031\115\166\263\235\145\122\344\035\042\245\350

END

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Telia Root CA v2"

#

Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e

Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

Not Valid Before: Thu Nov 29 11:55:54 2018

Not Valid After : Sun Nov 29 11:55:54 2043

Fingerprint (SHA-256):

24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C

Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Telia Root CA v2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\017\001
\147\137\047\326\376\172\343\344\254\276\011\133\005\236\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\104\061
\013\060\011\006\003\125\004\006\023\002\106\111\061\032\060\030
\006\003\125\004\012\014\021\124\145\154\151\141\040\106\151\156
\154\141\156\144\040\117\171\152\061\031\060\027\006\003\125\004
\003\014\020\124\145\154\151\141\040\122\157\157\164\040\103\101
\040\166\062\060\036\027\015\061\070\061\061\062\071\061\061\065
\065\065\064\132\027\015\064\063\061\061\062\071\061\061\065\065
\065\064\132\060\104\061\013\060\011\006\003\125\004\006\023\002
\106\111\061\032\060\030\006\003\125\004\012\014\021\124\145\154
\151\141\040\106\151\156\154\141\156\144\040\117\171\152\061\031
\060\027\006\003\125\004\003\014\020\124\145\154\151\141\040\122
\157\157\164\040\103\101\040\166\062\060\202\002\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017
\000\060\202\002\012\002\202\002\001\000\262\320\077\007\274\342
\173\320\153\231\370\342\167\151\347\316\235\244\003\274\202\155
\241\376\201\145\037\114\047\254\216\000\272\026\173\353\060\152
\000\300\263\164\150\176\262\257\307\325\142\263\172\077\120\312
\214\066\104\044\143\322\066\351\014\205\366\103\166\325\114\241
\140\162\147\342\050\063\245\313\061\270\072\042\043\064\270\175
```

\275\126\042\100\235\352\364\173\003\255\150\374\262\201\117\230
\320\164\352\215\345\175\315\143\303\243\366\336\222\302\130\031
\340\226\273\305\304\251\075\245\164\226\376\257\371\211\252\275
\225\027\124\330\170\104\361\014\167\025\222\340\230\102\247\244
\326\252\040\222\315\301\240\263\226\262\072\204\102\215\175\325
\225\344\326\333\351\142\304\130\263\171\305\214\323\065\063\203
\237\165\241\122\047\141\070\361\131\075\216\120\340\275\171\074
\347\154\226\376\136\331\002\145\264\216\134\320\021\064\337\135
\277\122\247\201\000\303\177\231\105\231\025\325\027\310\012\123
\354\143\363\231\175\314\151\022\206\302\027\360\001\236\277\204
\274\321\122\313\033\222\146\316\244\123\345\241\277\304\333\011
\326\346\211\126\053\310\343\174\336\343\377\211\345\065\156\050
\350\154\013\043\121\251\045\005\353\110\370\335\261\312\372\154
\010\121\357\267\030\154\104\312\046\341\163\306\211\006\201\345
\212\254\260\342\051\306\271\044\263\153\104\021\364\245\103\302
\114\103\345\160\066\214\266\063\127\172\225\056\202\240\364\134
\020\263\141\203\366\002\005\206\056\174\055\154\334\003\106\156
\065\223\325\172\225\057\336\040\330\133\176\224\220\004\152\272
\131\075\004\005\165\235\067\242\016\056\075\353\301\244\122\203
\376\320\153\324\146\216\334\306\351\022\116\035\052\127\252\020
\274\174\136\202\175\246\246\311\362\055\271\365\027\047\255\321
\016\211\124\053\225\372\300\255\035\230\024\170\063\102\206\012
\251\163\265\373\164\015\267\033\060\031\304\132\016\034\047\267
\332\030\320\377\212\310\005\272\361\252\034\242\067\267\346\110
\244\106\054\224\352\250\166\142\107\213\020\123\007\110\127\154
\342\222\115\266\256\005\313\334\301\112\136\217\254\075\031\116
\302\355\140\165\053\333\301\312\102\325\002\003\001\000\001\243
\143\060\141\060\037\006\003\125\035\043\004\030\060\026\200\024
\162\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057
\206\330\044\071\060\035\006\003\125\035\016\004\026\004\024\162
\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057\206
\330\044\071\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\240\073\131\247\011\224\076\066
\204\322\176\057\071\245\226\227\372\021\255\374\147\363\161\011
\362\262\211\204\147\104\257\271\357\355\226\354\234\144\333\062
\060\157\147\232\254\176\137\262\253\001\066\176\201\372\344\204
\136\322\254\066\340\153\142\305\175\113\016\202\155\322\166\142
\321\376\227\370\237\060\174\030\371\264\122\167\202\035\166\333
\323\035\251\360\301\232\000\275\155\165\330\175\347\372\307\070
\243\234\160\350\106\171\003\257\056\164\333\165\370\156\123\014
\003\310\231\032\211\065\031\074\323\311\124\174\250\360\054\346
\156\007\171\157\152\341\346\352\221\202\151\012\035\303\176\131
\242\236\153\106\025\230\133\323\257\106\035\142\310\316\200\122
\111\021\077\311\004\022\303\023\174\077\073\212\226\333\074\240
\036\012\264\213\124\262\044\147\015\357\202\313\276\074\175\321
\342\177\256\026\326\126\130\271\332\040\261\203\025\241\357\212

```
\115\062\157\101\057\023\122\202\224\327\032\301\170\242\121\335
\053\160\155\267\032\371\367\260\340\147\227\126\333\174\141\123
\011\003\050\002\100\307\263\330\375\234\160\152\306\050\303\205
\351\342\355\032\223\240\336\113\230\242\204\076\005\167\001\226
\075\373\264\040\017\234\162\002\172\022\057\325\243\272\121\170
\257\052\053\104\145\116\265\375\012\350\301\315\171\207\141\053
\336\200\127\105\277\147\361\233\221\136\245\244\354\131\110\020
\015\070\307\260\372\303\104\155\004\365\170\120\034\222\226\133
\332\365\270\056\272\133\317\345\360\152\235\113\057\130\163\055
\117\055\304\034\076\364\263\077\253\025\016\073\031\101\212\244
\301\127\022\146\161\114\372\123\343\127\353\142\225\011\236\124
\335\321\302\074\127\074\275\070\255\230\144\267\270\003\232\123
\126\140\135\263\330\102\033\134\113\022\212\034\353\353\175\306
\172\151\307\047\177\244\370\213\362\344\224\146\207\113\351\224
\007\011\022\171\212\262\353\164\004\334\316\364\104\131\340\026
\312\305\054\130\327\074\173\317\142\206\152\120\175\065\066\146
\247\373\067\347\050\307\330\320\255\245\151\224\217\350\301\337
\044\370\033\007\061\207\201\330\135\366\350\050\330\112\122\200
\254\023\356\120\024\036\230\307
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Telia Root CA v2"
```

```
# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
```

```
# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e
```

```
# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
```

```
# Not Valid Before: Thu Nov 29 11:55:54 2018
```

```
# Not Valid After : Sun Nov 29 11:55:54 2043
```

```
# Fingerprint (SHA-256):
```

```
24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C
```

```
# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Telia Root CA v2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\271\231\315\321\163\120\212\304\107\005\010\234\214\210\373\276
\240\053\100\315
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\016\217\254\252\202\337\205\261\364\334\020\034\374\231\331\110
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
```



```
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "D-TRUST BR Root CA 1 2020"

#

Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96

Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

Not Valid Before: Tue Feb 11 09:45:00 2020

Not Valid After : Sun Feb 11 09:44:59 2035

Fingerprint (SHA-256):

E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44

Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\174
\311\217\053\204\327\337\352\017\311\145\232\323\113\115\226\060
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122
\125\123\124\040\102\122\040\122\157\157\164\040\103\101\040\061
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\060
\071\064\065\060\060\132\027\015\063\065\060\062\061\061\060\071
\064\064\065\071\132\060\110\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\102\122
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\306\313\307\050\321\373\204\365\232
\357\102\024\040\341\103\153\156\165\255\374\053\003\204\324\166
\223\045\327\131\073\101\145\153\036\346\064\052\273\164\366\022
\316\350\155\347\253\344\074\116\077\104\010\213\315\026\161\313
\277\222\231\364\244\327\074\120\124\122\220\205\203\170\224\147
\147\243\034\011\031\075\165\064\205\336\355\140\175\307\014\264
\101\122\271\156\345\356\102\243\202\001\015\060\202\001\011\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\163\221\020\253\377
\125\263\132\174\011\045\325\262\272\010\240\153\253\037\155\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057
\144\055\164\162\165\163\164\137\142\162\137\162\157\157\164\137
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\102
\122\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316
\075\004\003\003\003\151\000\060\146\002\061\000\224\220\055\023
\372\341\143\370\141\143\350\255\205\170\124\221\234\270\223\070
\076\032\101\332\100\026\123\102\010\312\057\216\361\076\201\126
\300\252\330\355\030\304\260\256\364\076\372\046\002\061\000\363
\050\342\306\333\053\231\373\267\121\270\044\243\244\224\172\032
\077\346\066\342\003\127\063\212\060\313\202\307\326\024\021\325
\165\143\133\024\225\234\037\001\317\330\325\162\247\017\073

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "D-TRUST BR Root CA 1 2020"
# Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96
# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
# Not Valid Before: Tue Feb 11 09:45:00 2020
# Not Valid After : Sun Feb 11 09:44:59 2035
# Fingerprint (SHA-256):
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
# Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\133\230\360\343\265\367\164\074\355\346\260\066\175\062\315
\364\011\101\147
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\265\252\113\325\355\367\343\125\056\217\162\012\363\165\270\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST EV Root CA 1 2020"
#
# Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
# Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
# Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE

```

```
# Not Valid Before: Tue Feb 11 10:00:00 2020
# Not Valid After : Sun Feb 11 09:59:59 2035
# Fingerprint (SHA-256):
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\137
\002\101\327\172\207\174\114\003\243\254\226\215\373\377\320\060
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122
\125\123\124\040\105\126\040\122\157\157\164\040\103\101\040\061
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\061
\060\060\060\060\060\132\027\015\063\065\060\062\061\061\060\071
\065\071\065\071\132\060\110\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\105\126
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\361\013\335\206\103\040\031\337\227
\205\350\042\112\233\317\235\230\277\264\005\046\311\313\343\246
```

\322\217\305\236\170\173\061\211\251\211\255\047\074\145\020\202
\374\337\303\235\116\360\063\043\304\322\062\365\034\260\337\063
\027\135\305\360\261\212\371\357\271\267\024\312\051\112\302\017
\251\177\165\145\111\052\060\147\364\144\367\326\032\167\332\303
\302\227\141\102\173\111\255\243\202\001\015\060\202\001\011\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\177\020\001\026\067
\072\244\050\344\120\370\244\367\354\153\062\266\376\351\213\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057
\144\055\164\162\165\163\164\137\145\166\137\162\157\157\164\137
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\105
\126\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316
\075\004\003\003\003\151\000\060\146\002\061\000\312\074\306\052
\165\302\136\165\142\071\066\000\140\132\213\301\223\231\314\331
\333\101\073\073\207\231\027\073\325\314\117\312\042\367\240\200
\313\371\264\261\033\126\365\162\322\374\031\321\002\061\000\221
\367\060\223\077\020\106\053\161\244\320\073\104\233\300\051\002
\005\262\101\167\121\363\171\132\236\216\024\240\116\102\322\133
\201\363\064\152\003\347\042\070\120\133\355\031\117\103\026

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST EV Root CA 1 2020"
Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Not Valid Before: Tue Feb 11 10:00:00 2020
Not Valid After : Sun Feb 11 09:59:59 2035
Fingerprint (SHA-256):
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\141\333\214\041\131\151\003\220\330\174\234\022\206\124\317\235
\075\364\335\007
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\214\055\235\160\237\110\231\021\006\021\373\351\313\060\300\156
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "CAEDICOM Root"
# Issuer: C=ES,O=EDICOM,CN=CAEDICOM Root
# Serial Number:fb:71:26:58:ad:99:e5
# Subject: C=ES,O=EDICOM,CN=CAEDICOM Root
# Not Valid Before: Wed May 21 11:06:35 2014
# Not Valid After: Sun May 21 10:20:00 2034
# Fingerprint (MD5): cd:d5:a1:fe:28:31:9c:13:be:d5:c1:e8:cf:56:f0:76
# Fingerprint (SHA1): 55:9b:ba:7b:0f:fe:80:d6:d3:82:9b:1f:d0:7a:a4:d3:22:19:47:90
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CAEDICOM Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\066\061\026\060\024\006\003\125\004\003\014\015\103\101\105
\104\111\103\117\115\040\122\157\157\164\061\017\060\015\006\003
\125\004\012\014\006\105\104\111\103\117\115\061\013\060\011\006
\003\125\004\006\023\002\105\123
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\066\061\026\060\024\006\003\125\004\003\014\015\103\101\105
\104\111\103\117\115\040\122\157\157\164\061\017\060\015\006\003

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\125\004\012\014\006\105\104\111\103\117\115\061\013\060\011\006
\003\125\004\006\023\002\105\123

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\000\373\161\046\130\255\231\345

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\121\060\202\003\071\240\003\002\001\002\002\010\000
\373\161\046\130\255\231\345\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\066\061\026\060\024\006\003\125\004
\003\014\015\103\101\105\104\111\103\117\115\040\122\157\157\164
\061\017\060\015\006\003\125\004\012\014\006\105\104\111\103\117
\115\061\013\060\011\006\003\125\004\006\023\002\105\123\060\036
\027\015\061\064\060\065\062\061\061\060\062\060\060\060\132\027
\015\063\064\060\065\062\061\061\060\062\060\060\060\132\060\066
\061\026\060\024\006\003\125\004\003\014\015\103\101\105\104\111
\103\117\115\040\122\157\157\164\061\017\060\015\006\003\125\004
\012\014\006\105\104\111\103\117\115\061\013\060\011\006\003\125
\004\006\023\002\105\123\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\333\200\312\350\111\164\307\323\070
\056\361\305\043\142\374\066\214\057\036\176\071\013\351\006\364
\125\233\245\230\051\224\355\206\107\062\203\363\305\222\172\005
\327\051\002\076\026\303\050\177\065\144\051\172\171\273\241\342
\036\141\024\215\347\000\320\334\242\124\145\212\337\151\271\161
\107\177\070\070\026\106\247\151\061\021\065\114\341\052\177\377
\155\117\225\075\343\135\110\115\031\123\010\132\153\041\325\022
\060\151\227\220\257\055\301\365\177\101\137\111\066\217\115\270
\036\032\225\137\332\017\157\134\025\065\304\021\274\137\205\233
\275\255\073\125\136\273\337\316\273\257\134\231\140\335\037\151
\032\111\110\041\371\011\012\317\162\247\360\362\336\345\170\031
\276\022\335\315\207\171\101\316\057\105\327\013\221\020\021\004
\036\022\235\362\070\003\137\026\151\256\240\012\332\300\371\353
\240\015\030\017\171\136\221\235\344\037\024\234\064\023\031\002
\104\272\121\303\356\171\262\140\024\243\257\274\110\055\050\070
\150\001\103\144\312\016\206\203\142\320\212\031\246\047\361\053
\173\113\051\041\133\232\314\150\102\020\310\113\117\017\043\262
\210\174\304\134\156\027\160\305\167\257\225\300\045\244\042\012
\323\174\371\330\162\310\320\055\275\247\350\322\055\213\114\241
\156\012\374\264\100\063\273\232\153\374\244\352\311\376\340\064
\210\103\314\306\274\077\165\322\245\251\257\372\227\271\076\267
\316\124\240\115\300\135\056\301\050\330\143\124\162\270\254\132
\365\072\373\040\141\006\072\364\240\053\070\253\314\203\014\111
\324\156\076\155\017\076\163\057\066\346\363\117\263\300\000\321
\105\111\133\214\366\243\230\035\204\177\231\012\303\352\012\074
\303\323\044\170\110\147\365\033\073\016\035\016\103\261\004\165
\301\240\071\166\213\366\331\002\245\035\341\236\133\007\273\066
\127\112\041\115\371\211\151\264\154\017\327\257\240\025\044\231

\347\370\327\123\224\354\022\277\244\245\327\355\356\216\065\167
\167\334\246\177\040\124\222\326\143\326\162\236\115\052\266\217
\163\363\031\241\304\260\037\346\064\243\013\000\076\227\111\047
\141\252\252\004\101\063\070\265\120\121\314\066\025\333\037\377
\275\312\110\203\110\247\263\002\003\001\000\001\243\143\060\141
\060\035\006\003\125\035\016\004\026\004\024\024\315\052\131\170
\143\253\141\031\350\270\075\241\340\132\300\165\347\371\313\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\037\006\003\125\035\043\004\030\060\026\200\024\024\315\052
\131\170\143\253\141\031\350\270\075\241\340\132\300\165\347\371
\313\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\002\001\000\075\011\031\000\266\221\002\154\354\016\367
\341\342\142\260\277\063\015\375\125\022\364\010\232\367\053\055
\256\367\234\107\330\037\006\001\023\265\216\347\262\202\013\075
\204\131\103\324\007\330\053\134\020\172\044\054\312\215\350\325
\243\071\234\061\314\353\340\072\341\325\277\317\307\207\173\140
\377\107\071\327\243\104\326\010\046\133\317\132\124\354\210\323
\216\017\171\074\310\243\117\246\302\216\047\360\336\022\256\136
\031\255\347\042\126\212\130\062\340\371\006\320\251\052\264\065
\233\014\206\046\121\000\224\107\120\374\245\304\045\141\371\130
\360\105\160\056\111\166\177\021\326\157\265\371\051\005\341\015
\303\116\130\037\257\035\354\067\320\112\371\006\006\201\323\333
\240\226\270\016\221\060\171\346\120\337\210\270\013\251\134\324
\007\364\311\250\314\175\217\223\143\011\144\000\005\052\150\146
\103\273\242\273\376\225\256\371\304\245\012\210\142\110\170\045
\174\052\077\021\144\246\323\042\040\107\235\062\326\362\343\310
\244\141\164\347\202\302\104\272\240\321\135\137\274\361\104\016
\203\117\034\120\205\304\351\347\154\374\346\270\125\341\242\032
\200\267\220\104\247\204\042\227\107\042\336\253\070\067\317\265
\362\034\076\102\160\273\165\266\145\050\153\313\177\202\065\252
\366\363\040\170\050\163\007\226\060\160\245\052\161\134\241\171
\244\026\271\106\075\136\264\000\111\205\211\323\016\337\201\256
\130\215\130\326\341\305\104\170\056\034\040\273\242\107\227\277
\166\024\073\251\050\217\237\013\165\322\241\074\355\053\307\216
\220\241\172\242\231\060\142\374\205\035\065\163\073\363\265\131
\042\033\315\010\261\014\235\165\152\333\205\073\016\207\237\062
\117\222\000\001\001\114\111\150\202\200\101\154\371\375\161\275
\213\364\170\012\140\243\236\261\122\035\300\212\343\236\305\277
\053\031\152\230\247\261\336\025\120\237\252\224\045\217\251\200
\202\247\162\272\111\144\011\047\141\053\156\274\043\050\063\135
\236\156\360\271\275\040\062\214\335\240\013\231\273\264\204\004
\044\165\051\226\367\247\245\027\270\121\005\353\164\255\121\171
\226\374\273\373\337\011\055\010\222\104\316\300\322\263\030\307
\024\042\277\041\361

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
# Trust for "CAEDICOM Root"
# Issuer: C=ES,O=EDICOM,CN=CAEDICOM Root
# Serial Number:fb:71:26:58:ad:99:e5
# Subject: C=ES,O=EDICOM,CN=CAEDICOM Root
# Not Valid Before: Wed May 21 11:06:35 2014
# Not Valid After: Sun May 21 10:20:00 2034
# Fingerprint (MD5): cd:d5:a1:fe:28:31:9c:13:be:d5:c1:e8:cf:56:f0:76
# Fingerprint (SHA1): 55:9b:ba:7b:0f:fe:80:d6:d3:82:9b:1f:d0:7a:a4:d3:22:19:47:90
```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "CAEDICOM Root"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\125\233\272\173\017\376\200\326\323\202\233\037\320\172\244\323
\042\031\107\220
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\315\325\241\376\050\061\234\023\276\325\301\350\317\126\360\166
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\066\061\026\060\024\006\003\125\004\003\014\015\103\101\105
\104\111\103\117\115\040\122\157\157\164\061\017\060\015\006\003
\125\004\012\014\006\105\104\111\103\117\115\061\013\060\011\006
\003\125\004\006\023\002\105\123
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\010\000\373\161\046\130\255\231\345
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
```

```
# Certificate "I.CA Root CA/RSA"
```

```
# Issuer: 2.5.4.5=NTRCZ-26439395,CN=I.CA Root CA/RSA,O=První certifikaní autorita\, a.s.,C=CZ
```

```
# Serial Number:05:f5:e1:00
```

```
# Subject: 2.5.4.5=NTRCZ-26439395,CN=I.CA Root CA/RSA,O=První certifikaní autorita\, a.s.,C=CZ
```

```
# Not Valid Before: Wed May 27 12:20:00 2015
```

```
# Not Valid After: Sun May 27 12:20:00 2040
```

```
# Fingerprint (MD5): 34:ba:8d:c4:33:9a:b5:27:ee:bd:5b:7c:7d:82:97:7f
```

```
# Fingerprint (SHA1): 9b:09:59:89:81:54:08:1b:f6:a9:0e:9b:9e:58:a4:69:0c:9b:a1:04
```

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "I.CA Root CA/RSA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\160\061\013\060\011\006\003\125\004\006\023\002\103\132\061
\055\060\053\006\003\125\004\012\014\044\120\162\166\156\303\255
\040\143\145\162\164\151\146\151\153\141\304\215\156\303\255\040
\141\165\164\157\162\151\164\141\054\040\141\056\163\056\061\031
\060\027\006\003\125\004\003\014\020\111\056\103\101\040\122\157
\157\164\040\103\101\057\122\123\101\061\027\060\025\006\003\125
\004\005\023\016\116\124\122\103\132\055\062\066\064\063\071\063
\071\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\160\061\013\060\011\006\003\125\004\006\023\002\103\132\061
\055\060\053\006\003\125\004\012\014\044\120\162\166\156\303\255
\040\143\145\162\164\151\146\151\153\141\304\215\156\303\255\040
\141\165\164\157\162\151\164\141\054\040\141\056\163\056\061\031
\060\027\006\003\125\004\003\014\020\111\056\103\101\040\122\157
\157\164\040\103\101\057\122\123\101\061\027\060\025\006\003\125
\004\005\023\016\116\124\122\103\132\055\062\066\064\063\071\063
\071\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\005\365\341\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\176\060\202\004\146\240\003\002\001\002\002\004\005
\365\341\000\060\015\006\011\052\206\110\206\367\015\001\001\015
\005\000\060\160\061\013\060\011\006\003\125\004\006\023\002\103
\132\061\055\060\053\006\003\125\004\012\014\044\120\162\166\156
\303\255\040\143\145\162\164\151\146\151\153\141\304\215\156\303
\255\040\141\165\164\157\162\151\164\141\054\040\141\056\163\056
\061\031\060\027\006\003\125\004\003\014\020\111\056\103\101\040
\122\157\157\164\040\103\101\057\122\123\101\061\027\060\025\006
\003\125\004\005\023\016\116\124\122\103\132\055\062\066\064\063
\071\063\071\065\060\036\027\015\061\065\060\065\062\067\061\062
\062\060\060\060\132\027\015\064\060\060\065\062\067\061\062\062
\060\060\060\132\060\160\061\013\060\011\006\003\125\004\006\023
\002\103\132\061\055\060\053\006\003\125\004\012\014\044\120\162
\166\156\303\255\040\143\145\162\164\151\146\151\153\141\304\215
\156\303\255\040\141\165\164\157\162\151\164\141\054\040\141\056
\163\056\061\031\060\027\006\003\125\004\003\014\020\111\056\103
\101\040\122\157\157\164\040\103\101\057\122\123\101\061\027\060
\025\006\003\125\004\005\023\016\116\124\122\103\132\055\062\066
\064\063\071\063\071\065\060\202\002\042\060\015\006\011\052\206
```

\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\252\077\125\265\211\257\166\024\006
\052\144\046\224\070\017\137\366\334\004\157\061\105\365\012\375
\073\177\233\162\157\370\100\174\376\135\375\064\231\005\070\224
\111\272\261\360\275\370\231\134\300\121\372\252\015\373\346\161
\025\205\143\021\052\167\006\221\222\006\210\263\374\024\341\231
\106\264\051\202\256\204\203\356\265\046\207\156\370\213\125\104
\235\100\330\377\052\132\252\350\177\322\145\341\024\107\302\174
\061\375\165\141\012\033\214\200\112\236\264\342\056\024\107\061
\356\274\005\121\256\246\176\317\021\270\305\110\275\005\124\302
\204\344\247\150\153\370\270\372\176\050\311\271\317\344\041\117
\145\311\210\150\240\070\331\165\245\021\073\114\034\156\113\036
\324\206\154\301\255\005\107\323\054\224\015\314\207\055\032\055
\303\326\314\336\204\376\354\153\300\341\043\023\241\323\234\030
\176\340\162\327\134\125\274\114\263\100\061\033\234\100\315\232
\353\200\016\161\256\327\142\156\132\026\117\037\366\145\105\321
\237\172\205\101\031\302\172\072\316\041\222\344\224\160\114\273
\250\101\306\304\273\065\315\365\072\236\143\251\215\240\152\321
\040\104\252\052\266\110\245\162\303\316\236\344\130\110\107\011
\177\002\101\363\015\034\155\011\170\360\327\024\321\240\125\374
\021\326\132\032\000\171\345\073\346\010\313\122\236\244\011\253
\153\347\154\234\052\057\042\175\373\271\120\262\336\120\323\057
\014\162\271\326\263\267\263\010\346\353\173\254\364\264\305\366
\301\062\037\247\031\041\365\334\136\067\252\307\037\123\233\103
\076\346\236\237\332\015\327\126\242\017\123\151\055\125\277\353
\206\170\021\277\246\327\132\115\363\016\223\163\352\377\016\320
\347\217\361\310\263\360\330\030\163\154\245\162\210\361\160\114
\107\124\266\233\132\321\274\046\067\215\030\337\233\153\056\333
\013\045\263\212\262\343\255\006\134\155\273\175\027\003\007\001
\212\060\227\211\164\155\112\224\167\056\353\356\317\260\036\265
\352\166\364\265\024\070\225\327\325\331\057\077\262\244\046\314
\115\243\134\215\011\363\136\014\205\062\316\126\154\002\010\361
\113\243\253\277\310\124\240\005\205\164\344\165\035\172\274\234
\073\140\075\152\375\031\221\002\003\001\000\001\243\202\001\036
\060\202\001\032\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\166\271\003\110\373\325\030\241\241\067\240\355\314\150\202\114
\122\064\066\015\060\201\327\006\003\125\035\040\004\201\317\060
\201\314\060\201\311\006\004\125\035\040\000\060\201\300\060\201
\275\006\010\053\006\001\005\005\007\002\002\060\201\260\032\201
\255\124\145\156\164\157\040\153\166\141\154\151\146\151\153\157
\166\141\156\171\040\163\171\163\164\145\155\157\166\171\040\143
\145\162\164\151\146\151\153\141\164\040\142\171\154\040\166\171
\144\141\156\040\160\157\144\154\145\040\172\141\153\157\156\141
\040\062\062\067\057\062\060\060\060\040\123\142\056\040\166\040
\160\154\141\164\156\145\155\040\172\156\145\156\151\057\124\150
\151\163\040\161\165\141\154\151\146\151\145\144\040\163\171\163

\164\145\155\040\143\145\162\164\151\146\151\143\141\164\145\040
\167\141\163\040\151\163\163\165\145\144\040\141\143\143\157\162
\144\151\156\147\040\164\157\040\101\143\164\040\116\157\056\040
\062\062\067\057\062\060\060\060\040\103\157\154\154\056\060\015
\006\011\052\206\110\206\367\015\001\001\015\005\000\003\202\002
\001\000\031\124\002\045\203\333\042\226\213\035\225\236\231\333
\064\316\223\320\037\056\173\134\140\044\152\014\327\205\104\170
\037\034\111\362\024\370\203\124\031\246\235\062\146\270\043\246
\073\206\052\237\066\374\027\374\120\017\140\306\067\375\044\250
\367\171\247\216\277\330\007\025\124\136\122\014\276\370\246\330
\310\101\104\361\366\023\334\203\031\133\257\335\144\367\063\026
\207\017\025\132\361\144\274\324\347\125\077\062\070\211\232\363
\314\110\305\154\061\161\222\232\046\027\302\174\107\002\155\065
\047\237\363\032\341\252\035\015\164\021\251\223\174\101\250\157
\273\216\234\305\001\344\163\366\272\120\056\346\020\324\274\157
\023\232\070\271\151\106\245\006\326\362\114\154\067\253\074\370
\333\032\306\125\360\310\370\035\041\156\057\000\152\261\342\155
\132\004\055\175\335\011\117\366\357\024\057\300\022\352\011\031
\053\032\312\240\161\233\261\072\062\274\377\103\030\363\175\057
\365\056\210\351\121\266\361\111\220\114\377\046\307\303\131\335
\164\137\301\120\135\070\134\235\150\125\151\152\264\100\167\311
\137\062\051\110\124\223\301\263\041\043\166\241\125\060\151\043
\077\061\111\304\241\315\073\166\131\225\132\202\264\255\161\265
\276\246\221\314\200\025\112\057\316\224\256\030\125\111\165\040
\104\270\363\001\233\301\170\054\216\020\114\247\144\255\255\072
\353\114\035\126\056\177\224\324\036\320\012\325\311\124\201\016
\036\376\367\224\371\141\072\077\065\356\323\140\311\373\110\262
\156\302\331\276\172\156\230\005\160\000\243\321\027\307\306\064
\257\154\365\115\217\135\122\014\335\200\233\172\155\347\230\343
\071\205\134\077\213\314\104\242\100\066\062\223\022\126\220\002
\236\076\131\150\002\037\126\210\036\257\301\376\017\173\125\215
\227\331\273\246\223\107\272\174\370\107\266\071\327\214\362\100
\154\207\234\014\376\055\335\334\161\374\016\221\010\244\103\075
\212\127\335\335\007\353\247\227\121\320\272\204\231\255\213\171
\376\311\004\220\203\023\053\351\227\015\145\211\362\021\055\067
\216\113\270\273\322\172\071\052\305\334\320\135\015\335\004\047
\230\237\130\375\216\206\273\005\177\360\355\067\222\220\335\234
\275\374

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "I.CA Root CA/RSA"

Issuer: 2.5.4.5=NTRCZ-26439395,CN=I.CA Root CA/RSA,O=První certifikační autorita, a.s.,C=CZ

Serial Number:05:f5:e1:00

Subject: 2.5.4.5=NTRCZ-26439395,CN=I.CA Root CA/RSA,O=První certifikační autorita, a.s.,C=CZ

```

# Not Valid Before: Wed May 27 12:20:00 2015
# Not Valid After: Sun May 27 12:20:00 2040
# Fingerprint (MD5): 34:ba:8d:c4:33:9a:b5:27:ee:bd:5b:7c:7d:82:97:7f
# Fingerprint (SHA1): 9b:09:59:89:81:54:08:1b:f6:a9:0e:9b:9e:58:a4:69:0c:9b:a1:04
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "I.CA Root CA/RSA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\233\011\131\211\201\124\010\033\366\251\016\233\236\130\244\151
\014\233\241\004
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\064\272\215\304\063\232\265\047\356\275\133\174\175\202\227\177
END
CKA_ISSUER MULTILINE_OCTAL
\060\160\061\013\060\011\006\003\125\004\006\023\002\103\132\061
\055\060\053\006\003\125\004\012\014\044\120\162\166\156\303\255
\040\143\145\162\164\151\146\151\153\141\304\215\156\303\255\040
\141\165\164\157\162\151\164\141\054\040\141\056\163\056\061\031
\060\027\006\003\125\004\003\014\020\111\056\103\101\040\122\157
\157\164\040\103\101\057\122\123\101\061\027\060\025\006\003\125
\004\005\023\016\116\124\122\103\132\055\062\066\064\063\071\063
\071\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\005\365\341\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "MULTICERT Root Certification Authority 01"
# Issuer: CN=MULTICERT Root Certification Authority 01,O=MULTICERT - Serviços de Certificação
Electrónica S.A.,C=PT
# Serial Number:54:4d:a5:bc:40:35:56:5a
# Subject: CN=MULTICERT Root Certification Authority 01,O=MULTICERT - Serviços de Certificação
Electrónica S.A.,C=PT
# Not Valid Before: Fri Apr 04 08:59:47 2014
# Not Valid After: Mon Apr 04 08:59:47 2039
# Fingerprint (MD5): 30:b4:c2:a5:23:02:1d:2e:1b:c0:59:f2:ca:23:99:20
# Fingerprint (SHA1): 46:af:7a:31:b5:99:46:0d:46:9d:60:41:14:5b:13:65:1d:f9:17:0a
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "MULTICERT Root Certification Authority 01"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\120\124
\061\102\060\100\006\003\125\004\012\014\071\115\125\114\124\111
\103\105\122\124\040\055\040\123\145\162\166\151\303\247\157\163
\040\144\145\040\103\145\162\164\151\146\151\143\141\303\247\303
\243\157\040\105\154\145\143\164\162\303\263\156\151\143\141\040
\123\056\101\056\061\062\060\060\006\003\125\004\003\014\051\115
\125\114\124\111\103\105\122\124\040\122\157\157\164\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\040\060\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\120\124
\061\102\060\100\006\003\125\004\012\014\071\115\125\114\124\111
\103\105\122\124\040\055\040\123\145\162\166\151\303\247\157\163
\040\144\145\040\103\145\162\164\151\146\151\143\141\303\247\303
\243\157\040\105\154\145\143\164\162\303\263\156\151\143\141\040
\123\056\101\056\061\062\060\060\006\003\125\004\003\014\051\115
\125\114\124\111\103\105\122\124\040\122\157\157\164\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\040\060\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\124\115\245\274\100\065\126\132
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\361\060\202\003\331\240\003\002\001\002\002\010\124
\115\245\274\100\065\126\132\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\205\061\013\060\011\006\003\125
\004\006\023\002\120\124\061\102\060\100\006\003\125\004\012\014
\071\115\125\114\124\111\103\105\122\124\040\055\040\123\145\162
\166\151\303\247\157\163\040\144\145\040\103\145\162\164\151\146
\151\143\141\303\247\303\243\157\040\105\154\145\143\164\162\303
\263\156\151\143\141\040\123\056\101\056\061\062\060\060\006\003
\125\004\003\014\051\115\125\114\124\111\103\105\122\124\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\060\061\060\036
\027\015\061\064\060\064\060\064\060\070\065\071\064\067\132\027
\015\063\071\060\064\060\064\060\070\065\071\064\067\132\060\201
\205\061\013\060\011\006\003\125\004\006\023\002\120\124\061\102
\060\100\006\003\125\004\012\014\071\115\125\114\124\111\103\105
\122\124\040\055\040\123\145\162\166\151\303\247\157\163\040\144
\145\040\103\145\162\164\151\146\151\143\141\303\247\303\243\157
\040\105\154\145\143\164\162\303\263\156\151\143\141\040\123\056
```

\101\056\061\062\060\060\006\003\125\004\003\014\051\115\125\114
\124\111\103\105\122\124\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\040\060\061\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\316\334\077\364\031\156\273\025\151
\206\364\344\315\347\072\160\073\307\232\213\073\203\000\201\133
\373\040\026\132\276\277\130\000\137\051\346\127\157\176\212\054
\025\007\134\032\143\214\102\137\026\335\332\211\204\105\127\027
\226\240\234\241\165\042\101\032\072\375\305\027\221\023\366\276
\142\012\274\156\045\055\133\300\214\020\146\367\342\326\373\334
\110\061\243\032\250\345\115\110\311\242\034\163\376\217\146\100
\143\167\131\007\074\075\024\237\324\367\205\221\320\303\102\365
\033\141\263\167\200\200\052\155\022\002\226\213\121\331\301\157
\047\013\032\007\064\000\377\322\131\114\051\350\327\031\143\330
\221\264\077\374\216\016\045\362\241\022\007\145\312\065\336\253
\376\026\243\010\214\257\177\176\022\364\131\026\005\037\350\255
\164\171\062\367\170\002\266\264\314\253\333\036\070\141\004\031
\172\101\100\332\132\021\144\165\002\375\144\321\326\224\102\017
\042\347\145\315\257\220\016\014\133\061\001\231\121\357\105\214
\175\245\070\332\236\174\113\344\246\350\263\244\202\326\003\064
\056\117\267\121\253\167\070\011\365\006\376\334\146\033\017\077
\372\175\357\214\125\276\340\015\206\225\241\334\275\304\303\010
\321\105\036\362\275\276\160\361\346\046\306\273\010\261\050\245
\302\245\355\210\326\241\300\373\043\361\047\071\314\341\204\007
\031\274\176\366\314\070\377\156\020\273\106\351\043\211\044\201
\377\000\342\121\000\334\122\120\175\023\120\175\026\075\100\215
\323\277\371\212\145\330\142\022\051\167\302\272\302\111\064\117
\212\171\151\311\113\025\363\064\336\317\257\206\342\345\310\251
\126\141\114\006\124\132\305\154\031\352\363\310\104\315\044\032
\166\321\161\000\131\153\331\165\233\316\375\020\376\261\203\242
\245\267\222\206\166\233\112\367\035\334\214\205\246\130\255\212
\246\150\151\027\311\155\033\246\317\047\113\051\054\335\161\102
\032\211\020\345\325\233\022\137\111\213\204\274\330\010\134\373
\317\070\102\257\276\321\156\173\221\252\146\100\305\005\176\053
\320\146\266\307\337\122\376\364\105\155\043\222\041\236\022\001
\220\163\203\342\245\011\015\327\300\370\205\225\036\143\321\077
\065\332\224\321\067\331\365\002\003\001\000\001\243\143\060\141
\060\035\006\003\125\035\016\004\026\004\024\325\071\034\234\133
\157\004\252\242\225\114\357\040\335\051\164\244\305\105\161\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\037\006\003\125\035\043\004\030\060\026\200\024\325\071\034
\234\133\157\004\252\242\225\114\357\040\335\051\164\244\305\105
\161\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\002\001\000\077\347\137\363\042\026\336\203\236\040\344
\202\347\345\236\167\311\373\053\260\164\015\337\033\164\042\017
\163\020\241\260\027\354\114\014\324\050\160\152\146\162\104\151

\020\223\166\065\317\057\370\217\074\253\031\174\161\222\225\161
\033\067\025\302\033\050\172\357\156\170\070\337\373\217\233\001
\040\334\257\366\326\215\011\146\332\304\106\251\374\225\252\104
\043\022\337\107\300\260\025\354\265\261\236\154\017\221\252\246
\072\345\301\015\140\154\120\100\160\134\134\310\316\263\314\353
\355\252\210\031\126\245\244\310\014\172\345\166\100\147\063\264
\075\226\334\167\313\043\170\371\123\133\317\215\336\261\247\216
\132\172\242\062\143\243\210\327\045\141\132\135\111\072\162\346
\317\252\224\206\154\156\367\202\340\216\147\223\050\305\250\015
\115\357\070\255\171\112\146\215\204\001\010\004\171\363\122\306
\101\347\232\142\006\263\365\022\036\354\331\000\103\323\353\226
\167\164\341\171\371\024\224\204\155\272\124\202\005\214\337\001
\362\060\210\201\254\172\057\213\103\054\166\064\316\065\347\207
\216\116\013\012\245\032\127\261\123\132\277\153\330\276\000\176
\306\371\356\146\061\010\261\337\224\063\204\234\167\117\173\144
\057\357\216\017\131\050\042\313\360\134\076\053\375\065\326\225
\377\003\354\145\122\176\276\362\031\370\173\325\122\054\122\167
\232\221\146\101\160\215\325\111\347\013\110\177\212\256\336\105
\075\335\376\346\322\344\222\303\173\316\060\240\111\156\067\255
\250\323\054\266\075\236\041\333\006\127\342\360\256\006\373\331
\305\021\067\241\173\333\035\021\174\150\166\040\076\365\274\245
\331\146\265\041\255\105\046\306\135\036\002\243\101\304\324\175
\201\031\313\027\227\006\017\346\354\164\000\106\304\165\335\075
\360\103\064\257\246\274\374\366\202\373\317\305\372\263\017\045
\245\077\146\020\326\236\202\245\333\072\023\171\336\215\251\327
\246\215\206\322\057\331\151\015\342\165\170\176\111\137\042\253
\206\160\050\121\263\172\266\240\171\372\324\345\203\247\260\167
\312\333\001\202\357\342\276\115\057\323\300\115\320\343\151\156
\174\046\233\353\246\373\105\357\261\004\212\057\252\041\006\366
\346\324\274\101\043

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "MULTICERT Root Certification Authority 01"

Issuer: CN=MULTICERT Root Certification Authority 01,O=MULTICERT - Serviços de Certificação
Electrónica S.A.,C=PT

Serial Number:54:4d:a5:bc:40:35:56:5a

Subject: CN=MULTICERT Root Certification Authority 01,O=MULTICERT - Serviços de Certificação
Electrónica S.A.,C=PT

Not Valid Before: Fri Apr 04 08:59:47 2014

Not Valid After: Mon Apr 04 08:59:47 2039

Fingerprint (MD5): 30:b4:c2:a5:23:02:1d:2e:1b:c0:59:f2:ca:23:99:20

Fingerprint (SHA1): 46:af:7a:31:b5:99:46:0d:46:9d:60:41:14:5b:13:65:1d:f9:17:0a

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE


```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "MULTICERT Root Certification Authority 01"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\106\257\172\061\265\231\106\015\106\235\140\101\024\133\023\145
\035\371\027\012
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\060\264\302\245\043\002\035\056\033\300\131\362\312\043\231\040
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\120\124
\061\102\060\100\006\003\125\004\012\014\071\115\125\114\124\111
\103\105\122\124\040\055\040\123\145\162\166\151\303\247\157\163
\040\144\145\040\103\145\162\164\151\146\151\143\141\303\247\303
\243\157\040\105\154\145\143\164\162\303\263\156\151\143\141\040
\123\056\101\056\061\062\060\060\006\003\125\004\003\014\051\115
\125\114\124\111\103\105\122\124\040\122\157\157\164\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\040\060\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\124\115\245\274\100\065\126\132
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Certification Authority of WoSign G2"
# Issuer: CN=Certification Authority of WoSign G2,O=WoSign CA Limited,C=CN
# Serial Number:6b:25:da:8a:88:9d:7c:bc:0f:05:b3:b1:7a:61:45:44
# Subject: CN=Certification Authority of WoSign G2,O=WoSign CA Limited,C=CN
# Not Valid Before: Sat Nov 08 00:58:58 2014
# Not Valid After: Tue Nov 08 00:58:58 2044
# Fingerprint (MD5): c8:1c:7d:19:aa:cb:71:93:f2:50:f8:52:a8:1e:ba:60
# Fingerprint (SHA1): fb:ed:dc:90:65:b7:27:20:37:bc:55:0c:9c:56:de:bb:f2:78:94:e1
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certification Authority of WoSign G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156
\040\103\101\040\114\151\155\151\164\145\144\061\055\060\053\006
```

\003\125\004\003\023\044\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\157\146
\040\127\157\123\151\147\156\040\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\130\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156
\040\103\101\040\114\151\155\151\164\145\144\061\055\060\053\006
\003\125\004\003\023\044\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\157\146
\040\127\157\123\151\147\156\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\153\045\332\212\210\235\174\274\017\005\263\261\172\141
\105\104

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\174\060\202\002\144\240\003\002\001\002\002\020\153
\045\332\212\210\235\174\274\017\005\263\261\172\141\105\104\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\130
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\032\060
\030\006\003\125\004\012\023\021\127\157\123\151\147\156\040\103
\101\040\114\151\155\151\164\145\144\061\055\060\053\006\003\125
\004\003\023\044\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\157\146\040\127
\157\123\151\147\156\040\107\062\060\036\027\015\061\064\061\061
\060\070\060\060\065\070\065\070\132\027\015\064\064\061\061\060
\070\060\060\065\070\065\070\132\060\130\061\013\060\011\006\003
\125\004\006\023\002\103\116\061\032\060\030\006\003\125\004\012
\023\021\127\157\123\151\147\156\040\103\101\040\114\151\155\151
\164\145\144\061\055\060\053\006\003\125\004\003\023\044\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\040\157\146\040\127\157\123\151\147\156\040
\107\062\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\276\305\304\240\042\200\111\117\277\331\207\021\306
\123\341\273\017\275\140\177\257\366\202\016\037\334\260\216\075
\227\340\120\074\217\072\357\146\073\105\007\233\040\370\343\327
\045\206\065\220\026\242\135\157\060\031\010\207\013\177\006\262
\235\142\217\336\257\222\245\140\324\053\200\232\122\077\365\232
\203\351\064\132\313\331\325\142\134\346\016\340\337\006\230\016
\200\174\312\264\035\023\210\153\016\250\044\167\003\320\356\133
\363\312\151\221\065\071\126\305\155\343\367\075\117\136\223\070
\044\312\030\351\044\313\222\003\335\314\034\075\011\160\344\040
\344\361\256\254\273\163\151\243\143\072\017\105\017\241\112\232
\302\321\143\254\313\020\370\075\346\116\050\267\353\304\225\261
\254\375\136\253\372\101\313\135\235\113\334\364\174\166\357\147

\177\000\172\215\322\240\032\134\115\042\341\265\332\335\166\263
\324\166\337\136\270\213\230\310\024\124\314\153\027\222\267\340
\112\277\111\224\141\013\070\220\217\135\044\154\045\173\073\171
\331\342\176\235\255\237\230\241\006\374\170\024\140\127\370\356
\200\167\261\002\003\001\000\001\243\102\060\100\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006
\003\125\035\016\004\026\004\024\372\140\251\353\145\305\335\026
\024\010\116\014\017\215\233\340\367\144\257\147\060\015\006\011
\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001\000
\127\303\172\066\202\234\215\230\342\253\100\252\107\217\307\247
\133\355\174\347\075\146\132\073\061\273\337\363\026\063\221\374
\174\173\245\302\246\146\343\252\260\267\047\230\077\111\327\140
\147\147\077\066\117\112\313\361\024\372\132\207\050\034\355\217
\101\062\306\225\371\175\332\275\173\133\302\260\041\343\217\106
\334\041\070\103\164\114\373\060\370\027\162\301\062\374\310\221
\027\304\314\130\067\116\013\314\132\367\041\065\050\203\154\140
\055\104\353\122\214\120\075\265\154\022\327\372\011\273\154\262
\112\261\305\211\344\374\323\122\330\141\027\376\172\224\204\217
\171\266\063\131\272\017\304\013\342\160\240\113\170\056\372\310
\237\375\257\221\145\012\170\070\025\345\227\027\024\335\371\340
\054\064\370\070\320\204\042\000\300\024\121\030\053\002\334\060
\132\360\350\001\174\065\072\043\257\010\344\257\252\216\050\102
\111\056\360\365\231\064\276\355\017\113\030\341\322\044\074\273
\135\107\267\041\362\215\321\012\231\216\343\156\076\255\160\340
\217\271\312\314\156\201\061\366\173\234\172\171\344\147\161\030
END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Certification Authority of WoSign G2"
Issuer: CN=Certification Authority of WoSign G2,O=WoSign CA Limited,C=CN
Serial Number:6b:25:da:8a:88:9d:7c:bc:0f:05:b3:b1:7a:61:45:44
Subject: CN=Certification Authority of WoSign G2,O=WoSign CA Limited,C=CN
Not Valid Before: Sat Nov 08 00:58:58 2014
Not Valid After: Tue Nov 08 00:58:58 2044
Fingerprint (MD5): c8:1c:7d:19:aa:cb:71:93:f2:50:f8:52:a8:1e:ba:60
Fingerprint (SHA1): fb:ed:dc:90:65:b7:27:20:37:bc:55:0c:9c:56:de:bb:f2:78:94:e1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certification Authority of WoSign G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\373\355\334\220\145\267\047\040\067\274\125\014\234\126\336\273
\362\170\224\341

```
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\310\034\175\031\252\313\161\223\362\120\370\122\250\036\272\140
END
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156
\040\103\101\040\114\151\155\151\164\145\144\061\055\060\053\006
\003\125\004\003\023\044\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\157\146
\040\127\157\123\151\147\156\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\153\045\332\212\210\235\174\274\017\005\263\261\172\141
\105\104
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "CA WoSign ECC Root"
# Issuer: CN=CA WoSign ECC Root,O=WoSign CA Limited,C=CN
# Serial Number:68:4a:58:70:80:6b:f0:8f:02:fa:f6:de:e8:b0:90:90
# Subject: CN=CA WoSign ECC Root,O=WoSign CA Limited,C=CN
# Not Valid Before: Sat Nov 08 00:58:58 2014
# Not Valid After: Tue Nov 08 00:58:58 2044
# Fingerprint (MD5): 80:c6:53:ee:61:82:28:72:f0:ff:21:b9:17:ca:b2:20
# Fingerprint (SHA1): d2:7a:d2:be:ed:94:c0:a1:3c:c7:25:21:ea:5d:71:be:81:19:f3:2b
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA WoSign ECC Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156
\040\103\101\040\114\151\155\151\164\145\144\061\033\060\031\006
\003\125\004\003\023\022\103\101\040\127\157\123\151\147\156\040
\105\103\103\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156
\040\103\101\040\114\151\155\151\164\145\144\061\033\060\031\006
```

```
\003\125\004\003\023\022\103\101\040\127\157\123\151\147\156\040
\105\103\103\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\150\112\130\160\200\153\360\217\002\372\366\336\350\260
\220\220
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\011\060\202\001\217\240\003\002\001\002\002\020\150
\112\130\160\200\153\360\217\002\372\366\336\350\260\220\220\060
\012\006\010\052\206\110\316\075\004\003\003\060\106\061\013\060
\011\006\003\125\004\006\023\002\103\116\061\032\060\030\006\003
\125\004\012\023\021\127\157\123\151\147\156\040\103\101\040\114
\151\155\151\164\145\144\061\033\060\031\006\003\125\004\003\023
\022\103\101\040\127\157\123\151\147\156\040\105\103\103\040\122
\157\157\164\060\036\027\015\061\064\061\061\060\070\060\060\065
\070\065\070\132\027\015\064\064\061\061\060\070\060\060\065\070
\065\070\132\060\106\061\013\060\011\006\003\125\004\006\023\002
\103\116\061\032\060\030\006\003\125\004\012\023\021\127\157\123
\151\147\156\040\103\101\040\114\151\155\151\164\145\144\061\033
\060\031\006\003\125\004\003\023\022\103\101\040\127\157\123\151
\147\156\040\105\103\103\040\122\157\157\164\060\166\060\020\006
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\341\375\216\270\103\044\253\226\173\205\302\272\013
\255\215\340\072\343\044\271\322\261\276\210\072\312\277\112\270
\371\357\054\057\257\121\120\074\107\165\154\370\224\267\233\374
\050\036\305\124\314\143\235\026\113\123\301\347\040\253\315\254
\045\322\177\217\302\301\132\202\136\060\213\172\124\316\003\265
\221\177\252\224\320\321\212\110\314\202\005\046\241\325\121\022
\326\173\066\243\102\060\100\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\252\375\325\132\243\366\207\213\062\205\375\321\062
\133\200\105\223\363\003\270\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\061\000\344\244\204\260\201
\325\075\260\164\254\224\244\350\016\075\000\164\114\241\227\153
\371\015\121\074\241\331\073\364\015\253\251\237\276\116\162\312
\205\324\331\354\265\062\105\030\157\253\255\002\060\175\307\367
\151\143\057\241\341\230\357\023\020\321\171\077\321\376\352\073
\177\336\126\364\220\261\025\021\330\262\042\025\320\057\303\046
\056\153\361\221\262\220\145\364\232\346\220\356\112
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "CA WoSign ECC Root"
```

```
# Issuer: CN=CA WoSign ECC Root,O=WoSign CA Limited,C=CN
# Serial Number:68:4a:58:70:80:6b:f0:8f:02:fa:f6:de:e8:b0:90:90
# Subject: CN=CA WoSign ECC Root,O=WoSign CA Limited,C=CN
# Not Valid Before: Sat Nov 08 00:58:58 2014
# Not Valid After: Tue Nov 08 00:58:58 2044
# Fingerprint (MD5): 80:c6:53:ee:61:82:28:72:f0:ff:21:b9:17:ca:b2:20
# Fingerprint (SHA1): d2:7a:d2:be:ed:94:c0:a1:3c:c7:25:21:ea:5d:71:be:81:19:f3:2b
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA WoSign ECC Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\322\172\322\276\355\224\300\241\074\307\045\041\352\135\161\276
\201\031\363\053
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\200\306\123\356\141\202\050\162\360\377\041\271\027\312\262\040
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156
\040\103\101\040\114\151\155\151\164\145\144\061\033\060\031\006
\003\125\004\003\023\022\103\101\040\127\157\123\151\147\156\040
\105\103\103\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\150\112\130\160\200\153\360\217\002\372\366\336\350\260
\220\220
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "CCA India 2015 SPL"
# Issuer: CN=CCA India 2015 SPL,O=India PKI,C=IN
# Serial Number: 10165 (0x27b5)
# Subject: CN=CCA India 2015 SPL,O=India PKI,C=IN
# Not Valid Before: Thu Jan 29 11:36:43 2015
# Not Valid After: Wed Jan 29 11:36:43 2025
# Fingerprint (MD5): 16:da:3e:ac:1d:0a:57:a9:b4:e2:de:d0:93:96:dc:d4
# Fingerprint (SHA1): 3b:c6:dc:e0:03:07:bd:67:60:41:eb:d8:59:70:c6:2f:8f:da:51:09
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "CCA India 2015 SPL"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\033\060\031\006\003\125\004\003\023\022\103\103
\101\040\111\156\144\151\141\040\062\060\061\065\040\123\120\114
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\033\060\031\006\003\125\004\003\023\022\103\103
\101\040\111\156\144\151\141\040\062\060\061\065\040\123\120\114
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\047\265
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\053\060\202\002\023\240\003\002\001\002\002\002\047
\265\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\060\076\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\033\060\031\006\003\125\004\003\023\022\103\103
\101\040\111\156\144\151\141\040\062\060\061\065\040\123\120\114
\060\036\027\015\061\065\060\061\062\071\061\061\063\066\064\063
\132\027\015\062\065\060\061\062\071\061\061\063\066\064\063\132
\060\076\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\033\060\031\006\003\125\004\003\023\022\103\103
\101\040\111\156\144\151\141\040\062\060\061\065\040\123\120\114
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\227\327\066\211\075\067\101\016\221\077\153\040\137\374\072
\176\073\132\135\057\303\014\207\123\074\030\242\310\141\163\015
\010\016\126\036\322\156\140\245\127\145\334\376\317\120\206\017
\132\116\253\142\213\004\312\126\357\341\321\236\256\164\255\252
\372\077\101\130\321\125\160\160\076\105\311\033\200\163\374\010
\210\344\213\162\250\012\265\051\127\260\255\012\221\101\032\234
\137\120\175\254\027\032\045\133\041\360\225\053\347\337\067\254
\064\363\007\260\361\035\301\023\357\173\056\072\305\251\141\220
\262\170\137\124\120\074\263\132\125\143\266\313\020\243\157\373
\015\364\266\357\346\010\336\242\020\277\166\227\177\352\331\226
\321\324\303\163\002\161\264\251\260\254\254\037\027\040\245\107
\106\326\104\002\070\231\276\313\024\170\376\346\137\304\177\335
\157\351\252\107\024\220\021\330\035\200\300\025\324\214\240\231
\343\031\016\012\017\314\032\010\234\324\123\007\000\340\037\111
\277\202\202\114\317\233\330\156\323\324\021\000\022\154\017\175
```

```
\140\147\112\214\120\333\362\057\340\271\171\207\203\303\134\302
\071\002\003\001\000\001\243\063\060\061\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\021\006\003\125
\035\016\004\012\004\010\114\021\160\252\217\335\037\007\060\013
\006\003\125\035\017\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\001\001\000\055
\274\214\025\312\064\355\114\050\042\273\341\123\045\113\072\227
\251\355\046\242\244\253\115\373\012\022\156\347\065\346\147\016
\030\201\142\066\245\314\302\337\032\345\150\001\201\116\263\231
\324\107\025\022\235\166\351\241\246\023\035\260\377\175\273\127
\343\357\131\233\310\073\120\151\306\143\072\254\240\301\345\220
\350\144\051\134\110\101\151\067\254\073\273\335\343\125\306\327
\222\015\225\203\260\050\127\302\243\251\226\247\312\336\114\036
\232\377\076\245\056\047\136\333\146\147\047\205\357\253\212\134
\163\174\210\315\107\146\360\235\203\314\204\217\342\051\364\037
\101\157\267\365\041\015\365\224\126\121\343\374\377\023\130\267
\237\003\356\051\237\322\001\260\142\236\224\275\031\206\132\103
\372\152\211\201\260\352\134\030\207\312\200\225\373\355\001\277
\021\032\337\225\024\256\056\342\257\315\221\220\272\263\047\303
\157\020\330\331\016\264\245\164\154\201\267\137\031\314\376\047
\116\263\105\230\130\030\234\127\304\222\162\022\317\247\202\071
\325\341\020\227\012\206\060\105\205\143\250\153\115\232\374
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "CCA India 2015 SPL"
# Issuer: CN=CCA India 2015 SPL,O=India PKI,C=IN
# Serial Number: 10165 (0x27b5)
# Subject: CN=CCA India 2015 SPL,O=India PKI,C=IN
# Not Valid Before: Thu Jan 29 11:36:43 2015
# Not Valid After: Wed Jan 29 11:36:43 2025
# Fingerprint (MD5): 16:da:3e:ac:1d:0a:57:a9:b4:e2:de:d0:93:96:dc:d4
# Fingerprint (SHA1): 3b:c6:dc:e0:03:07:bd:67:60:41:eb:d8:59:70:c6:2f:8f:da:51:09
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CCA India 2015 SPL"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\073\306\334\340\003\007\275\147\140\101\353\330\131\160\306\057
\217\332\121\011
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\026\332\076\254\035\012\127\251\264\342\336\320\223\226\334\324
```

END

CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\033\060\031\006\003\125\004\003\023\022\103\103
\101\040\111\156\144\151\141\040\062\060\061\065\040\123\120\114
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\047\265
END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Certificate "Swedish Government Root Authority v3"
Issuer: CN=Swedish Government Root Authority v3,O=Swedish Social Insurance Agency,C=SE
Serial Number:32:69:a2:bf:40:6b:8d:b4:47:83:64:3c:8b:0d:c9:43
Subject: CN=Swedish Government Root Authority v3,O=Swedish Social Insurance Agency,C=SE
Not Valid Before: Tue Sep 29 11:32:32 2015
Not Valid After: Sat Sep 29 11:42:09 2040
Fingerprint (MD5): 63:e2:fd:ea:a2:55:6a:70:54:fb:3a:22:e3:34:b1:17
Fingerprint (SHA1): 74:6f:88:f9:ac:16:3c:53:00:9e:ef:92:0c:40:67:75:6a:15:71:7e

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swedish Government Root Authority v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL
\060\146\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\050\060\046\006\003\125\004\012\023\037\123\167\145\144\151\163
\150\040\123\157\143\151\141\154\040\111\156\163\165\162\141\156
\143\145\040\101\147\145\156\143\171\061\055\060\053\006\003\125
\004\003\023\044\123\167\145\144\151\163\150\040\107\157\166\145
\162\156\155\145\156\164\040\122\157\157\164\040\101\165\164\150
\157\162\151\164\171\040\166\063
END

CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\146\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\050\060\046\006\003\125\004\012\023\037\123\167\145\144\151\163
\150\040\123\157\143\151\141\154\040\111\156\163\165\162\141\156
\143\145\040\101\147\145\156\143\171\061\055\060\053\006\003\125
\004\003\023\044\123\167\145\144\151\163\150\040\107\157\166\145
\162\156\155\145\156\164\040\122\157\157\164\040\101\165\164\150
\157\162\151\164\171\040\166\063
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\062\151\242\277\100\153\215\264\107\203\144\074\213\015
\311\103
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\252\060\202\003\222\240\003\002\001\002\002\020\062
\151\242\277\100\153\215\264\107\203\144\074\213\015\311\103\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\146
\061\013\060\011\006\003\125\004\006\023\002\123\105\061\050\060
\046\006\003\125\004\012\023\037\123\167\145\144\151\163\150\040
\123\157\143\151\141\154\040\111\156\163\165\162\141\156\143\145
\040\101\147\145\156\143\171\061\055\060\053\006\003\125\004\003
\023\044\123\167\145\144\151\163\150\040\107\157\166\145\162\156
\155\145\156\164\040\122\157\157\164\040\101\165\164\150\157\162
\151\164\171\040\166\063\060\036\027\015\061\065\060\071\062\071
\061\061\063\062\063\062\132\027\015\064\060\060\071\062\071\061
\061\064\062\060\071\132\060\146\061\013\060\011\006\003\125\004
\006\023\002\123\105\061\050\060\046\006\003\125\004\012\023\037
\123\167\145\144\151\163\150\040\123\157\143\151\141\154\040\111
\156\163\165\162\141\156\143\145\040\101\147\145\156\143\171\061
\055\060\053\006\003\125\004\003\023\044\123\167\145\144\151\163
\150\040\107\157\166\145\162\156\155\145\156\164\040\122\157\157
\164\040\101\165\164\150\157\162\151\164\171\040\166\063\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\272
\036\242\151\033\150\117\134\217\272\364\043\307\136\146\005\170
\205\066\130\243\242\177\147\357\242\014\026\222\244\112\213\340
\240\222\207\125\067\013\304\321\304\320\100\103\227\062\120\117
\354\225\107\267\077\257\103\005\345\204\227\011\357\126\124\347
\103\063\107\375\255\361\072\233\230\244\341\344\121\243\271\254
\214\013\356\045\006\011\362\323\272\065\147\141\214\302\275\046
\313\327\143\314\327\203\063\331\114\342\357\371\033\237\250\313
\015\166\001\055\162\311\042\273\150\221\336\220\017\073\075\264
\102\275\031\175\237\204\134\074\176\102\067\206\261\140\302\110
\207\122\116\134\127\376\316\222\256\312\076\126\267\263\236\225
\232\224\370\057\241\320\242\056\302\124\132\154\314\314\326\255
\113\107\320\056\207\202\063\250\173\120\071\247\052\054\261\133
\047\012\237\255\365\024\353\374\215\123\262\163\053\124\043\364
\214\227\231\227\373\065\334\314\265\372\063\024\046\215\165\247
\044\246\350\024\056\055\246\200\050\203\232\077\270\312\073\307
\365\030\340\375\354\216\171\373\252\102\154\112\113\026\176\363
\202\003\156\272\347\021\006\245\237\204\053\322\140\155\351\106
\356\101\132\226\271\024\375\034\077\206\022\361\124\046\046\375
\147\200\057\345\250\055\050\056\103\267\144\302\357\344\267\176
\226\334\204\213\047\331\166\075\230\201\123\024\334\102\105\241
\124\147\371\332\030\146\220\012\264\107\220\074\001\345\053\243
\146\357\157\373\062\203\361\063\175\062\041\154\245\105\025\077
\057\363\125\221\110\223\237\045\317\055\074\071\073\122\015\032

\257\307\337\253\157\200\330\220\313\236\161\162\152\102\151\223
\352\222\000\075\111\004\331\243\134\272\105\373\002\020\377\255
\151\164\122\245\070\143\232\146\210\004\262\021\272\023\252\071
\325\203\137\355\145\133\123\310\235\134\262\205\240\170\160\065
\115\134\044\020\244\366\061\052\222\125\101\331\363\027\154\231
\023\130\372\335\050\320\154\023\275\133\207\215\223\203\255\130
\051\126\025\264\130\047\112\233\021\154\240\246\147\105\072\316
\320\330\316\377\220\063\354\132\061\115\017\122\022\373\255\366
\141\137\344\057\157\015\146\060\345\240\117\317\317\375\137\002
\003\001\000\001\243\124\060\122\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\234\274\001\347\253\144\065\365\061\233\215\265
\373\027\231\210\002\313\233\362\060\020\006\011\053\006\001\004
\001\202\067\025\001\004\003\002\001\000\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\207\253
\152\344\347\153\044\122\075\366\042\203\117\123\004\105\062\234
\141\132\026\134\234\104\265\243\321\226\320\100\376\317\146\025
\136\176\100\000\040\025\375\247\252\144\332\247\141\146\150\302
\335\122\161\045\240\152\271\335\300\315\316\206\010\324\074\065
\021\057\175\364\157\322\332\014\227\003\145\227\203\264\076\072
\313\011\164\215\353\005\312\172\351\200\260\267\121\055\042\223
\343\232\031\356\355\227\010\041\203\255\307\012\221\137\304\312
\333\136\257\270\347\214\272\072\111\322\125\003\065\031\031\120
\112\342\206\247\273\170\075\225\375\261\037\106\362\117\146\362
\373\277\205\144\266\012\043\030\222\011\236\111\105\061\266\326
\024\127\236\374\211\105\164\177\071\314\300\152\150\310\317\107
\320\341\036\307\323\057\055\371\054\044\073\374\152\272\224\023
\336\314\162\362\242\035\313\037\237\325\203\167\046\136\176\233
\240\257\151\237\170\333\245\301\156\161\134\110\102\116\053\330
\170\270\325\017\245\077\154\313\217\220\315\107\330\220\031\111
\205\326\154\374\342\253\252\102\277\313\023\227\277\151\104\165
\143\065\055\332\240\307\375\141\367\312\101\075\124\234\364\066
\300\344\156\041\110\237\135\161\142\201\323\362\045\346\131\214
\131\101\046\110\247\343\353\147\152\323\354\064\267\230\367\314
\312\243\066\006\225\347\310\060\131\367\377\311\241\321\344\171
\274\337\023\037\056\331\263\165\321\004\267\043\011\041\314\035
\041\034\047\234\016\053\372\301\207\030\311\372\371\111\203\214
\022\026\373\305\022\316\073\017\102\372\360\005\145\176\250\307
\353\122\112\371\230\136\161\243\254\022\307\050\161\032\132\165
\317\207\312\037\067\050\034\024\235\220\120\157\306\277\112\314
\307\045\317\061\335\133\221\116\166\250\021\325\166\146\331\277
\200\163\142\260\354\303\376\104\274\315\131\023\013\014\055\330
\241\314\252\142\115\124\105\136\244\122\243\214\127\074\024\061
\223\124\316\245\026\124\136\055\102\263\356\145\251\266\235\077
\154\316\141\331\126\313\336\352\240\126\336\155\206\003\372\267
\201\152\214\322\330\363\327\266\300\254\051\204\131\043\016\233
\227\152\346\240\316\325\052\124\030\357\120\230\171\040

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Trust for "Swedish Government Root Authority v3"
# Issuer: CN=Swedish Government Root Authority v3,O=Swedish Social Insurance Agency,C=SE
# Serial Number:32:69:a2:bf:40:6b:8d:b4:47:83:64:3c:8b:0d:c9:43
# Subject: CN=Swedish Government Root Authority v3,O=Swedish Social Insurance Agency,C=SE
# Not Valid Before: Tue Sep 29 11:32:32 2015
# Not Valid After: Sat Sep 29 11:42:09 2040
# Fingerprint (MD5): 63:e2:fd:ea:a2:55:6a:70:54:fb:3a:22:e3:34:b1:17
# Fingerprint (SHA1): 74:6f:88:f9:ac:16:3c:53:00:9e:ef:92:0c:40:67:75:6a:15:71:7e
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swedish Government Root Authority v3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\164\157\210\371\254\026\074\123\000\236\357\222\014\100\147\165
\152\025\161\176
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\143\342\375\352\242\125\152\160\124\373\072\042\343\064\261\027
END
CKA_ISSUER MULTILINE_OCTAL
\060\146\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\050\060\046\006\003\125\004\012\023\037\123\167\145\144\151\163
\150\040\123\157\143\151\141\154\040\111\156\163\165\162\141\156
\143\145\040\101\147\145\156\143\171\061\055\060\053\006\003\125
\004\003\023\044\123\167\145\144\151\163\150\040\107\157\166\145
\162\156\155\145\156\164\040\122\157\157\164\040\101\165\164\150
\157\162\151\164\171\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\062\151\242\277\100\153\215\264\107\203\144\074\213\015
\311\103
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Swedish Government Root Authority v2"
# Issuer: CN=Swedish Government Root Authority v2,O=Swedish Social Insurance Agency,C=SE
# Serial Number:54:12:15:9f:ab:8a:75:93:44:94:ca:77:40:56:2e:ef

```

```
# Subject: CN=Swedish Government Root Authority v2,O=Swedish Social Insurance Agency,C=SE
# Not Valid Before: Tue May 05 11:15:23 2015
# Not Valid After: Sat May 05 11:24:19 2040
# Fingerprint (MD5): 33:85:e1:95:66:4b:83:50:73:42:c2:e0:da:a0:40:92
# Fingerprint (SHA1): 32:f4:42:09:3b:36:d7:03:1b:75:ca:4d:ad:dc:b3:27:fa:a0:2b:9c
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swedish Government Root Authority v2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\146\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\050\060\046\006\003\125\004\012\023\037\123\167\145\144\151\163
\150\040\123\157\143\151\141\154\040\111\156\163\165\162\141\156
\143\145\040\101\147\145\156\143\171\061\055\060\053\006\003\125
\004\003\023\044\123\167\145\144\151\163\150\040\107\157\166\145
\162\156\155\145\156\164\040\122\157\157\164\040\101\165\164\150
\157\162\151\164\171\040\166\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\146\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\050\060\046\006\003\125\004\012\023\037\123\167\145\144\151\163
\150\040\123\157\143\151\141\154\040\111\156\163\165\162\141\156
\143\145\040\101\147\145\156\143\171\061\055\060\053\006\003\125
\004\003\023\044\123\167\145\144\151\163\150\040\107\157\166\145
\162\156\155\145\156\164\040\122\157\157\164\040\101\165\164\150
\157\162\151\164\171\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\124\022\025\237\253\212\165\223\104\224\312\167\100\126
\056\357
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\013\060\202\003\363\240\003\002\001\002\002\020\124
\022\025\237\253\212\165\223\104\224\312\167\100\126\056\357\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\146
\061\013\060\011\006\003\125\004\006\023\002\123\105\061\050\060
\046\006\003\125\004\012\023\037\123\167\145\144\151\163\150\040
\123\157\143\151\141\154\040\111\156\163\165\162\141\156\143\145
\040\101\147\145\156\143\171\061\055\060\053\006\003\125\004\003
\023\044\123\167\145\144\151\163\150\040\107\157\166\145\162\156
\155\145\156\164\040\122\157\157\164\040\101\165\164\150\157\162
\151\164\171\040\166\062\060\036\027\015\061\065\060\065\060\065
\061\061\061\065\062\063\132\027\015\064\060\060\065\060\065\061
\061\062\064\061\071\132\060\146\061\013\060\011\006\003\125\004
\006\023\002\123\105\061\050\060\046\006\003\125\004\012\023\037
```

\123\167\145\144\151\163\150\040\123\157\143\151\141\154\040\111
\156\163\165\162\141\156\143\145\040\101\147\145\156\143\171\061
\055\060\053\006\003\125\004\003\023\044\123\167\145\144\151\163
\150\040\107\157\166\145\162\156\155\145\156\164\040\122\157\157
\164\040\101\165\164\150\157\162\151\164\171\040\166\062\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\310
\256\265\103\274\102\105\113\065\143\077\002\113\305\377\333\066
\327\047\305\302\256\105\146\243\161\207\026\115\211\117\141\224
\340\126\106\270\320\104\023\346\163\220\360\141\170\101\212\340
\032\176\067\254\002\051\276\350\377\002\046\306\032\174\012\261
\217\144\051\242\332\007\212\325\044\205\150\031\222\062\337\237
\051\140\130\155\052\205\200\021\066\311\266\302\323\236\204\014
\272\121\021\314\124\351\253\006\060\022\217\040\167\005\300\306
\215\232\233\131\310\266\205\350\160\007\002\261\036\377\327\151
\317\026\106\213\141\057\102\315\122\246\330\016\172\057\207\055
\306\057\074\042\103\261\223\176\303\026\166\331\314\327\213\354
\021\033\320\311\161\024\302\211\111\176\361\244\020\252\065\074
\250\033\273\377\354\062\100\345\275\052\363\246\001\023\310\214
\227\031\220\316\143\371\260\153\175\367\371\212\316\156\340\205
\347\333\224\325\172\040\045\240\065\360\251\367\257\132\050\132
\014\310\363\164\071\213\061\073\042\314\111\045\311\157\270\134
\172\056\054\226\343\057\243\076\312\171\167\151\221\132\370\360
\305\123\067\116\123\155\111\047\126\142\312\345\371\163\140\251
\027\073\133\242\045\257\055\173\311\267\333\317\031\021\072\063
\161\071\131\132\003\351\347\054\014\377\155\234\162\143\143\200
\005\130\123\206\334\050\165\026\302\345\360\023\131\241\201\377
\005\014\231\250\266\074\154\056\305\016\000\230\201\351\203\167
\146\103\073\132\216\205\105\114\262\317\271\075\344\234\066\223
\100\172\123\025\051\324\021\220\272\241\140\212\235\253\364\112
\112\152\335\207\252\301\355\005\332\236\133\126\341\210\117\052
\153\225\050\206\146\120\241\357\332\112\262\220\012\066\067\111
\205\227\102\170\007\147\346\233\040\241\014\154\311\317\317\376
\167\225\204\132\172\073\027\260\357\114\367\055\221\252\317\031
\157\306\371\022\050\347\036\012\246\226\315\041\260\003\142\120
\203\006\040\346\350\336\337\103\026\026\271\201\240\360\201\064
\133\313\301\211\366\363\350\042\270\316\270\122\076\121\036\261
\005\270\267\003\053\013\254\164\165\123\044\341\166\270\117\045
\166\135\357\321\232\363\156\112\270\174\113\370\212\300\031\002
\003\001\000\001\243\201\264\060\201\261\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\022\006\003\125\035
\023\001\001\377\004\010\060\006\001\001\377\002\001\001\060\035
\006\003\125\035\016\004\026\004\024\143\153\102\140\123\127\021
\273\310\044\211\045\002\146\104\164\241\015\045\156\060\020\006
\011\053\006\001\004\001\202\067\025\001\004\003\002\001\000\060
\021\006\003\125\035\040\004\012\060\010\060\006\006\004\125\035
\040\000\060\107\006\003\125\035\045\004\100\060\076\006\010\053
\006\001\005\005\007\003\001\006\010\053\006\001\005\005\007\003

\002\006\010\053\006\001\005\005\007\003\004\006\012\053\006\001
\004\001\202\067\012\003\014\006\010\053\006\001\005\005\007\003
\003\006\010\053\006\001\005\005\007\003\010\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\043
\056\252\205\227\113\244\134\020\257\332\370\075\275\223\130\057
\170\373\031\167\003\071\026\107\111\162\125\314\207\350\275\244
\177\322\253\044\254\347\324\120\356\235\330\203\306\231\040\373
\026\057\210\306\027\067\312\213\036\253\320\342\154\007\130\270
\144\221\241\020\241\151\067\165\136\376\332\163\024\346\212\153
\276\302\140\041\057\300\371\243\004\110\066\133\067\276\332\154
\375\351\226\216\236\361\123\174\217\145\104\247\125\175\013\224
\116\124\366\377\062\275\057\175\234\245\136\102\304\114\051\343
\020\144\057\346\317\132\073\064\125\050\141\321\047\022\273\156
\124\233\201\130\254\325\136\235\127\003\240\115\321\377\067\164
\246\215\363\371\225\375\052\211\165\172\171\067\375\046\171\057
\047\163\177\251\031\040\345\320\137\230\350\226\005\217\230\171
\351\171\020\101\051\001\103\365\151\067\314\120\020\150\265\330
\104\116\016\362\231\343\047\054\152\216\137\273\175\273\153\161
\113\006\212\335\052\330\012\077\133\310\162\056\130\141\012\017
\201\150\036\107\307\351\055\272\357\215\334\016\243\043\303\262
\055\265\107\261\213\264\076\047\110\347\334\010\142\014\124\376
\103\327\225\112\277\007\057\112\100\176\006\245\121\207\046\211
\005\335\074\312\117\376\034\047\351\333\210\036\300\262\376\343
\357\037\176\261\350\131\225\240\117\253\012\211\000\340\163\262
\347\034\301\027\120\200\207\114\322\103\031\131\225\322\133\024
\133\012\133\300\174\211\161\172\265\012\300\212\105\057\356\304
\300\376\124\055\347\225\044\167\005\056\356\164\306\240\220\261
\163\334\102\326\240\165\311\130\131\005\242\336\021\277\131\351
\015\247\046\302\156\300\106\212\306\036\323\365\352\017\175\075
\162\315\031\225\114\272\340\150\227\215\130\300\152\357\171\367
\262\150\152\270\162\066\303\044\014\350\062\355\275\361\237\310
\357\336\165\322\333\166\251\224\047\070\364\001\141\277\146\070
\217\152\075\334\000\133\263\374\104\337\003\113\371\361\166\045
\065\377\122\037\010\035\320\245\024\351\213\006\053\170\203\054
\161\134\117\221\207\143\326\014\016\005\210\074\224\240\261\132
\124\026\337\335\121\303\250\066\056\054\202\174\271\232\260

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Swedish Government Root Authority v2"
Issuer: CN=Swedish Government Root Authority v2,O=Swedish Social Insurance Agency,C=SE
Serial Number:54:12:15:9f:ab:8a:75:93:44:94:ca:77:40:56:2e:ef
Subject: CN=Swedish Government Root Authority v2,O=Swedish Social Insurance Agency,C=SE
Not Valid Before: Tue May 05 11:15:23 2015
Not Valid After: Sat May 05 11:24:19 2040

```

# Fingerprint (MD5): 33:85:e1:95:66:4b:83:50:73:42:c2:e0:da:a0:40:92
# Fingerprint (SHA1): 32:f4:42:09:3b:36:d7:03:1b:75:ca:4d:ad:dc:b3:27:fa:a0:2b:9c
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swedish Government Root Authority v2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\062\364\102\011\073\066\327\003\033\165\312\115\255\334\263\047
\372\240\053\234
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\063\205\341\225\146\113\203\120\163\102\302\340\332\240\100\222
END
CKA_ISSUER MULTILINE_OCTAL
\060\146\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\050\060\046\006\003\125\004\012\023\037\123\167\145\144\151\163
\150\040\123\157\143\151\141\154\040\111\156\163\165\162\141\156
\143\145\040\101\147\145\156\143\171\061\055\060\053\006\003\125
\004\003\023\044\123\167\145\144\151\163\150\040\107\157\166\145
\162\156\155\145\156\164\040\122\157\157\164\040\101\165\164\150
\157\162\151\164\171\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\124\022\025\237\253\212\165\223\104\224\312\167\100\126
\056\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "Tunisian Root Certificate Authority - TunRootCA2"
# Issuer: O=National Digital Certification Agency,CN=Tunisian Root Certificate Authority - TunRootCA2,C=TN
# Serial Number:21:66:15:05:05:27:05:05:bc:8a:b0:1d:af:0a:be:c4
# Subject: O=National Digital Certification Agency,CN=Tunisian Root Certificate Authority - TunRootCA2,C=TN
# Not Valid Before: Tue May 05 08:57:01 2015
# Not Valid After: Wed May 05 08:57:01 2027
# Fingerprint (MD5): 03:d1:25:b1:f0:55:ad:ca:dd:7c:59:93:50:ef:17:21
# Fingerprint (SHA1): 96:38:63:3c:90:56:ae:88:14:a0:65:d2:3b:dc:60:a0:ee:70:2f:a7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Tunisian Root Certificate Authority - TunRootCA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```


\060\170\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\071\060\067\006\003\125\004\003\023\060\124\165\156\151\163\151
\141\156\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\124\165\156\122\157\157\164\103\101\062\061\056\060\054\006\003
\125\004\012\023\045\116\141\164\151\157\156\141\154\040\104\151
\147\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\147\145\156\143\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\170\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\071\060\067\006\003\125\004\003\023\060\124\165\156\151\163\151
\141\156\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\124\165\156\122\157\157\164\103\101\062\061\056\060\054\006\003
\125\004\012\023\045\116\141\164\151\157\156\141\154\040\104\151
\147\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\147\145\156\143\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\041\146\025\005\005\047\005\005\274\212\260\035\257\012
\276\304

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\274\060\202\003\244\240\003\002\001\002\002\020\041
\146\025\005\005\047\005\005\274\212\260\035\257\012\276\304\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\170
\061\013\060\011\006\003\125\004\006\023\002\124\116\061\071\060
\067\006\003\125\004\003\023\060\124\165\156\151\163\151\141\156
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\145\040\101\165\164\150\157\162\151\164\171\040\055\040\124\165
\156\122\157\157\164\103\101\062\061\056\060\054\006\003\125\004
\012\023\045\116\141\164\151\157\156\141\154\040\104\151\147\151
\164\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\147\145\156\143\171\060\036\027\015\061\065\060\065
\060\065\060\070\065\067\060\061\132\027\015\062\067\060\065\060
\065\060\070\065\067\060\061\132\060\170\061\013\060\011\006\003
\125\004\006\023\002\124\116\061\071\060\067\006\003\125\004\003
\023\060\124\165\156\151\163\151\141\156\040\122\157\157\164\040
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150
\157\162\151\164\171\040\055\040\124\165\156\122\157\157\164\103
\101\062\061\056\060\054\006\003\125\004\012\023\045\116\141\164
\151\157\156\141\154\040\104\151\147\151\164\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\147\145\156
\143\171\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\260\007\347\142\373\320\015\125\316\147\267\127\215

\156\014\251\047\124\036\353\251\044\253\147\217\217\234\141\017
\333\050\062\057\073\370\054\145\222\055\256\272\063\222\300\053
\236\362\037\136\155\043\135\263\130\037\215\241\300\155\165\205
\012\260\023\116\133\126\106\213\071\275\013\202\273\072\103\233
\010\272\106\356\371\027\353\315\310\327\343\165\023\336\256\121
\110\012\316\040\225\106\237\002\354\125\214\164\252\132\374\374
\352\011\063\065\156\243\107\006\307\335\176\204\150\016\307\022
\312\224\303\355\346\154\002\155\336\002\211\065\263\004\313\105
\370\174\107\244\323\037\337\345\134\043\342\363\042\173\271\113
\242\375\027\065\135\110\351\277\365\263\045\143\213\347\170\353
\374\165\047\275\210\134\246\205\077\101\337\225\174\335\172\106
\217\376\036\332\261\253\330\323\216\315\006\214\311\330\122\102
\021\122\242\203\217\134\203\173\344\047\266\217\037\240\136\075
\322\165\175\171\123\223\006\227\343\003\307\226\054\332\001\074
\171\305\073\120\350\260\323\241\244\342\323\203\175\104\370\020
\317\240\032\052\362\145\200\275\167\301\230\145\166\256\022\041
\142\312\072\276\276\265\231\303\133\304\321\277\233\300\012\312
\130\036\025\246\327\041\136\261\115\012\345\160\170\232\150\346
\164\146\062\024\052\036\021\276\210\367\006\366\125\243\303\037
\156\027\220\125\321\212\100\211\126\103\325\117\346\242\311\210
\144\000\005\121\077\127\264\074\266\276\152\221\161\100\361\242
\134\361\327\355\234\266\127\366\131\324\052\021\345\324\345\277
\273\036\321\310\327\137\104\005\233\273\211\072\255\247\103\167
\176\025\140\174\210\135\233\354\245\134\322\106\255\014\213\124
\105\324\224\121\125\105\122\252\134\330\021\254\370\126\042\154
\331\322\024\351\267\116\102\205\124\106\370\001\306\075\046\006
\167\350\262\065\033\360\235\102\311\177\376\200\047\001\120\313
\177\305\254\124\372\153\155\226\214\101\244\241\322\347\265\221
\110\157\167\034\213\302\053\164\376\074\134\304\135\224\316\253
\361\040\226\153\301\014\132\137\371\345\065\271\154\243\020\147
\357\221\252\110\016\357\110\267\166\130\142\331\276\236\102\263
\244\275\065\002\003\001\000\001\243\102\060\100\060\035\006\003
\125\035\016\004\026\004\024\314\163\305\243\152\051\061\227\247
\215\240\330\124\301\012\165\266\043\077\246\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011
\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000
\056\362\207\110\355\231\236\237\001\014\074\311\012\170\123\174
\030\065\336\266\345\154\364\000\200\341\233\213\331\372\373\252
\373\145\267\322\311\365\327\247\313\176\311\261\242\161\130\155
\131\067\326\340\063\020\312\265\331\162\333\116\045\067\252\246
\335\035\030\275\365\311\212\234\172\210\356\037\002\304\055\222
\124\175\127\342\134\031\030\043\002\172\134\111\225\266\230\347
\302\140\101\145\100\273\354\132\267\161\234\120\362\163\166\373
\137\015\357\065\317\264\151\215\205\350\114\220\027\003\013\311
\263\056\040\067\143\021\142\246\117\343\064\340\373\171\125\347
\306\302\256\102\376\260\064\154\111\043\016\162\007\173\146\005
\125\110\373\022\017\240\300\372\116\321\373\075\314\376\375\026

```
\113\126\120\315\021\054\247\233\367\261\012\317\246\353\357\335
\216\270\256\102\010\174\244\214\224\352\206\307\103\343\367\074
\212\337\107\322\060\100\310\055\123\365\157\021\111\314\041\214
\226\103\117\020\240\107\241\126\215\037\034\133\330\126\133\353
\064\166\341\065\072\161\324\314\041\057\236\065\050\362\132\336
\236\344\356\107\152\020\350\070\275\112\264\175\004\177\005\256
\110\012\264\003\277\056\263\012\033\237\313\255\335\115\320\207
\041\267\107\166\202\203\055\307\127\276\232\025\243\033\060\030
\154\243\072\161\157\144\107\050\222\333\021\141\040\232\167\145
\055\371\254\126\023\154\113\243\137\377\233\244\350\357\347\130
\350\173\236\073\177\152\247\276\071\012\023\224\311\110\116\146
\144\330\123\114\354\101\153\375\374\066\056\327\016\337\141\013
\173\265\100\254\335\102\111\155\236\200\277\140\225\360\351\300
\077\173\273\030\351\070\265\126\116\247\176\212\142\357\230\036
\370\170\100\251\273\330\351\345\264\264\371\343\147\234\354\123
\317\270\102\264\057\223\201\065\240\154\366\272\040\212\150\075
\367\155\377\177\323\114\367\172\224\150\003\167\103\073\065\121
\252\123\022\076\107\023\024\071\254\326\145\217\250\106\377\074
\041\364\322\277\320\110\244\176\247\121\233\227\022\365\231\064
\027\043\126\204\023\143\313\064\312\037\312\272\250\007\051\363
\103\044\012\111\177\375\016\324\220\360\253\103\041\142\234\217
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "Tunisian Root Certificate Authority - TunRootCA2"
```

```
# Issuer: O=National Digital Certification Agency,CN=Tunisian Root Certificate Authority - TunRootCA2,C=TN
```

```
# Serial Number:21:66:15:05:05:27:05:05:bc:8a:b0:1d:af:0a:be:c4
```

```
# Subject: O=National Digital Certification Agency,CN=Tunisian Root Certificate Authority - TunRootCA2,C=TN
```

```
# Not Valid Before: Tue May 05 08:57:01 2015
```

```
# Not Valid After: Wed May 05 08:57:01 2027
```

```
# Fingerprint (MD5): 03:d1:25:b1:f0:55:ad:ca:dd:7c:59:93:50:ef:17:21
```

```
# Fingerprint (SHA1): 96:38:63:3c:90:56:ae:88:14:a0:65:d2:3b:dc:60:a0:ee:70:2f:a7
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Tunisian Root Certificate Authority - TunRootCA2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\226\070\143\074\220\126\256\210\024\240\145\322\073\334\140\240
\356\160\057\247
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\003\321\045\261\360\125\255\312\335\174\131\223\120\357\027\041
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\170\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\071\060\067\006\003\125\004\003\023\060\124\165\156\151\163\151
\141\156\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\124\165\156\122\157\157\164\103\101\062\061\056\060\054\006\003
\125\004\012\023\045\116\141\164\151\157\156\141\154\040\104\151
\147\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\147\145\156\143\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\041\146\025\005\005\047\005\005\274\212\260\035\257\012
\276\304
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Certificate "OpenTrust Root CA G1"

Issuer: CN=OpenTrust Root CA G1,O=OpenTrust,C=FR

Serial Number: 11:20:b3:90:55:39:7d:7f:36:6d:64:c2:a7:9f:6b:63:8e:67

Subject: CN=OpenTrust Root CA G1,O=OpenTrust,C=FR

Not Valid Before: Mon May 26 08:45:50 2014

Not Valid After: Fri Jan 15 00:00:00 2038

Fingerprint (MD5): 76:00:cc:81:29:cd:55:5e:88:6a:7a:2e:f7:4d:39:da

Fingerprint (SHA1): 79:91:e8:34:f7:e2:ee:dd:08:95:01:52:e9:55:2d:14:e9:58:d5:7e

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "OpenTrust Root CA G1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162
\165\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160
\145\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040
\107\061
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162
\165\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160
\145\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040
\107\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\022\021\040\263\220\125\071\175\177\066\155\144\302\247\237
\153\143\216\147

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\157\060\202\003\127\240\003\002\001\002\002\022\021
\040\263\220\125\071\175\177\066\155\144\302\247\237\153\143\216
\147\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\060\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162
\165\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160
\145\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040
\107\061\060\036\027\015\061\064\060\065\062\066\060\070\064\065
\065\060\132\027\015\063\070\060\061\061\065\060\060\060\060\060
\060\132\060\100\061\013\060\011\006\003\125\004\006\023\002\106
\122\061\022\060\020\006\003\125\004\012\014\011\117\160\145\156
\124\162\165\163\164\061\035\060\033\006\003\125\004\003\014\024
\117\160\145\156\124\162\165\163\164\040\122\157\157\164\040\103
\101\040\107\061\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\370\171\106\332\226\305\060\136\212\161\003
\055\160\244\273\260\305\010\334\315\346\065\300\200\244\021\055
\335\346\207\256\135\075\221\322\207\154\067\267\332\142\236\233
\302\044\327\217\361\333\246\246\337\106\157\121\246\161\313\076
\033\061\147\142\367\021\133\064\047\325\171\116\214\233\130\275
\042\020\015\134\047\014\335\060\345\250\323\135\041\070\164\027
\376\343\037\266\117\073\153\055\333\175\140\037\214\175\114\005
\302\353\001\026\025\230\024\216\321\220\167\042\077\354\302\071
\270\171\072\360\111\044\342\225\221\334\141\064\222\214\124\164
\357\261\175\214\001\342\070\175\301\137\152\137\044\262\216\142
\027\255\171\040\255\253\035\267\340\264\226\110\117\146\103\020
\006\026\044\003\341\340\234\216\306\106\117\216\032\231\341\217
\271\216\063\154\151\336\130\255\240\016\247\144\124\021\151\104
\146\117\114\022\247\216\054\175\304\324\133\305\000\064\060\301
\331\231\376\062\316\007\204\264\116\315\012\377\066\115\142\361
\247\143\127\344\333\152\247\256\277\053\271\311\346\262\047\211
\345\176\232\034\115\150\306\301\030\336\063\053\121\106\113\034
\216\367\075\014\371\212\064\024\304\373\063\065\043\361\314\361
\052\307\245\273\260\242\316\376\123\153\115\101\033\146\050\262
\226\372\247\256\012\116\271\071\063\104\234\164\301\223\034\370
\340\236\044\045\103\361\233\043\202\252\337\054\040\260\334\066
\116\003\263\174\002\324\346\173\032\252\207\023\277\076\241\164
\273\233\016\341\300\223\237\327\244\146\312\273\033\073\343\060
\364\063\131\212\007\162\003\125\347\163\152\003\061\156\157\226
\033\343\242\237\257\222\307\355\365\102\267\045\114\073\023\004
\317\034\226\257\034\042\243\320\253\005\262\114\022\043\122\334
\375\031\133\047\234\036\073\172\375\102\043\333\043\200\023\360
\274\121\025\124\224\246\167\076\320\164\121\275\121\024\010\071

\067\313\037\064\251\060\235\122\204\056\125\220\261\272\337\125
\000\013\330\126\055\261\111\111\162\200\251\142\327\300\366\030
\021\004\125\315\164\173\317\141\160\171\364\173\054\134\134\222
\374\345\270\132\253\114\223\225\241\047\356\245\276\317\161\043
\102\272\233\166\055\002\003\001\000\001\243\143\060\141\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\035\006\003\125\035\016\004\026\004\024\227\106\041\127\041\065
\332\066\125\307\363\361\067\160\345\010\366\223\051\266\060\037
\006\003\125\035\043\004\030\060\026\200\024\227\106\041\127\041
\065\332\066\125\307\363\361\067\160\345\010\366\223\051\266\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\002\001\000\035\335\002\140\174\340\065\247\346\230\173\352\104
\316\147\100\117\362\223\156\146\324\071\211\046\254\323\115\004
\074\273\207\041\077\067\364\161\045\332\113\272\253\226\202\201
\221\266\355\331\261\244\145\227\342\157\144\131\244\226\356\140
\312\037\043\373\105\272\377\217\044\360\312\251\061\177\171\037
\200\263\055\062\272\144\147\140\257\271\131\315\337\232\111\323
\250\202\261\371\230\224\212\314\340\273\340\004\033\231\140\261
\106\145\334\010\242\262\106\236\104\210\352\223\176\127\026\322
\025\162\137\056\113\253\324\235\143\270\343\110\345\376\204\056
\130\012\237\103\035\376\267\030\222\206\103\113\016\234\062\206
\054\140\365\351\110\352\225\355\160\051\361\325\057\375\065\264
\127\317\333\205\110\231\271\302\157\154\217\315\170\225\254\144
\050\375\126\260\303\157\303\276\131\122\341\137\204\217\200\362
\364\015\066\255\166\263\243\265\341\144\166\072\130\334\175\117
\136\126\154\345\125\131\127\245\337\361\212\146\060\214\324\122
\142\070\167\264\276\050\327\312\066\304\233\005\360\370\025\333
\333\361\357\064\235\035\170\112\210\126\147\156\140\377\217\310
\213\341\216\275\102\251\063\012\131\102\022\022\052\372\261\235
\103\216\005\233\231\332\142\255\127\066\263\035\266\015\171\055
\226\270\353\362\014\113\014\245\224\306\060\247\046\031\055\355
\114\006\120\060\361\375\130\075\271\113\027\137\031\264\152\204
\124\264\070\117\071\242\015\226\150\303\050\224\375\355\055\037
\112\153\103\226\056\220\001\020\373\070\246\201\013\320\277\165
\323\324\271\316\361\077\157\016\034\036\067\161\345\030\207\165
\031\077\120\271\136\244\105\064\255\260\312\346\345\023\166\017
\061\024\251\216\055\224\326\325\205\115\163\025\117\113\362\262
\076\355\154\275\375\016\235\146\163\260\075\264\367\277\250\340
\021\244\304\256\165\011\112\143\000\110\040\246\306\235\013\011
\212\264\340\346\316\076\307\076\046\070\351\053\336\246\010\111
\003\004\220\212\351\217\277\350\266\264\052\243\043\215\034\034
\262\071\222\250\217\002\134\100\071\165\324\163\101\002\167\336
\315\340\103\207\326\344\272\112\303\154\022\177\376\052\346\043
\326\214\161

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
# Trust for "OpenTrust Root CA G1"
# Issuer: CN=OpenTrust Root CA G1,O=OpenTrust,C=FR
# Serial Number:11:20:b3:90:55:39:7d:7f:36:6d:64:c2:a7:9f:6b:63:8e:67
# Subject: CN=OpenTrust Root CA G1,O=OpenTrust,C=FR
# Not Valid Before: Mon May 26 08:45:50 2014
# Not Valid After: Fri Jan 15 00:00:00 2038
# Fingerprint (MD5): 76:00:cc:81:29:cd:55:5e:88:6a:7a:2e:f7:4d:39:da
# Fingerprint (SHA1): 79:91:e8:34:f7:e2:ee:dd:08:95:01:52:e9:55:2d:14:e9:58:d5:7e
```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "OpenTrust Root CA G1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\171\221\350\064\367\342\356\335\010\225\001\122\351\125\055\024
\351\130\325\176
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\166\000\314\201\051\315\125\136\210\152\172\056\367\115\071\332
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162
\165\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160
\145\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040
\107\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\022\021\040\263\220\125\071\175\177\066\155\144\302\247\237
\153\143\216\147
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
```

```
# Certificate "OpenTrust Root CA G2"
```

```
# Issuer: CN=OpenTrust Root CA G2,O=OpenTrust,C=FR
```

```
# Serial Number:11:20:a1:69:1b:bf:bd:b9:bd:52:96:8f:23:e8:48:bf:26:11
```

```
# Subject: CN=OpenTrust Root CA G2,O=OpenTrust,C=FR
```

```
# Not Valid Before: Mon May 26 00:00:00 2014
```

```
# Not Valid After: Fri Jan 15 00:00:00 2038
```

```
# Fingerprint (MD5): 57:24:b6:59:24:6b:ae:c8:fe:1c:0c:20:f2:c0:4e:eb
```

```
# Fingerprint (SHA1): 79:5f:88:60:c5:ab:7c:3d:92:e6:cb:f4:8d:e1:45:cd:11:ef:60:0b
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OpenTrust Root CA G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162
\165\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160
\145\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040
\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162
\165\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160
\145\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040
\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\040\241\151\033\277\275\271\275\122\226\217\043\350
\110\277\046\021
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\157\060\202\003\127\240\003\002\001\002\002\022\021
\040\241\151\033\277\275\271\275\122\226\217\043\350\110\277\046
\021\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000
\060\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162
\165\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160
\145\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040
\107\062\060\036\027\015\061\064\060\065\062\066\060\060\060\060
\060\060\132\027\015\063\070\060\061\061\065\060\060\060\060\060
\060\132\060\100\061\013\060\011\006\003\125\004\006\023\002\106
\122\061\022\060\020\006\003\125\004\012\014\011\117\160\145\156
\124\162\165\163\164\061\035\060\033\006\003\125\004\003\014\024
\117\160\145\156\124\162\165\163\164\040\122\157\157\164\040\103
\101\040\107\062\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\314\266\127\245\063\224\020\201\062\123\337
\141\176\017\166\071\317\134\302\123\165\035\111\172\226\070\335
\242\163\152\361\157\336\136\242\132\271\161\041\276\066\331\241
\374\274\356\154\250\174\064\032\161\032\350\032\330\137\016\104
\006\355\247\340\363\322\141\013\340\062\242\226\321\070\360\302
\332\001\027\374\344\254\117\350\356\211\036\164\253\117\277\036
\011\266\066\152\126\363\341\356\226\211\146\044\006\344\315\102
```


\072\112\335\340\232\260\304\202\105\263\376\311\253\134\174\076
\311\353\027\057\014\175\156\256\245\217\310\254\045\012\157\372
\325\105\230\322\065\011\366\003\103\224\376\331\277\040\225\171
\200\230\212\331\211\065\273\121\033\244\067\175\374\231\073\253
\377\277\254\015\217\103\261\231\173\026\020\176\035\157\107\304
\025\217\004\226\010\006\102\004\370\204\326\035\274\221\246\102
\276\111\325\152\210\077\274\055\121\321\236\215\340\122\314\127
\335\065\065\130\333\264\217\044\210\344\213\337\334\153\124\322
\201\053\262\316\222\113\034\037\106\372\035\330\222\313\166\147
\265\011\231\011\345\254\027\024\125\160\306\074\240\126\012\003
\263\334\142\031\337\310\265\060\177\365\074\046\165\021\275\327
\033\263\207\236\007\257\145\161\345\240\317\032\247\011\020\035
\223\211\146\133\350\074\142\062\265\265\072\156\351\205\001\213
\236\103\214\147\163\050\131\133\353\343\334\054\314\245\046\162
\142\022\264\346\234\203\104\366\121\244\342\300\172\044\127\312
\016\245\077\072\265\073\213\345\166\356\160\346\222\336\026\134
\050\133\227\031\047\222\376\172\222\124\316\223\071\012\026\207
\274\143\263\365\261\223\134\340\156\267\320\352\371\142\062\210
\104\373\277\047\050\266\060\225\135\022\050\271\225\276\217\123
\030\345\242\030\026\342\126\244\262\054\020\365\035\067\246\370
\267\366\320\131\134\211\367\302\325\265\224\164\321\325\376\033
\266\360\346\326\036\173\322\074\313\250\343\365\030\363\041\037
\156\357\115\150\006\173\055\135\156\103\211\246\300\371\240\277
\202\036\317\123\177\264\353\054\333\135\366\152\175\100\044\005
\162\211\070\001\223\313\161\302\071\135\006\021\366\157\170\370
\067\015\071\204\047\002\003\001\000\001\243\143\060\141\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\035\006\003\125\035\016\004\026\004\024\152\071\372\102\042\367
\346\211\000\115\136\175\063\203\313\270\156\167\206\257\060\037
\006\003\125\035\043\004\030\060\026\200\024\152\071\372\102\042
\367\346\211\000\115\136\175\063\203\313\270\156\167\206\257\060
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\003\202
\002\001\000\230\313\253\100\074\345\063\002\227\177\055\207\246
\217\324\136\112\257\270\036\347\273\161\373\200\144\045\251\263
\032\076\150\135\047\046\247\272\052\341\360\127\203\012\144\117
\036\042\164\033\351\220\137\360\254\317\377\117\150\172\070\244
\020\154\015\261\307\244\167\200\030\266\242\050\104\166\247\064
\235\161\204\057\312\131\322\107\210\231\101\042\311\060\230\141
\156\075\250\250\005\155\321\037\300\121\104\126\177\047\065\002
\335\136\230\012\102\353\060\277\215\241\233\121\252\073\352\223
\106\144\305\000\171\336\041\153\366\127\240\206\327\006\162\354
\160\106\113\213\163\335\240\041\165\076\334\035\300\217\323\117
\163\034\205\331\376\177\142\310\225\157\266\323\173\214\272\123
\302\157\233\104\114\171\320\035\160\263\327\237\002\364\262\007
\260\307\345\370\255\043\016\246\126\311\051\022\167\110\331\057
\106\375\073\360\374\164\160\222\245\216\070\010\037\144\060\266
\267\113\373\066\254\020\216\240\122\063\143\235\003\065\126\305

```
\151\275\306\043\132\047\224\366\244\022\370\055\063\074\241\126
\245\137\326\031\351\355\174\010\275\167\315\047\144\314\224\332
\116\106\120\207\340\371\301\123\200\036\273\255\373\107\122\213
\033\375\242\371\336\016\042\267\075\063\131\154\324\336\365\225
\006\062\015\121\031\101\134\076\117\006\367\271\053\200\047\366
\243\252\172\174\006\341\103\303\023\071\142\032\066\275\340\050
\056\224\002\344\051\056\140\125\256\100\075\260\164\222\136\360
\040\144\226\077\137\105\135\210\265\212\332\002\240\133\105\124
\336\070\075\011\300\250\112\145\106\026\374\252\277\124\116\115
\133\276\070\103\267\050\312\213\063\252\032\045\272\045\134\051
\057\133\112\156\214\352\055\234\052\366\005\166\340\167\227\200
\210\335\147\023\157\035\150\044\213\117\267\164\201\345\364\140
\237\172\125\327\076\067\332\026\153\076\167\254\256\030\160\225
\010\171\051\003\212\376\301\073\263\077\032\017\244\073\136\037
\130\241\225\311\253\057\163\112\320\055\156\232\131\017\125\030
\170\055\074\121\246\227\213\346\273\262\160\252\114\021\336\377
\174\053\067\324\172\321\167\064\217\347\371\102\367\074\201\014
\113\122\012
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "OpenTrust Root CA G2"
# Issuer: CN=OpenTrust Root CA G2,O=OpenTrust,C=FR
# Serial Number:11:20:a1:69:1b:bf:bd:b9:bd:52:96:8f:23:e8:48:bf:26:11
# Subject: CN=OpenTrust Root CA G2,O=OpenTrust,C=FR
# Not Valid Before: Mon May 26 00:00:00 2014
# Not Valid After: Fri Jan 15 00:00:00 2038
# Fingerprint (MD5): 57:24:b6:59:24:6b:ae:c8:fe:1c:0c:20:f2:c0:4e:eb
# Fingerprint (SHA1): 79:5f:88:60:c5:ab:7c:3d:92:e6:cb:f4:8d:e1:45:cd:11:ef:60:0b
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OpenTrust Root CA G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\171\137\210\140\305\253\174\075\222\346\313\364\215\341\105\315
\021\357\140\013
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\127\044\266\131\044\153\256\310\376\034\014\040\362\300\116\353
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162
\165\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160
```

\145\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040
\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\022\021\040\241\151\033\277\275\271\275\122\226\217\043\350
\110\277\046\021

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "OpenTrust Root CA G3"

Issuer: CN=OpenTrust Root CA G3,O=OpenTrust,C=FR

Serial Number: 11:20:e6:f8:4c:fc:24:b0:be:05:40:ac:da:83:1b:34:60:3f

Subject: CN=OpenTrust Root CA G3,O=OpenTrust,C=FR

Not Valid Before: Mon May 26 00:00:00 2014

Not Valid After: Fri Jan 15 00:00:00 2038

Fingerprint (MD5): 21:37:b4:17:16:92:7b:67:46:70:a9:96:d7:a8:13:24

Fingerprint (SHA1): 6e:26:64:f3:56:bf:34:55:bf:d1:93:3f:7c:01:de:d8:13:da:8a:a6

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "OpenTrust Root CA G3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162
\165\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160
\145\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040
\107\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162
\165\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160
\145\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040
\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\022\021\040\346\370\114\374\044\260\276\005\100\254\332\203
\033\064\140\077

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\041\060\202\001\246\240\003\002\001\002\002\022\021

\040\346\370\114\374\044\260\276\005\100\254\332\203\033\064\140
\077\060\012\006\010\052\206\110\316\075\004\003\003\060\100\061
\013\060\011\006\003\125\004\006\023\002\106\122\061\022\060\020
\006\003\125\004\012\014\011\117\160\145\156\124\162\165\163\164
\061\035\060\033\006\003\125\004\003\014\024\117\160\145\156\124
\162\165\163\164\040\122\157\157\164\040\103\101\040\107\063\060
\036\027\015\061\064\060\065\062\066\060\060\060\060\060\132
\027\015\063\070\060\061\061\065\060\060\060\060\060\132\060
\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061\022
\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162\165
\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160\145
\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040\107
\063\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\112\356\130\256\115\312\146
\336\006\072\243\021\374\340\030\360\156\034\272\055\060\014\211
\331\326\356\233\163\203\251\043\025\214\057\131\212\132\335\024
\352\235\131\053\103\267\006\354\062\266\272\356\101\265\255\135
\241\205\314\352\035\024\146\243\147\176\106\342\224\363\347\266
\126\241\025\131\241\117\067\227\271\042\036\275\021\353\364\262
\037\136\303\024\232\345\331\227\231\243\143\060\141\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035
\006\003\125\035\016\004\026\004\024\107\167\303\024\213\142\071
\014\311\157\341\120\115\320\020\130\334\225\210\155\060\037\006
\003\125\035\043\004\030\060\026\200\024\107\167\303\024\213\142
\071\014\311\157\341\120\115\320\020\130\334\225\210\155\060\012
\006\010\052\206\110\316\075\004\003\003\003\151\000\060\146\002
\061\000\217\250\334\235\272\014\004\027\372\025\351\075\057\051
\001\227\277\201\026\063\100\223\154\374\371\355\200\160\157\252
\217\333\204\302\213\365\065\312\006\334\144\157\150\026\341\217
\221\271\002\061\000\330\113\245\313\302\320\010\154\351\030\373
\132\335\115\137\044\013\260\000\041\045\357\217\247\004\046\161
\342\174\151\345\135\232\370\101\037\073\071\223\223\235\125\352
\315\215\361\373\301

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "OpenTrust Root CA G3"
Issuer: CN=OpenTrust Root CA G3,O=OpenTrust,C=FR
Serial Number:11:20:e6:f8:4c:fc:24:b0:be:05:40:ac:da:83:1b:34:60:3f
Subject: CN=OpenTrust Root CA G3,O=OpenTrust,C=FR
Not Valid Before: Mon May 26 00:00:00 2014
Not Valid After: Fri Jan 15 00:00:00 2038
Fingerprint (MD5): 21:37:b4:17:16:92:7b:67:46:70:a9:96:d7:a8:13:24
Fingerprint (SHA1): 6e:26:64:f3:56:bf:34:55:bf:d1:93:3f:7c:01:de:d8:13:da:8a:a6

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OpenTrust Root CA G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\156\046\144\363\126\277\064\125\277\321\223\077\174\001\336\330
\023\332\212\246
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\041\067\264\027\026\222\173\147\106\160\251\226\327\250\023\044
END
CKA_ISSUER MULTILINE_OCTAL
\060\100\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\117\160\145\156\124\162
\165\163\164\061\035\060\033\006\003\125\004\003\014\024\117\160
\145\156\124\162\165\163\164\040\122\157\157\164\040\103\101\040
\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\040\346\370\114\374\044\260\276\005\100\254\332\203
\033\064\140\077
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Certplus Root CA G1"
# Issuer: CN=Certplus Root CA G1,O=Certplus,C=FR
# Serial Number: 11:20:55:83:e4:2d:3e:54:56:85:2d:83:37:b7:2c:dc:46:11
# Subject: CN=Certplus Root CA G1,O=Certplus,C=FR
# Not Valid Before: Mon May 26 00:00:00 2014
# Not Valid After: Fri Jan 15 00:00:00 2038
# Fingerprint (MD5): 7f:09:9c:f7:d9:b9:5c:69:69:56:d5:37:3e:14:0d:42
# Fingerprint (SHA1): 22:fd:d0:b7:fd:a2:4e:0d:ac:49:2c:a0:ac:a6:7b:6a:1f:e3:f7:66
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certplus Root CA G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\021\060\017\006\003\125\004\012\014\010\103\145\162\164\160\154
\165\163\061\034\060\032\006\003\125\004\003\014\023\103\145\162
\164\160\154\165\163\040\122\157\157\164\040\103\101\040\107\061
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\076\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\021\060\017\006\003\125\004\012\014\010\103\145\162\164\160\154
\165\163\061\034\060\032\006\003\125\004\003\014\023\103\145\162
\164\160\154\165\163\040\122\157\157\164\040\103\101\040\107\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\022\021\040\125\203\344\055\076\124\126\205\055\203\067\267
\054\334\106\021

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\153\060\202\003\123\240\003\002\001\002\002\022\021
\040\125\203\344\055\076\124\126\205\055\203\067\267\054\334\106
\021\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000
\060\076\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\021\060\017\006\003\125\004\012\014\010\103\145\162\164\160\154
\165\163\061\034\060\032\006\003\125\004\003\014\023\103\145\162
\164\160\154\165\163\040\122\157\157\164\040\103\101\040\107\061
\060\036\027\015\061\064\060\065\062\066\060\060\060\060\060
\132\027\015\063\070\060\061\061\065\060\060\060\060\060\132
\060\076\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\021\060\017\006\003\125\004\012\014\010\103\145\162\164\160\154
\165\163\061\034\060\032\006\003\125\004\003\014\023\103\145\162
\164\160\154\165\163\040\122\157\157\164\040\103\101\040\107\061
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\332\120\207\266\332\270\251\076\235\144\372\126\063\232\126
\075\026\345\003\225\262\064\034\232\155\142\005\324\330\217\347
\211\144\237\272\333\144\213\144\346\171\052\141\315\257\217\132
\211\221\145\271\130\374\264\003\137\221\077\055\020\025\340\176
\317\274\374\177\103\147\250\255\136\066\043\330\230\263\115\363
\103\236\071\174\052\374\354\210\325\210\356\160\275\205\026\055
\352\113\211\074\243\161\102\376\034\375\323\034\055\020\270\206
\124\352\103\270\333\306\207\332\250\256\200\045\317\172\046\035
\252\221\260\110\157\256\265\336\236\330\327\372\000\375\306\217
\320\121\273\142\175\244\261\214\262\377\040\021\272\065\143\005
\206\107\140\103\063\220\366\107\242\003\117\226\115\235\117\301
\352\352\234\242\376\064\056\336\267\312\033\166\244\267\255\237
\351\250\324\170\077\170\376\362\070\011\066\035\322\026\002\310
\354\052\150\257\365\216\224\357\055\023\172\036\102\112\035\025
\061\256\014\004\127\374\141\163\363\061\126\206\061\200\240\304
\021\156\060\166\343\224\360\137\004\304\254\207\162\211\230\305
\235\314\127\010\232\364\014\374\175\172\005\072\372\107\200\071
\266\317\204\023\167\157\047\352\377\226\147\027\010\155\351\015
\326\043\120\060\260\025\164\023\076\345\057\377\016\315\304\013
\112\135\360\330\000\063\111\146\353\241\030\174\131\056\075\050

\271\141\161\313\265\245\272\270\352\334\342\160\157\010\152\334
\207\147\064\357\337\060\162\335\363\311\077\043\377\065\341\276
\041\051\040\060\201\344\031\245\040\351\045\312\163\061\164\051
\276\342\102\325\363\262\046\146\307\150\375\031\263\347\040\223
\231\350\135\340\136\207\347\106\350\045\234\012\051\044\324\315
\130\206\122\100\044\262\173\017\230\022\040\044\366\220\154\107
\310\015\273\030\040\056\331\375\374\213\362\051\352\207\164\225
\340\102\120\170\204\004\101\141\260\364\041\043\217\055\313\050
\041\362\152\154\364\032\246\305\024\264\067\145\117\225\375\200
\310\370\162\345\045\153\304\140\261\173\155\216\112\212\163\316
\131\373\160\172\163\006\023\331\323\164\067\044\101\012\021\157
\227\334\347\344\176\241\275\025\362\272\207\017\075\150\212\026
\007\002\003\001\000\001\243\143\060\141\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\250\301\300\233\221\250\103\025\174\135
\006\047\264\052\121\330\227\013\201\261\060\037\006\003\125\035
\043\004\030\060\026\200\024\250\301\300\233\221\250\103\025\174
\135\006\047\264\052\121\330\227\013\201\261\060\015\006\011\052
\206\110\206\367\015\001\001\015\005\000\003\202\002\001\000\234
\126\157\001\176\321\275\114\365\212\306\360\046\037\344\340\070
\030\314\062\303\051\073\235\101\051\064\141\306\327\360\000\241
\353\244\162\217\224\027\274\023\054\165\264\127\356\012\174\011
\172\334\325\312\241\320\064\023\370\167\253\237\345\376\330\036
\164\212\205\007\217\177\314\171\172\312\226\315\315\375\117\373
\375\043\015\220\365\364\136\323\306\141\175\236\021\340\002\356
\011\004\331\007\335\246\212\267\014\203\044\273\203\120\222\376
\140\165\021\076\330\235\260\212\172\265\340\235\233\313\220\122
\113\260\223\052\324\076\026\063\345\236\306\145\025\076\144\073
\004\077\333\014\217\137\134\035\151\037\257\363\351\041\214\363
\357\227\366\232\267\031\266\204\164\234\243\124\265\160\116\143
\330\127\135\123\041\233\100\222\103\372\326\167\125\063\117\144
\325\373\320\054\152\216\155\045\246\357\205\350\002\304\123\076
\271\236\207\274\314\065\032\336\241\351\212\143\207\145\036\021
\052\333\143\167\227\024\276\232\024\231\021\262\300\356\260\117
\370\024\041\062\103\117\237\253\242\313\250\017\252\073\006\125
\306\022\051\127\010\324\067\327\207\047\255\111\131\247\221\253
\104\172\136\215\160\333\227\316\110\120\261\163\223\366\360\203
\140\371\315\361\341\061\375\133\174\161\041\143\024\024\252\257
\305\336\223\176\150\261\354\042\242\252\220\165\236\265\103\162
\352\144\243\204\113\375\014\250\046\153\161\227\356\126\143\146
\350\102\124\371\307\035\337\320\217\133\337\310\060\157\210\376
\015\304\063\034\123\250\243\375\110\020\362\344\012\116\341\025
\127\374\156\144\060\302\125\021\334\352\251\315\112\124\254\051
\143\104\317\112\100\240\326\150\131\033\063\371\357\072\213\333
\040\222\334\102\204\277\001\253\207\300\325\040\202\333\306\271
\203\205\102\134\017\103\073\152\111\065\325\230\364\025\277\372
\141\201\014\011\040\030\322\320\027\014\313\110\000\120\351\166

```
\202\214\144\327\072\240\007\125\314\036\061\300\357\072\264\145
\373\343\277\102\153\236\017\250\275\153\230\334\330\333\313\213
\244\335\327\131\364\156\335\376\252\303\221\320\056\102\007\300
\014\115\123\315\044\261\114\133\036\121\364\337\351\222\372
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "Certplus Root CA G1"

Issuer: CN=Certplus Root CA G1,O=Certplus,C=FR

Serial Number:11:20:55:83:e4:2d:3e:54:56:85:2d:83:37:b7:2c:dc:46:11

Subject: CN=Certplus Root CA G1,O=Certplus,C=FR

Not Valid Before: Mon May 26 00:00:00 2014

Not Valid After: Fri Jan 15 00:00:00 2038

Fingerprint (MD5): 7f:09:9c:f7:d9:b9:5c:69:69:56:d5:37:3e:14:0d:42

Fingerprint (SHA1): 22:fd:d0:b7:fd:a2:4e:0d:ac:49:2c:a0:ac:a6:7b:6a:1f:e3:f7:66

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certplus Root CA G1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\042\375\320\267\375\242\116\015\254\111\054\240\254\246\173\152
\037\343\367\146
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\177\011\234\367\331\271\134\151\151\126\325\067\076\024\015\102
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\076\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\021\060\017\006\003\125\004\012\014\010\103\145\162\164\160\154
\165\163\061\034\060\032\006\003\125\004\003\014\023\103\145\162
\164\160\154\165\163\040\122\157\157\164\040\103\101\040\107\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\022\021\040\125\203\344\055\076\124\126\205\055\203\067\267
\054\334\106\021
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Certificate "Certplus Root CA G2"

Issuer: CN=Certplus Root CA G2,O=Certplus,C=FR


```
# Serial Number:11:20:d9:91:ce:ae:a3:e8:c5:e7:ff:e9:02:af:cf:73:bc:55
# Subject: CN=Certplus Root CA G2,O=Certplus,C=FR
# Not Valid Before: Mon May 26 00:00:00 2014
# Not Valid After: Fri Jan 15 00:00:00 2038
# Fingerprint (MD5): a7:ee:c4:78:2d:1b:ee:2d:b9:29:ce:d6:a7:96:32:31
# Fingerprint (SHA1): 4f:65:8e:1f:e9:06:d8:28:02:e9:54:47:41:c9:54:25:5d:69:cc:1a
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certplus Root CA G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\021\060\017\006\003\125\004\012\014\010\103\145\162\164\160\154
\165\163\061\034\060\032\006\003\125\004\003\014\023\103\145\162
\164\160\154\165\163\040\122\157\157\164\040\103\101\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\021\060\017\006\003\125\004\012\014\010\103\145\162\164\160\154
\165\163\061\034\060\032\006\003\125\004\003\014\023\103\145\162
\164\160\154\165\163\040\122\157\157\164\040\103\101\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\040\331\221\316\256\243\350\305\347\377\351\002\257
\317\163\274\125
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\034\060\202\001\242\240\003\002\001\002\002\022\021
\040\331\221\316\256\243\350\305\347\377\351\002\257\317\163\274
\125\060\012\006\010\052\206\110\316\075\004\003\003\060\076\061
\013\060\011\006\003\125\004\006\023\002\106\122\061\021\060\017
\006\003\125\004\012\014\010\103\145\162\164\160\154\165\163\061
\034\060\032\006\003\125\004\003\014\023\103\145\162\164\160\154
\165\163\040\122\157\157\164\040\103\101\040\107\062\060\036\027
\015\061\064\060\065\062\066\060\060\060\060\060\060\132\027\015
\063\070\060\061\061\065\060\060\060\060\060\060\132\060\076\061
\013\060\011\006\003\125\004\006\023\002\106\122\061\021\060\017
\006\003\125\004\012\014\010\103\145\162\164\160\154\165\163\061
\034\060\032\006\003\125\004\003\014\023\103\145\162\164\160\154
\165\163\040\122\157\157\164\040\103\101\040\107\062\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\315\017\133\126\202\337\360\105\032\326\255
\367\171\360\035\311\254\226\326\236\116\234\037\264\102\021\312
\206\277\155\373\205\243\305\345\031\134\327\356\246\077\151\147
\330\170\342\246\311\304\333\055\171\056\347\213\215\002\157\061
```

```
\042\115\006\343\140\162\105\235\016\102\167\236\316\317\345\177
\205\233\030\344\374\314\056\162\323\026\223\116\312\231\143\134
\241\005\052\154\006\243\143\060\141\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\332\203\143\002\171\216\332\114\306\074\043
\024\330\217\303\040\253\050\140\131\060\037\006\003\125\035\043
\004\030\060\026\200\024\332\203\143\002\171\216\332\114\306\074
\043\024\330\217\303\040\253\050\140\131\060\012\006\010\052\206
\110\316\075\004\003\003\003\150\000\060\145\002\060\160\376\260
\013\331\367\203\227\354\363\125\035\324\334\263\006\016\376\063
\230\235\213\071\220\153\224\041\355\266\327\135\326\114\327\041
\247\347\277\041\017\053\315\367\052\334\205\007\235\002\061\000
\206\024\026\345\334\260\145\302\300\216\024\237\277\044\026\150
\345\274\371\171\151\334\255\105\053\367\266\061\163\314\006\245
\123\223\221\032\223\256\160\152\147\272\327\236\345\141\032\137
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "Certplus Root CA G2"
# Issuer: CN=Certplus Root CA G2,O=Certplus,C=FR
# Serial Number:11:20:d9:91:ce:ae:a3:e8:c5:e7:ff:e9:02:af:cf:73:bc:55
# Subject: CN=Certplus Root CA G2,O=Certplus,C=FR
# Not Valid Before: Mon May 26 00:00:00 2014
# Not Valid After: Fri Jan 15 00:00:00 2038
# Fingerprint (MD5): a7:ee:c4:78:2d:1b:ee:2d:b9:29:ce:d6:a7:96:32:31
# Fingerprint (SHA1): 4f:65:8e:1f:e9:06:d8:28:02:e9:54:47:41:c9:54:25:5d:69:cc:1a
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certplus Root CA G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\117\145\216\037\351\006\330\050\002\351\124\107\101\311\124\045
\135\151\314\032
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\247\356\304\170\055\033\356\055\271\051\316\326\247\226\062\061
END
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\021\060\017\006\003\125\004\012\014\010\103\145\162\164\160\154
\165\163\061\034\060\032\006\003\125\004\003\014\023\103\145\162
\164\160\154\165\163\040\122\157\157\164\040\103\101\040\107\062
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\040\331\221\316\256\243\350\305\347\377\351\002\257
\317\163\274\125
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Government Root Certification Authority"
# Issuer: O=Government Root Certification Authority,C=TW
# Serial Number:b6:4b:88:07:e2:23:ee:c8:5c:12:ad:a6:0e:06:a1:f2
# Subject: O=Government Root Certification Authority,C=TW
# Not Valid Before: Fri Sep 28 08:58:51 2012
# Not Valid After: Thu Dec 31 15:59:59 2037
# Fingerprint (MD5): 2f:d4:2d:cd:86:7f:36:b0:5f:1c:e0:53:8d:b6:a2:5b
# Fingerprint (SHA1): b0:91:aa:91:38:47:f3:13:d7:27:bc:ef:c8:17:9f:08:6f:3a:8c:0f
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Government Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
\060\077\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\060\060\056\006\003\125\004\012\014\047\107\157\166\145\162\156
\155\145\156\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
```

```
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\077\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\060\060\056\006\003\125\004\012\014\047\107\157\166\145\162\156
\155\145\156\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\266\113\210\007\342\043\356\310\134\022\255\246\016
\006\241\362
END
```

```
CKA_VALUE MULTILINE_OCTAL
\060\202\005\113\060\202\003\063\240\003\002\001\002\002\021\000
\266\113\210\007\342\043\356\310\134\022\255\246\016\006\241\362
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\077\061\013\060\011\006\003\125\004\006\023\002\124\127\061\060
```

\060\056\006\003\125\004\012\014\047\107\157\166\145\162\156\155
\145\156\164\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\036\027\015\061\062\060\071\062\070\060\070\065\070\065\061
\132\027\015\063\067\061\062\063\061\061\065\065\071\065\071\132
\060\077\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\060\060\056\006\003\125\004\012\014\047\107\157\166\145\162\156
\155\145\156\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\266\377\227\074\201\276\001\130\044\047\257\216\001\053
\326\162\222\060\062\033\137\233\174\324\324\177\350\241\140\163
\060\127\020\000\372\120\226\044\376\120\346\214\072\225\321\127
\171\204\325\147\123\014\052\202\076\030\134\270\060\046\032\326
\136\306\055\262\004\121\016\357\337\014\143\107\353\304\022\010
\121\053\231\161\136\325\151\173\341\135\311\167\035\040\354\126
\216\345\141\140\055\374\351\034\200\337\372\152\203\273\005\265
\036\043\022\234\202\312\012\363\024\035\040\344\006\217\103\044
\231\237\266\012\223\132\163\033\026\071\276\005\266\361\214\245
\144\222\217\005\344\134\166\367\071\303\317\055\275\016\330\313
\250\016\061\233\311\106\017\147\123\103\004\217\310\262\310\203
\200\137\272\362\017\253\201\065\242\040\041\227\316\017\211\064
\170\017\317\037\116\351\373\214\050\074\336\064\347\355\237\322
\146\365\305\312\061\170\322\316\120\321\140\202\143\235\340\114
\367\007\256\203\064\235\111\111\103\324\176\275\055\342\352\307
\161\145\200\010\344\066\236\171\160\012\074\207\051\351\344\222
\224\352\006\222\051\047\170\346\255\327\075\351\012\013\136\364
\340\326\206\235\055\162\313\213\144\126\346\364\256\170\245\240
\071\063\130\074\334\250\217\215\264\152\055\375\210\163\351\225
\120\163\004\337\021\210\076\102\326\002\164\373\054\304\157\274
\154\326\340\200\157\321\206\245\062\127\003\326\115\364\116\012
\231\042\166\176\112\100\202\370\311\344\116\313\123\055\307\261
\266\342\323\302\165\047\156\271\016\161\262\064\374\277\034\116
\302\075\370\066\351\012\314\130\232\241\030\206\116\342\341\252
\263\163\131\156\136\235\264\302\010\257\257\134\375\244\002\157
\377\270\015\273\325\253\327\156\237\032\117\221\100\360\037\106
\125\155\240\222\303\211\315\267\261\377\034\263\313\243\234\012
\343\376\315\252\274\001\354\335\124\312\221\335\117\023\207\244
\366\230\357\375\111\326\127\052\074\246\134\366\140\067\277\330
\076\176\116\150\052\043\062\072\276\156\344\042\075\007\044\317
\212\313\233\135\121\263\060\322\161\155\316\106\212\155\174\112
\063\104\332\022\057\066\113\362\351\361\121\011\155\333\152\227
\016\027\002\003\001\000\001\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\325\147\035\340\234\172\054\234\313
\305\230\347\035\007\046\052\206\354\164\315\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052

\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\220
\073\345\302\123\102\050\352\365\061\116\216\075\221\236\115\011
\363\330\261\122\346\117\254\014\061\041\273\361\352\231\314\203
\374\266\050\344\354\204\007\016\017\116\227\273\157\150\106\217
\016\121\025\225\370\072\073\037\137\202\016\014\161\016\274\221
\117\256\063\056\043\101\364\046\153\117\023\207\372\170\366\056
\302\017\221\005\227\252\152\301\152\237\274\204\236\010\052\047
\335\332\207\027\206\341\263\312\135\355\070\251\051\156\204\336
\106\153\374\047\031\120\245\022\172\214\175\142\374\332\347\314
\274\237\111\257\006\270\047\047\362\211\367\026\075\030\346\275
\336\365\214\022\221\237\343\004\215\376\007\024\032\132\254\071
\202\033\361\070\031\341\143\343\257\154\266\246\121\027\353\372
\113\353\213\042\366\227\376\020\072\137\224\240\113\123\161\077
\132\341\020\370\162\217\226\200\335\215\002\230\000\141\075\215
\274\055\261\107\314\332\135\341\040\247\214\061\134\361\343\332
\271\012\206\107\310\241\075\007\243\074\246\163\156\224\221\355
\156\044\072\371\311\060\321\007\250\201\175\046\175\175\204\337
\206\311\213\345\256\015\036\276\211\110\121\025\203\230\226\057
\112\353\163\064\327\164\315\311\157\320\302\272\053\366\232\376
\231\335\140\024\216\033\371\234\071\074\177\103\211\123\350\345
\302\253\276\042\255\047\070\233\167\050\267\243\143\143\247\201
\347\251\151\105\353\216\170\126\314\005\204\307\373\255\266\060
\174\143\005\237\055\214\044\177\113\213\222\374\070\036\237\240
\245\127\263\156\235\330\144\270\160\232\140\122\160\310\251\320
\377\306\234\355\020\141\136\315\203\016\156\350\115\002\101\112
\342\166\004\171\326\124\077\212\230\062\024\240\335\055\234\347
\272\202\161\243\206\125\051\231\322\051\333\165\072\367\333\103
\377\266\133\373\267\176\065\200\216\015\154\256\171\267\066\055
\227\122\241\260\007\234\007\345\053\066\315\003\227\224\275\055
\016\064\006\374\300\026\211\374\067\124\344\326\317\075\023\004
\362\221\331\311\066\056\076\305\132\320\245\114\202\303\377\056
\174\046\166\367\363\375\105\242\245\156\125\256\056\314\317\054
\211\064\332\366\015\347\221\250\020\352\027\235\362\366\354

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Government Root Certification Authority"
Issuer: O=Government Root Certification Authority,C=TW
Serial Number:b6:4b:88:07:e2:23:ee:c8:5c:12:ad:a6:0e:06:a1:f2
Subject: O=Government Root Certification Authority,C=TW
Not Valid Before: Fri Sep 28 08:58:51 2012
Not Valid After: Thu Dec 31 15:59:59 2037
Fingerprint (MD5): 2f:d4:2d:cd:86:7f:36:b0:5f:1c:e0:53:8d:b6:a2:5b
Fingerprint (SHA1): b0:91:aa:91:38:47:f3:13:d7:27:bc:ef:c8:17:9f:08:6f:3a:8c:0f
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Government Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\260\221\252\221\070\107\363\023\327\047\274\357\310\027\237\010
\157\072\214\017
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\057\324\055\315\206\177\066\260\137\034\340\123\215\266\242\133
END
CKA_ISSUER MULTILINE_OCTAL
\060\077\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\060\060\056\006\003\125\004\012\014\047\107\157\166\145\162\156
\155\145\156\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\266\113\210\007\342\043\356\310\134\022\255\246\016
\006\241\362
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

Microsoft Code Signing Only Certificate

Certificate "A-Trust-Qual-02"

Issuer: CN=A-Trust-Qual-02,OU=A-Trust-Qual-02,O=A-Trust Ges. f. Sicherheitssysteme im elektr. Datenverkehr GmbH,C=AT

Serial Number: 14:4d:e4

Subject: CN=A-Trust-Qual-02,OU=A-Trust-Qual-02,O=A-Trust Ges. f. Sicherheitssysteme im elektr. Datenverkehr GmbH,C=AT

Not Valid Before: Tue Jul 01 11:23:33 2014

Not Valid After: Mon Jul 01 09:23:33 2024

Fingerprint (MD5): 4b:d4:35:43:a8:b2:43:6d:d7:78:e2:89:a2:a9:39:ab

Fingerprint (SHA1): cd:78:7a:3d:5c:ba:82:07:08:28:48:36:5e:9a:cd:e9:68:33:64:d8

```

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "A-Trust-Qual-02"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\213\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162\165
\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150\145

```

\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151\155
\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166\145
\162\153\145\150\162\040\107\155\142\110\061\030\060\026\006\003
\125\004\013\014\017\101\055\124\162\165\163\164\055\121\165\141
\154\055\060\062\061\030\060\026\006\003\125\004\003\014\017\101
\055\124\162\165\163\164\055\121\165\141\154\055\060\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\213\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162\165
\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150\145
\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151\155
\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166\145
\162\153\145\150\162\040\107\155\142\110\061\030\060\026\006\003
\125\004\013\014\017\101\055\124\162\165\163\164\055\121\165\141
\154\055\060\062\061\030\060\026\006\003\125\004\003\014\017\101
\055\124\162\165\163\164\055\121\165\141\154\055\060\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\024\115\344

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\313\060\202\002\263\240\003\002\001\002\002\003\024
\115\344\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\201\213\061\013\060\011\006\003\125\004\006\023\002\101
\124\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162
\165\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150
\145\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151
\155\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166
\145\162\153\145\150\162\040\107\155\142\110\061\030\060\026\006
\003\125\004\013\014\017\101\055\124\162\165\163\164\055\121\165
\141\154\055\060\062\061\030\060\026\006\003\125\004\003\014\017
\101\055\124\162\165\163\164\055\121\165\141\154\055\060\062\060
\036\027\015\061\064\060\067\060\061\061\061\062\063\063\063\132
\027\015\062\064\060\067\060\061\060\071\062\063\063\063\132\060
\201\213\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\110\060\106\006\003\125\004\012\014\077\101\055\124\162\165\163
\164\040\107\145\163\056\040\146\056\040\123\151\143\150\145\162
\150\145\151\164\163\163\171\163\164\145\155\145\040\151\155\040
\145\154\145\153\164\162\056\040\104\141\164\145\156\166\145\162
\153\145\150\162\040\107\155\142\110\061\030\060\026\006\003\125
\004\013\014\017\101\055\124\162\165\163\164\055\121\165\141\154
\055\060\062\061\030\060\026\006\003\125\004\003\014\017\101\055
\124\162\165\163\164\055\121\165\141\154\055\060\062\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\226\221
\253\327\216\260\131\270\001\275\264\036\255\231\375\241\374\352

\014\226\153\217\056\111\110\330\351\344\044\202\341\330\272\314
\353\336\007\134\110\306\031\202\001\107\102\011\341\174\271\237
\256\217\366\356\136\153\250\250\126\210\070\126\263\346\376\311
\235\117\064\070\121\074\234\276\363\254\234\034\310\075\134\232
\204\256\367\224\054\024\262\144\067\140\216\024\260\073\052\315
\211\265\042\257\367\344\177\356\054\053\063\371\216\074\255\114
\242\127\017\373\202\305\216\037\001\337\123\214\301\025\244\335
\356\232\222\022\322\050\351\142\027\045\140\061\357\317\061\224
\363\175\363\344\074\041\253\220\374\155\317\143\247\306\022\000
\161\111\327\034\310\240\355\143\232\175\343\217\050\335\140\371
\330\346\026\253\046\321\320\057\275\347\015\011\337\156\324\354
\345\070\123\364\144\013\272\132\314\200\265\070\131\354\200\131
\145\204\061\152\137\125\221\114\044\345\044\232\203\204\172\276
\200\361\356\137\040\007\252\167\027\154\013\342\125\252\226\170
\010\002\236\227\360\053\256\130\365\200\120\077\376\073\002\003
\001\000\001\243\066\060\064\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\021\006\003\125\035\016\004
\012\004\010\102\075\053\044\246\301\105\316\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\141
\061\363\210\065\011\270\136\234\305\350\071\244\072\146\377\002
\264\227\035\376\113\071\272\205\230\203\050\240\332\366\116\114
\263\255\104\312\374\321\076\231\332\346\327\224\137\166\333\073
\221\225\152\374\200\237\101\041\136\150\373\326\150\005\152\342
\231\107\377\156\216\216\363\023\126\376\303\176\007\317\005\114
\103\132\251\102\270\071\303\234\360\025\103\354\250\376\216\142
\004\016\156\122\123\033\247\234\347\154\073\145\307\001\177\346
\005\252\162\177\341\053\024\224\010\375\156\210\343\310\224\247
\336\126\373\021\230\027\011\001\332\042\305\063\077\041\315\164
\245\253\311\060\143\210\333\112\047\002\273\320\144\005\004\155
\164\013\003\307\054\362\166\261\174\136\201\243\176\224\366\171
\072\302\176\352\361\123\327\205\130\236\220\034\235\327\261\172
\364\017\232\207\102\052\303\204\217\177\320\152\065\022\036\325
\214\161\214\070\102\232\065\255\335\252\062\023\166\105\006\341
\243\133\352\366\212\226\377\274\145\065\373\152\062\313\141\135
\331\323\046\210\304\073\200\150\126\137\325\372\201\142\335

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "A-Trust-Qual-02"

Issuer: CN=A-Trust-Qual-02,OU=A-Trust-Qual-02,O=A-Trust Ges. f. Sicherheitssysteme im elektr. Datenverkehr GmbH,C=AT

Serial Number: 14:4d:e4

Subject: CN=A-Trust-Qual-02,OU=A-Trust-Qual-02,O=A-Trust Ges. f. Sicherheitssysteme im elektr. Datenverkehr GmbH,C=AT


```
# Not Valid Before: Tue Jul 01 11:23:33 2014
# Not Valid After: Mon Jul 01 09:23:33 2024
# Fingerprint (MD5): 4b:d4:35:43:a8:b2:43:6d:d7:78:e2:89:a2:a9:39:ab
# Fingerprint (SHA1): cd:78:7a:3d:5c:ba:82:07:08:28:48:36:5e:9a:cd:e9:68:33:64:d8
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "A-Trust-Qual-02"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\315\170\172\075\134\272\202\007\010\050\110\066\136\232\315\351
\150\063\144\330
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\113\324\065\103\250\262\103\155\327\170\342\211\242\251\071\253
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\213\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162\165
\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150\145
\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151\155
\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166\145
\162\153\145\150\162\040\107\155\142\110\061\030\060\026\006\003
\125\004\013\014\017\101\055\124\162\165\163\164\055\121\165\141
\154\055\060\062\061\030\060\026\006\003\125\004\003\014\017\101
\055\124\162\165\163\164\055\121\165\141\154\055\060\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\024\115\344
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Thailand National Root Certification Authority - G1"
# Issuer: CN=Thailand National Root Certification Authority - G1,OU=Thailand National Root Certification
Authority,O=Electronic Transactions Development Agency (Public Organization),C=TH
# Serial Number:51:52:c5:8c
# Subject: CN=Thailand National Root Certification Authority - G1,OU=Thailand National Root Certification
Authority,O=Electronic Transactions Development Agency (Public Organization),C=TH
# Not Valid Before: Wed Mar 27 09:40:22 2013
# Not Valid After: Thu Mar 27 10:10:22 2036
# Fingerprint (MD5): da:9d:b6:26:4a:e5:22:a0:bb:8d:a4:f7:bc:0d:25:cc
# Fingerprint (SHA1): 66:f2:dc:fb:3f:81:4d:de:e9:b3:20:6f:11:de:fe:1b:fb:df:e1:32
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Thailand National Root Certification Authority - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\317\061\013\060\011\006\003\125\004\006\023\002\124\110
\061\111\060\107\006\003\125\004\012\014\100\105\154\145\143\164
\162\157\156\151\143\040\124\162\141\156\163\141\143\164\151\157
\156\163\040\104\145\166\145\154\157\160\155\145\156\164\040\101
\147\145\156\143\171\040\050\120\165\142\154\151\143\040\117\162
\147\141\156\151\172\141\164\151\157\156\051\061\067\060\065\006
\003\125\004\013\014\056\124\150\141\151\154\141\156\144\040\116
\141\164\151\157\156\141\154\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\061\074\060\072\006\003\125\004\003\014\063\124
\150\141\151\154\141\156\144\040\116\141\164\151\157\156\141\154
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\317\061\013\060\011\006\003\125\004\006\023\002\124\110
\061\111\060\107\006\003\125\004\012\014\100\105\154\145\143\164
\162\157\156\151\143\040\124\162\141\156\163\141\143\164\151\157
\156\163\040\104\145\166\145\154\157\160\155\145\156\164\040\101
\147\145\156\143\171\040\050\120\165\142\154\151\143\040\117\162
\147\141\156\151\172\141\164\151\157\156\051\061\067\060\065\006
\003\125\004\013\014\056\124\150\141\151\154\141\156\144\040\116
\141\164\151\157\156\141\154\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\061\074\060\072\006\003\125\004\003\014\063\124
\150\141\151\154\141\156\144\040\116\141\164\151\157\156\141\154
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\121\122\305\214
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\201\060\202\004\151\240\003\002\001\002\002\004\121
\122\305\214\060\015\006\011\052\206\110\206\367\015\001\001\015
\005\000\060\201\317\061\013\060\011\006\003\125\004\006\023\002
\124\110\061\111\060\107\006\003\125\004\012\014\100\105\154\145
\143\164\162\157\156\151\143\040\124\162\141\156\163\141\143\164
\151\157\156\163\040\104\145\166\145\154\157\160\155\145\156\164
\040\101\147\145\156\143\171\040\050\120\165\142\154\151\143\040
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\065\006\003\125\004\013\014\056\124\150\141\151\154\141\156\144
\040\116\141\164\151\157\156\141\154\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\061\074\060\072\006\003\125\004\003\014
\063\124\150\141\151\154\141\156\144\040\116\141\164\151\157\156
\141\154\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040
\055\040\107\061\060\036\027\015\061\063\060\063\062\067\060\071
\064\060\062\062\132\027\015\063\066\060\063\062\067\061\060\061
\060\062\062\132\060\201\317\061\013\060\011\006\003\125\004\006
\023\002\124\110\061\111\060\107\006\003\125\004\012\014\100\105
\154\145\143\164\162\157\156\151\143\040\124\162\141\156\163\141
\143\164\151\157\156\163\040\104\145\166\145\154\157\160\155\145
\156\164\040\101\147\145\156\143\171\040\050\120\165\142\154\151
\143\040\117\162\147\141\156\151\172\141\164\151\157\156\051\061
\067\060\065\006\003\125\004\013\014\056\124\150\141\151\154\141
\156\144\040\116\141\164\151\157\156\141\154\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\061\074\060\072\006\003\125\004
\003\014\063\124\150\141\151\154\141\156\144\040\116\141\164\151
\157\156\141\154\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\061\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\326\272\112\344\214\361\232\056\211
\027\302\100\363\202\000\061\376\023\002\172\145\312\010\330\253
\042\261\002\232\161\064\112\144\131\202\345\102\106\353\043\366
\213\132\042\261\317\066\347\163\155\024\155\367\111\224\136\357
\347\064\131\147\366\250\317\126\131\043\204\125\342\373\032\021
\312\243\371\212\253\147\036\202\023\320\213\071\232\277\017\302
\017\074\326\141\330\352\233\317\025\016\276\324\360\314\077\163
\234\004\364\242\161\163\175\200\260\235\061\361\006\371\260\023
\345\210\111\060\366\026\175\210\127\051\072\054\242\214\220\230
\316\021\026\316\115\121\017\374\307\262\314\362\146\030\041\200
\005\210\255\271\320\305\013\170\001\376\116\322\010\213\066\361
\126\317\156\272\163\046\013\326\367\245\106\152\151\116\226\266
\247\006\126\314\346\056\061\237\156\213\355\234\000\125\107\364
\173\246\172\266\337\001\035\110\004\013\253\102\302\160\112\224
\275\374\254\121\362\253\077\326\353\140\337\010\377\365\022\262
\211\052\172\271\105\231\045\175\174\357\317\025\320\110\054\020
\326\324\274\010\047\265\206\051\324\343\323\304\052\220\022\366
\242\052\371\213\257\026\377\002\363\172\156\317\242\313\152\264
\340\162\013\373\076\205\177\342\207\340\057\103\043\370\205\311
\231\352\326\100\336\240\373\347\336\166\377\217\200\071\353\147
\022\023\246\373\345\243\374\046\200\131\143\362\322\043\353\037
\306\110\163\121\235\267\263\240\133\253\152\210\371\277\373\161
\121\334\156\266\166\357\260\133\362\313\210\060\272\006\333\033

\101\323\125\264\255\264\352\040\041\374\324\167\266\075\133\241
\014\055\045\041\122\043\122\327\064\123\155\026\004\122\146\370
\325\352\361\054\130\362\073\261\361\176\103\265\334\202\270\136
\343\207\341\243\244\137\347\211\016\274\234\351\051\072\045\247
\330\117\152\207\324\226\104\227\030\026\207\302\161\122\205\316
\172\214\255\036\147\276\272\055\277\243\041\047\305\347\060\351
\006\231\033\260\014\343\276\122\145\223\115\141\113\362\070\346
\217\030\361\002\122\230\056\246\016\035\005\317\046\354\001\043
\007\066\366\340\023\067\251\107\210\003\207\107\313\335\262\001
\037\137\144\033\004\233\305\002\003\001\000\001\243\143\060\141
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\037\006\003\125\035\043\004\030\060\026\200\024\177\043
\166\267\203\052\161\367\054\321\210\017\335\114\137\062\012\150
\273\177\060\035\006\003\125\035\016\004\026\004\024\177\043\166
\267\203\052\161\367\054\321\210\017\335\114\137\062\012\150\273
\177\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000
\003\202\002\001\000\015\145\034\132\007\251\236\254\114\311\137
\117\335\061\154\331\342\123\035\077\221\215\132\263\214\275\064
\236\056\115\312\130\323\257\131\142\111\066\163\260\141\166\021
\276\213\066\307\224\252\370\066\151\007\040\337\134\057\013\366
\216\002\026\357\122\006\070\335\355\064\140\252\207\136\027\316
\070\155\120\115\345\337\345\121\276\035\004\226\364\334\352\345
\331\352\216\336\237\164\313\202\224\123\201\154\373\136\054\325
\241\165\226\115\373\060\134\315\141\240\236\241\314\202\271\122
\162\013\207\143\141\173\141\064\164\266\056\335\342\341\207\265
\111\024\141\025\107\112\113\076\167\271\010\322\066\117\130\147
\102\211\200\170\132\022\043\355\105\073\335\277\040\046\124\374
\133\077\140\001\030\101\343\147\165\023\267\052\025\160\314\313
\171\322\024\370\363\302\340\052\020\367\371\102\330\334\332\012
\323\001\005\333\127\230\311\266\353\014\231\012\312\214\175\357
\073\026\050\300\367\137\341\107\121\323\370\006\105\007\360\013
\272\302\234\230\354\322\177\115\176\375\006\374\163\302\302\125
\022\142\320\043\104\337\042\344\370\171\347\245\020\116\076\311
\216\252\203\351\066\352\253\171\306\005\204\315\226\150\174\164
\254\077\062\377\256\311\100\354\217\120\277\120\250\267\116\325
\255\066\152\327\047\063\372\347\330\055\331\067\230\205\033\246
\014\352\173\020\023\160\036\236\210\305\334\076\216\271\015\125
\337\001\316\320\111\166\121\333\020\142\170\101\255\151\143\245
\225\011\267\030\006\157\375\004\147\324\020\017\116\333\073\137
\014\143\174\353\144\275\156\113\000\250\201\372\222\062\206\060
\214\011\277\175\130\077\145\015\251\067\321\105\343\146\151\304
\150\364\142\251\250\036\067\331\056\231\111\240\260\006\214\100
\177\205\261\365\361\114\113\070\240\010\314\052\331\226\300\354
\300\015\074\056\105\127\303\357\225\332\266\313\356\133\145\250
\053\062\257\311\047\371\025\123\067\165\130\037\113\352\227\242
\042\134\147\126\342\240\314\065\304\254\303\061\100\271\234\003
\172\275\311\110\016\352\152\025\332\234\274\170\157\311\025\347

\144\003\331\111\023\146\105\113\055\364\204\231\263\352\247\022
\225\345\223\056\374

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "Thailand National Root Certification Authority - G1"

Issuer: CN=Thailand National Root Certification Authority - G1,OU=Thailand National Root Certification Authority,O=Electronic Transactions Development Agency (Public Organization),C=TH

Serial Number:51:52:c5:8c

Subject: CN=Thailand National Root Certification Authority - G1,OU=Thailand National Root Certification Authority,O=Electronic Transactions Development Agency (Public Organization),C=TH

Not Valid Before: Wed Mar 27 09:40:22 2013

Not Valid After: Thu Mar 27 10:10:22 2036

Fingerprint (MD5): da:9d:b6:26:4a:e5:22:a0:bb:8d:a4:f7:bc:0d:25:cc

Fingerprint (SHA1): 66:f2:dc:fb:3f:81:4d:de:e9:b3:20:6f:11:de:fe:1b:fb:df:e1:32

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Thailand National Root Certification Authority - G1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\146\362\334\373\077\201\115\336\351\263\040\157\021\336\376\033
\373\337\341\062

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\332\235\266\046\112\345\042\240\273\215\244\367\274\015\045\314

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\317\061\013\060\011\006\003\125\004\006\023\002\124\110
\061\111\060\107\006\003\125\004\012\014\100\105\154\145\143\164
\162\157\156\151\143\040\124\162\141\156\163\141\143\164\151\157
\156\163\040\104\145\166\145\154\157\160\155\145\156\164\040\101
\147\145\156\143\171\040\050\120\165\142\154\151\143\040\117\162
\147\141\156\151\172\141\164\151\157\156\051\061\067\060\065\006
\003\125\004\013\014\056\124\150\141\151\154\141\156\144\040\116
\141\164\151\157\156\141\154\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\061\074\060\072\006\003\125\004\003\014\063\124
\150\141\151\154\141\156\144\040\116\141\164\151\157\156\141\154
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\121\122\305\214

```
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Certification Authority of WoSign"
# Issuer: CN=Certification Authority of WoSign,O=WoSign CA Limited,C=CN
# Serial Number:5e:68:d6:11:71:94:63:50:56:00:68:f3:3e:c9:c5:91
# Subject: CN=Certification Authority of WoSign,O=WoSign CA Limited,C=CN
# Not Valid Before: Sat Aug 08 01:00:01 2009
# Not Valid After: Mon Aug 08 01:00:01 2039
# Fingerprint (MD5): a1:f2:f9:b5:d2:c8:7a:74:b8:f3:05:f1:d7:e1:84:8d
# Fingerprint (SHA1): b9:42:94:bf:91:ea:8f:b6:4b:e6:10:97:c7:fb:00:13:59:b6:76:cb
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certification Authority of WoSign"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\125\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156
\040\103\101\040\114\151\155\151\164\145\144\061\052\060\050\006
\003\125\004\003\023\041\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\157\146
\040\127\157\123\151\147\156
```

```
END
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```
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\125\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156
\040\103\101\040\114\151\155\151\164\145\144\061\052\060\050\006
\003\125\004\003\023\041\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\157\146
\040\127\157\123\151\147\156
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```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\136\150\326\021\161\224\143\120\126\000\150\363\076\311
\305\221
```

```
END
```

```
CKA_VALUE MULTILINE_OCTAL
\060\202\005\166\060\202\003\136\240\003\002\001\002\002\020\136
\150\326\021\161\224\143\120\126\000\150\363\076\311\305\221\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\125
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\032\060
\030\006\003\125\004\012\023\021\127\157\123\151\147\156\040\103
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\101\040\114\151\155\151\164\145\144\061\052\060\050\006\003\125
\004\003\023\041\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\157\146\040\127
\157\123\151\147\156\060\036\027\015\060\071\060\070\060\070\060
\061\060\060\060\061\132\027\015\063\071\060\070\060\070\060\061
\060\060\060\061\132\060\125\061\013\060\011\006\003\125\004\006
\023\002\103\116\061\032\060\030\006\003\125\004\012\023\021\127
\157\123\151\147\156\040\103\101\040\114\151\155\151\164\145\144
\061\052\060\050\006\003\125\004\003\023\041\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\157\146\040\127\157\123\151\147\156\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\275\312\215
\254\270\221\025\126\227\173\153\134\172\302\336\153\331\241\260
\303\020\043\372\247\241\262\314\061\372\076\331\246\051\157\026
\075\340\153\370\270\100\137\333\071\250\000\172\213\240\115\124
\175\302\042\170\374\216\011\270\250\205\327\314\225\227\113\164
\330\236\176\360\000\344\016\211\256\111\050\104\032\020\231\062
\017\045\210\123\244\015\263\017\022\010\026\013\003\161\047\034
\177\341\333\322\375\147\150\304\005\135\012\016\135\160\327\330
\227\240\274\123\101\232\221\215\364\236\066\146\172\176\126\301
\220\137\346\261\150\040\066\244\214\044\054\054\107\013\131\166
\146\060\265\276\336\355\217\370\235\323\273\001\060\346\362\363
\016\340\054\222\200\363\205\371\050\212\264\124\056\232\355\367
\166\374\025\150\026\353\112\154\353\056\022\217\324\317\376\014
\307\134\035\013\176\005\062\276\136\260\011\052\102\325\311\116
\220\263\131\015\273\172\176\315\325\010\132\264\177\330\034\151
\021\371\047\017\173\006\257\124\203\030\173\341\335\124\172\121
\150\156\167\374\306\277\122\112\146\106\241\262\147\032\273\243
\117\167\240\276\135\377\374\126\013\103\162\167\220\312\236\371
\362\071\365\015\251\364\352\327\347\263\020\057\060\102\067\041
\314\060\160\311\206\230\017\314\130\115\203\273\175\345\032\245
\067\215\266\254\062\227\000\072\143\161\044\036\236\067\304\377
\164\324\067\300\342\376\210\106\140\021\335\010\077\120\066\253
\270\172\244\225\142\152\156\260\312\152\041\132\151\363\363\373
\035\160\071\225\363\247\156\246\201\211\241\210\305\073\161\312
\243\122\356\203\273\375\240\167\364\344\157\347\102\333\155\112
\231\212\064\110\274\027\334\344\200\010\042\266\362\061\300\077
\004\076\353\237\040\171\326\270\006\144\144\002\061\327\251\315
\122\373\204\105\151\011\000\052\334\125\213\304\006\106\113\300
\112\035\011\133\071\050\375\251\253\316\000\371\056\110\113\046
\346\060\114\245\130\312\264\104\202\117\347\221\036\063\303\260
\223\377\021\374\201\322\312\037\161\051\335\166\117\222\045\257
\035\201\267\017\057\214\303\006\314\057\047\243\112\344\016\231
\272\174\036\105\037\177\252\031\105\226\375\374\075\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026

\004\024\341\146\317\016\321\361\263\113\267\006\040\024\376\207
\022\325\366\376\373\076\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\002\001\000\250\313\162\100\262\166
\301\176\173\374\255\144\343\062\173\314\074\266\135\106\323\365
\054\342\160\135\310\056\330\006\175\230\321\013\041\240\211\131
\044\001\235\371\257\011\175\012\043\202\064\325\374\174\162\231
\271\243\327\124\364\352\122\160\016\305\365\326\073\341\072\011
\062\346\041\071\223\275\263\025\352\117\152\364\365\213\077\057
\174\215\130\056\305\341\071\240\076\307\075\112\163\236\100\172
\300\053\141\251\147\311\363\044\271\263\155\125\054\132\035\236
\045\162\316\013\255\252\307\125\142\013\276\373\143\263\141\104
\043\243\313\341\032\016\367\232\006\115\336\324\043\116\041\226
\133\071\133\127\035\057\135\010\136\011\171\377\174\227\265\115
\203\256\015\326\346\243\171\340\063\320\231\226\002\060\247\076
\377\322\243\103\077\005\132\006\352\104\002\332\174\370\110\320
\063\251\371\007\307\225\341\365\076\365\135\161\272\362\225\251
\164\210\141\131\343\277\312\132\023\272\162\264\214\135\066\207
\351\246\305\074\023\277\336\320\104\046\356\267\354\056\160\372
\327\235\267\254\345\305\100\132\346\327\154\173\054\303\126\233
\107\315\013\316\372\033\264\041\327\267\146\270\364\045\060\213
\134\015\271\352\147\262\364\155\256\325\241\236\117\330\237\351
\047\002\260\035\006\326\217\343\373\110\022\237\177\021\241\020
\076\114\121\072\226\260\321\023\361\307\330\046\256\072\312\221
\304\151\235\337\001\051\144\121\157\150\332\024\354\010\101\227
\220\215\320\262\200\362\317\302\075\277\221\150\305\200\147\036
\304\140\023\125\325\141\231\127\174\272\225\017\141\111\072\312
\165\274\311\012\223\077\147\016\022\362\050\342\061\033\300\127
\026\337\010\174\031\301\176\017\037\205\036\012\066\174\133\176
\047\274\172\277\340\333\364\332\122\275\336\014\124\160\061\221
\103\225\310\274\360\076\335\011\176\060\144\120\355\177\001\244
\063\147\115\150\117\276\025\357\260\366\002\021\242\033\023\045
\072\334\302\131\361\343\134\106\273\147\054\002\106\352\036\110
\246\346\133\331\265\274\121\242\222\226\333\252\306\067\042\246
\376\314\040\164\243\055\251\056\153\313\300\202\021\041\265\223
\171\356\104\206\276\327\036\344\036\373

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Certification Authority of WoSign"
Issuer: CN=Certification Authority of WoSign,O=WoSign CA Limited,C=CN
Serial Number:5e:68:d6:11:71:94:63:50:56:00:68:f3:3e:c9:c5:91
Subject: CN=Certification Authority of WoSign,O=WoSign CA Limited,C=CN
Not Valid Before: Sat Aug 08 01:00:01 2009
Not Valid After: Mon Aug 08 01:00:01 2039
Fingerprint (MD5): a1:f2:f9:b5:d2:c8:7a:74:b8:f3:05:f1:d7:e1:84:8d


```

# Fingerprint (SHA1): b9:42:94:bf:91:ea:8f:b6:4b:e6:10:97:c7:fb:00:13:59:b6:76:cb
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certification Authority of WoSign"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\271\102\224\277\221\352\217\266\113\346\020\227\307\373\000\023
\131\266\166\313
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\241\362\371\265\322\310\172\164\270\363\005\361\327\341\204\215
END
CKA_ISSUER MULTILINE_OCTAL
\060\125\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156
\040\103\101\040\114\151\155\151\164\145\144\061\052\060\050\006
\003\125\004\003\023\041\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\157\146
\040\127\157\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\136\150\326\021\161\224\143\120\126\000\150\363\076\311
\305\221
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "CA "
# Issuer: CN=CA ,O=WoSign CA Limited,C=CN
# Serial Number:50:70:6b:cd:d8:13:fc:1b:4e:3b:33:72:d2:11:48:8d
# Subject: CN=CA ,O=WoSign CA Limited,C=CN
# Not Valid Before: Sat Aug 08 01:00:01 2009
# Not Valid After: Mon Aug 08 01:00:01 2039
# Fingerprint (MD5): 78:83:5b:52:16:76:c4:24:3b:83:78:e8:ac:da:9a:93
# Fingerprint (SHA1): 16:32:47:8d:89:f9:21:3a:92:00:85:63:f5:a4:a7:d3:12:40:8a:d6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA "
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156

```

\040\103\101\040\114\151\155\151\164\145\144\061\033\060\031\006
\003\125\004\003\014\022\103\101\040\346\262\203\351\200\232\346
\240\271\350\257\201\344\271\246

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156
\040\103\101\040\114\151\155\151\164\145\144\061\033\060\031\006
\003\125\004\003\014\022\103\101\040\346\262\203\351\200\232\346
\240\271\350\257\201\344\271\246

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\120\160\153\315\330\023\374\033\116\073\063\162\322\021
\110\215

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\130\060\202\003\100\240\003\002\001\002\002\020\120
\160\153\315\330\023\374\033\116\073\063\162\322\021\110\215\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\106
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\032\060
\030\006\003\125\004\012\023\021\127\157\123\151\147\156\040\103
\101\040\114\151\155\151\164\145\144\061\033\060\031\006\003\125
\004\003\014\022\103\101\040\346\262\203\351\200\232\346\240\271
\350\257\201\344\271\246\060\036\027\015\060\071\060\070\060\070
\060\061\060\060\060\061\132\027\015\063\071\060\070\060\070\060
\061\060\060\060\061\132\060\106\061\013\060\011\006\003\125\004
\006\023\002\103\116\061\032\060\030\006\003\125\004\012\023\021
\127\157\123\151\147\156\040\103\101\040\114\151\155\151\164\145
\144\061\033\060\031\006\003\125\004\003\014\022\103\101\040\346
\262\203\351\200\232\346\240\271\350\257\201\344\271\246\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\320
\111\041\036\045\374\207\301\052\302\254\333\166\206\006\116\347
\320\164\064\334\355\145\065\374\120\326\210\077\244\360\177\353
\017\137\171\057\211\261\375\274\143\130\067\223\233\070\370\267
\133\251\372\330\161\307\264\274\200\227\215\154\113\361\120\325
\052\051\252\250\031\172\226\346\225\216\164\355\227\012\127\165
\364\005\333\155\013\071\271\001\177\252\366\326\332\154\346\005
\340\244\115\122\374\333\320\164\267\021\214\173\215\117\377\207
\203\256\377\005\003\023\127\120\067\376\214\226\122\020\114\137
\277\224\161\151\331\226\076\014\103\117\276\060\300\237\071\164
\117\006\105\135\243\326\126\071\150\007\314\207\117\120\167\223
\161\331\104\010\261\212\064\351\211\254\333\233\116\341\331\344
\122\105\214\056\024\037\221\153\031\035\150\051\054\126\304\342
\036\023\127\144\360\141\343\271\021\337\260\341\127\240\033\255
\327\137\321\257\333\053\055\077\320\150\216\017\352\237\017\213
\065\130\033\023\034\364\336\065\241\012\135\326\352\337\022\157

\300\373\151\007\106\162\334\201\366\004\043\027\340\115\165\341
\162\157\260\050\353\233\341\341\203\241\237\112\135\257\314\233
\372\002\040\266\030\142\167\221\073\243\325\145\255\334\174\220
\167\034\104\101\244\112\213\353\225\162\351\366\011\144\334\250
\055\237\164\170\350\301\242\011\143\234\357\240\333\117\235\225
\253\040\117\267\260\367\207\134\246\240\344\067\070\307\134\343
\065\017\054\255\243\200\242\354\056\135\300\317\355\213\005\302
\346\163\156\366\211\325\365\322\106\216\352\155\143\033\036\212
\311\175\246\370\234\353\345\325\143\205\115\163\146\151\021\376
\310\016\364\301\307\146\111\123\176\344\031\153\361\351\172\131
\243\155\176\305\027\346\047\306\357\033\333\157\374\015\115\006
\001\264\016\134\060\106\125\140\257\070\145\072\312\107\272\254
\054\314\106\037\262\106\226\077\363\355\046\005\356\167\241\152
\153\176\055\155\130\134\112\324\216\147\270\361\332\325\106\212
\047\371\021\362\311\102\376\116\336\337\037\134\304\244\206\207
\026\063\241\247\027\030\245\015\344\005\345\053\302\053\013\242
\225\220\271\375\140\074\116\211\076\347\234\356\037\273\001\002
\003\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\340\115\277\334\233\101\135\023\350\144\360\247
\351\025\244\341\201\301\272\061\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\003\202\002\001\000\152\212\160\070
\131\266\332\213\030\310\276\052\323\266\031\325\146\051\172\135
\315\133\057\163\034\046\116\243\175\157\253\267\051\115\246\351
\245\021\203\247\071\163\257\020\104\222\346\045\135\117\141\372
\310\006\276\116\113\357\376\363\061\376\306\174\160\012\101\130
\332\350\231\113\226\311\170\274\230\174\002\051\355\011\200\346
\012\072\202\002\052\342\311\057\310\126\031\046\356\170\034\043
\375\367\223\145\116\347\363\230\230\257\315\335\331\236\100\210
\061\050\072\253\056\013\260\254\014\044\372\172\046\230\363\022
\141\020\364\135\027\367\176\342\170\227\124\342\214\350\051\272
\214\020\062\275\335\063\153\070\206\176\071\075\016\003\162\247
\135\171\217\105\212\131\256\133\041\156\061\106\325\131\215\317
\025\137\335\061\045\317\333\140\326\201\104\162\051\002\127\366
\226\324\326\377\352\051\333\071\305\270\054\212\032\215\316\313
\347\102\061\206\005\150\016\236\024\335\000\220\272\151\105\010
\333\156\220\201\206\247\052\005\077\346\204\071\370\267\371\127
\137\114\244\171\132\020\014\136\325\153\377\065\137\005\121\036
\154\243\165\251\317\120\203\323\174\364\146\367\202\215\075\014
\175\350\337\173\250\016\033\054\234\256\100\160\207\332\355\247
\026\202\132\276\065\154\040\116\042\141\331\274\121\172\315\172
\141\334\113\021\371\376\147\064\317\056\004\146\141\134\127\227
\043\214\363\206\033\110\337\052\257\247\301\377\330\216\076\003
\273\330\052\260\372\024\045\262\121\153\206\103\205\056\007\043
\026\200\215\114\373\264\143\073\314\303\164\355\033\243\036\376
\065\017\137\174\035\026\206\365\016\303\225\361\057\257\135\045
\073\121\346\327\166\101\070\321\113\003\071\050\245\036\221\162

```
\324\175\253\227\063\304\323\076\340\151\266\050\171\240\011\215
\034\321\377\101\162\110\006\374\232\056\347\040\371\233\242\336
\211\355\256\074\011\257\312\127\263\222\211\160\100\344\057\117
\302\160\203\100\327\044\054\153\347\011\037\323\325\307\301\010
\364\333\016\073\034\007\013\103\021\204\041\206\351\200\324\165
\330\253\361\002\142\301\261\176\125\141\317\023\327\046\260\327
\234\313\051\213\070\112\013\016\220\215\272\241
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "CA "

Issuer: CN=CA ,O=WoSign CA Limited,C=CN

Serial Number:50:70:6b:cd:d8:13:fc:1b:4e:3b:33:72:d2:11:48:8d

Subject: CN=CA ,O=WoSign CA Limited,C=CN

Not Valid Before: Sat Aug 08 01:00:01 2009

Not Valid After: Mon Aug 08 01:00:01 2039

Fingerprint (MD5): 78:83:5b:52:16:76:c4:24:3b:83:78:e8:ac:da:9a:93

Fingerprint (SHA1): 16:32:47:8d:89:f9:21:3a:92:00:85:63:f5:a4:a7:d3:12:40:8a:d6

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "CA "
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\026\062\107\215\211\371\041\072\222\000\205\143\365\244\247\323
\022\100\212\326
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\170\203\133\122\026\166\304\044\073\203\170\350\254\332\232\223
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\106\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\032\060\030\006\003\125\004\012\023\021\127\157\123\151\147\156
\040\103\101\040\114\151\155\151\164\145\144\061\033\060\031\006
\003\125\004\003\014\022\103\101\040\346\262\203\351\200\232\346
\240\271\350\257\201\344\271\246
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\120\160\153\315\330\023\374\033\116\073\063\162\322\021
\110\215
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "SSC GDL CA Root B"
# Issuer: CN=SSC GDL CA Root B,OU=CA ROOT Services,O=Skaitmeninio sertifikavimo centras,C=LT
# Serial Number:3e:8c:4f:bc:e4:29:83:82:4d:84:55:8e:d5:35:80:cf
# Subject: CN=SSC GDL CA Root B,OU=CA ROOT Services,O=Skaitmeninio sertifikavimo centras,C=LT
# Not Valid Before: Tue Jun 04 14:20:15 2013
# Not Valid After: Sat Jun 04 14:21:55 2033
# Fingerprint (MD5): ca:b5:ab:b2:55:7b:93:36:32:53:23:ed:79:27:30:4a
# Fingerprint (SHA1): c8:60:a3:18:fc:f5:b7:13:0b:10:07:ad:7f:61:4a:40:ff:ff:18:5f
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSC GDL CA Root B"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\114\124\061
\053\060\051\006\003\125\004\012\023\042\123\153\141\151\164\155
\145\156\151\156\151\157\040\163\145\162\164\151\146\151\153\141
\166\151\155\157\040\143\145\156\164\162\141\163\061\031\060\027
\006\003\125\004\013\023\020\103\101\040\122\117\117\124\040\123
\145\162\166\151\143\145\163\061\032\060\030\006\003\125\004\003
\023\021\123\123\103\040\107\104\114\040\103\101\040\122\157\157
\164\040\102
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\114\124\061
\053\060\051\006\003\125\004\012\023\042\123\153\141\151\164\155
\145\156\151\156\151\157\040\163\145\162\164\151\146\151\153\141
\166\151\155\157\040\143\145\156\164\162\141\163\061\031\060\027
\006\003\125\004\013\023\020\103\101\040\122\117\117\124\040\123
\145\162\166\151\143\145\163\061\032\060\030\006\003\125\004\003
\023\021\123\123\103\040\107\104\114\040\103\101\040\122\157\157
\164\040\102
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\076\214\117\274\344\051\203\202\115\204\125\216\325\065
\200\317
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\256\060\202\003\226\240\003\002\001\002\002\020\076
\214\117\274\344\051\203\202\115\204\125\216\325\065\200\317\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\161
\061\013\060\011\006\003\125\004\006\023\002\114\124\061\053\060
\051\006\003\125\004\012\023\042\123\153\141\151\164\155\145\156
\151\156\151\157\040\163\145\162\164\151\146\151\153\141\166\151
```

\155\157\040\143\145\156\164\162\141\163\061\031\060\027\006\003
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\065\132\027\015\063\063\060\066\060\064\061\064\062\061\065\065
\132\060\161\061\013\060\011\006\003\125\004\006\023\002\114\124
\061\053\060\051\006\003\125\004\012\023\042\123\153\141\151\164
\155\145\156\151\156\151\157\040\163\145\162\164\151\146\151\153
\141\166\151\155\157\040\143\145\156\164\162\141\163\061\031\060
\027\006\003\125\004\013\023\020\103\101\040\122\117\117\124\040
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\003\023\021\123\123\103\040\107\104\114\040\103\101\040\122\157
\157\164\040\102\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
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\360\203\216\123\274\266\313\316\272\163\333\117\047\366\042\220
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\001\327\113\137\122\322\331\031\307\155\174\014\251\072\011\142
\344\052\030\151\214\240\335\353\254\023\266\016\071\021\200\151
\116\143\137\334\074\015\372\331\214\142\276\144\205\062\062\131
\227\120\223\211\337\373\377\324\330\145\161\307\106\125\242\033
\231\141\037\334\120\000\310\027\171\350\120\260\014\136\346\376
\166\246\001\116\011\310\160\154\372\220\263\136\334\075\007\315
\111\243\116\126\136\022\117\144\101\177\176\014\025\303\240\336
\263\243\051\006\111\104\241\137\157\077\201\240\104\115\360\173
\012\070\050\355\022\356\143\227\303\173\135\214\117\161\335\225
\072\332\056\250\001\106\012\363\154\350\265\361\037\010\000\361
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\021\244\117\063\314\011\333\331\321\041\113\222\104\254\316\170
\142\202\027\373\372\022\264\175\325\362\206\355\364\176\226\024
\346\215\003\122\257\315\027\242\325\034\245\376\201\246\232\355
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\357\314\262\241\140\356\212\133\271\145\333\177\033\232\054\217
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\232\275\322\154\127\274\203\246\110\037\054\125\007\011\064\053
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\353\110\127\207\241\366\376\043\372\064\253\211\365\150\033\216
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\034\134\260\117\320\003\101\023\372\013\123\346\301\020\002\110
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\053\336\101\041\007\033\207\365\100\035\160\255\317\375\302\103
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\253\261\356\042\142\113\131\037\177\376\032\145\255\115\342\244
\021\077\023\041\264\330\065\213\166\100\246\137\275\063\021\337
\230\343\041\136\035\243\273\170\066\002\073\330\375\144\204\332
\067\315\131\355\374\014\320\164\244\153\161\074\066\022\104\236
\176\156\117\012\041\034\145\037\113\022\154\277\216\162\326\335
\076\000\160\230\001\105\053\354\225\220\343\323\151\070\347\053
\235\176\145\131\133\341\333\205\312\143\376\253\277\344\320\375
\344\122\272\032\346\376\306\220\272\173\316\361\244\142\305\107
\276\044\307\240\172\345\041\341\306\010\340\014\211\203\217\200
\151\375\356\240\337\172\114\072\323\110\052\026\277\256\246\225
\265\335\150\037\373\016\265\005\214\321\262\104\174\140\060\126
\166\027\265\065\117\250\325\012\353\302\265\156\002\356\234\137
\016\243\261\001\250\345\123\157\176\203\101\037\025\330\377\341
\302\266\032\361\106\234\144\240\032\340\112\312\270\246\264\211
\044\356\173\225\231\142\324\342\100\273\316\243\232\175\035\162
\363\033\201\101\167\000\136\354\074\242\060\005\074\315\174\110
\066\023\310\062\260\153\157\237\070\050\070\151\134\173\346\342
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\147\175\005\117\364\040\357\044\045\136\355\147\103\306\373\156
\171\373\262\362\310\311\316\101\174\005\340\255\213\315\012\105
\056\342\142\237\227\221\364\371\143\354\362\302\140\212\334\033
\377\041\250\377\043\207\214\163\215\260\072\314\037\217\061\162
\012\375\226\241\337\032\123\323\066\266\260\167\106\336\003\366
\302\200\056\157\227\043\341\021\314\121\230\077\356\100\377\364
\075\233\210\177\214\273\341\131\206\275\011\064\047\134\236\012
\223\062\073\125\052\251\136\013\015\017\251\246\121\004\342\233
\052\021

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "SSC GDL CA Root B"

Issuer: CN=SSC GDL CA Root B,OU=CA ROOT Services,O=Skaitmeninio sertifikavimo centras,C=LT

Serial Number:3e:8c:4f:bc:e4:29:83:82:4d:84:55:8e:d5:35:80:cf

Subject: CN=SSC GDL CA Root B,OU=CA ROOT Services,O=Skaitmeninio sertifikavimo centras,C=LT

```

# Not Valid Before: Tue Jun 04 14:20:15 2013
# Not Valid After: Sat Jun 04 14:21:55 2033
# Fingerprint (MD5): ca:b5:ab:b2:55:7b:93:36:32:53:23:ed:79:27:30:4a
# Fingerprint (SHA1): c8:60:a3:18:fc:f5:b7:13:0b:10:07:ad:7f:61:4a:40:ff:ff:18:5f
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSC GDL CA Root B"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\310\140\243\030\374\365\267\023\013\020\007\255\177\141\112\100
\377\377\030\137
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\312\265\253\262\125\173\223\066\062\123\043\355\171\047\060\112
END
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\114\124\061
\053\060\051\006\003\125\004\012\023\042\123\153\141\151\164\155
\145\156\151\156\151\157\040\163\145\162\164\151\146\151\153\141
\166\151\155\157\040\143\145\156\164\162\141\163\061\031\060\027
\006\003\125\004\013\023\020\103\101\040\122\117\117\124\040\123
\145\162\166\151\143\145\163\061\032\060\030\006\003\125\004\003
\023\021\123\123\103\040\107\104\114\040\103\101\040\122\157\157
\164\040\102
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\076\214\117\274\344\051\203\202\115\204\125\216\325\065
\200\317
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "SAPO Class 2 Root CA"
# Issuer: 1.2.840.113549.1.9.1=pkiadmin@trustcentre.co.za,CN=SAPO Class 2 Root CA,OU=SAPO Trust
Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA
# Serial Number: 1 (0x1)
# Subject: 1.2.840.113549.1.9.1=pkiadmin@trustcentre.co.za,CN=SAPO Class 2 Root CA,OU=SAPO Trust
Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA
# Not Valid Before: Wed Sep 15 00:00:00 2010
# Not Valid After: Sat Sep 14 00:00:00 2030
# Fingerprint (MD5): 0a:7b:e7:df:15:44:93:ed:92:72:42:1a:28:4b:0c:ee
# Fingerprint (SHA1): e4:55:01:60:8a:a1:ef:89:e2:7b:8c:d3:c3:b3:4c:03:b0:38:e6:d7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```



```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SAPO Class 2 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007
\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
\101\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146
\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
\003\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164
\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\062\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
\164\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172
\141
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CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
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\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
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\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
\101\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146
\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
\003\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164
\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\062\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
\164\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172
\141
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\130\060\202\003\100\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101\061
\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145\162
\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007\023
\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061\052
\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040\101
```

\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146\151
\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006\003
\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164\040
\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003\023
\024\123\101\120\117\040\103\154\141\163\163\040\062\040\122\157
\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206\367
\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100\164
\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172\141
\060\036\027\015\061\060\060\071\061\065\060\060\060\060\060
\132\027\015\063\060\060\071\061\064\060\060\060\060\060\132
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007
\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
\101\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146
\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
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\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\062\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
\164\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172
\141\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\267\174\151\174\140\365\154\046\364\252\034\027\177\135
\324\021\113\347\363\332\347\163\247\372\244\102\111\150\077\332
\245\100\134\006\150\137\116\314\275\276\201\070\044\055\314\046
\240\104\155\003\313\043\340\273\336\205\123\113\224\137\137\173
\252\310\032\227\376\327\043\223\355\260\152\275\330\374\000\076
\263\222\004\340\113\276\117\073\230\247\235\355\315\143\360\201
\347\154\230\324\154\140\125\000\345\271\074\346\064\225\135\340
\375\161\207\351\377\201\356\345\167\157\030\377\363\311\174\245
\225\335\202\334\024\331\242\341\276\315\047\163\273\105\133\077
\164\261\142\170\146\020\042\054\365\150\363\027\210\026\073\232
\033\035\373\024\256\015\272\362\220\125\242\325\060\326\053\225
\062\307\071\156\173\145\322\167\070\316\156\126\245\331\043\253
\070\262\073\121\205\300\035\033\267\021\057\005\151\107\330\002
\312\222\250\341\063\336\205\010\233\355\220\325\330\041\231\161
\277\266\365\163\357\147\010\230\144\322\362\052\172\113\041\026
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\035\023\004\005\060\003\001\001\377\060\035\006\003\125\035\016
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\367\015\001\001\005\005\000\003\202\001\001\000\126\122\121\271
\017\002\341\366\056\234\261\061\132\246\370\316\274\356\002\204

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\142\236\325\206\107\051\356\164\060\354\114\165\265\036\343\252
\063\357\255\341\152\114\277\067\001\276\125\203\114\251\122\330
\067\230\120\157\150\335\107\101\267\054\060\310\156\114\007\054
\306\323\111\271\265\134\322\313\314\324\066\306\007\015\030\117
\077\143\000\304\354\266\210\373\001\144\143\255\321\367\167\174
\144\124\053\022\075\064\025\205\360\240\272\171\051\137\230\233
\102\352\256\301\250\237\023\211\212\155\351\270\070\311\141\355
\140\354\367\052\130\005\233\241\140\170\203\027\341\176\137\350
\375\170\340\153\126\052\206\166\256\133\302\136\353\105\344\060
\270\061\355\144\261\135\056\300\075\200\015\307\047\023\323\166
\342\206\373\334\333\200\012\201\341\375\010\371\013\304\061\264
\143\133\347\214\063\345\006\266\122\152\263\327\351\153\343\062
\170\062\146\224\116\335\215\167\155\323\044\050\133\124\141\167
\002\147\165\224\113\127\113\346\154\305\071\157
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "SAPO Class 2 Root CA"

Issuer: 1.2.840.113549.1.9.1=pkiadmin@trustcentre.co.za,CN=SAPO Class 2 Root CA,OU=SAPO Trust Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA

Serial Number: 1 (0x1)

Subject: 1.2.840.113549.1.9.1=pkiadmin@trustcentre.co.za,CN=SAPO Class 2 Root CA,OU=SAPO Trust Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA

Not Valid Before: Wed Sep 15 00:00:00 2010

Not Valid After: Sat Sep 14 00:00:00 2030

Fingerprint (MD5): 0a:7b:e7:df:15:44:93:ed:92:72:42:1a:28:4b:0c:ee

Fingerprint (SHA1): e4:55:01:60:8a:a1:ef:89:e2:7b:8c:d3:c3:b3:4c:03:b0:38:e6:d7

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SAPO Class 2 Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\344\125\001\140\212\241\357\211\342\173\214\323\303\263\114\003
\260\070\346\327
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\012\173\347\337\025\104\223\355\222\162\102\032\050\113\014\356
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007
\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
```

```
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
\101\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146
\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
\003\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164
\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\062\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
\164\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172
\141
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\001
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "SAPO Class 3 Root CA"

Issuer: 1.2.840.113549.1.9.1=pkiaadmin@trustcentre.co.za,CN=SAPO Class 3 Root CA,OU=SAPO Trust Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA

Serial Number: 2 (0x2)

Subject: 1.2.840.113549.1.9.1=pkiaadmin@trustcentre.co.za,CN=SAPO Class 3 Root CA,OU=SAPO Trust Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA

Not Valid Before: Wed Sep 15 00:00:00 2010

Not Valid After: Sat Sep 14 00:00:00 2030

Fingerprint (MD5): 54:e5:eb:35:d1:75:05:3c:7c:df:30:d6:bf:f3:ff:53

Fingerprint (SHA1): 38:dd:76:59:c7:35:10:0b:00:a2:37:e4:91:b7:bc:0f:fc:d2:31:6c

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SAPO Class 3 Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007
\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
\101\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146
\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
\003\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164
\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\063\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
```

\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
\164\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172
\141
END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007
\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
\101\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146
\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
\003\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164
\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\063\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
\164\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172
\141
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\002

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\130\060\202\004\100\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101\061
\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145\162
\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007\023
\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061\052
\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040\101
\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146\151
\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006\003
\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164\040
\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003\023
\024\123\101\120\117\040\103\154\141\163\163\040\063\040\122\157
\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206\367
\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100\164
\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172\141
\060\036\027\015\061\060\060\071\061\065\060\060\060\060\060
\132\027\015\063\060\060\071\061\064\060\060\060\060\060\060\132
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007
\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
\101\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146

\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
\003\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164
\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\063\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
\164\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172
\141\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\312\170\032\007\274\366\373\264\267\211\274\320\031\126
\070\052\131\235\007\352\032\371\370\370\150\147\136\217\357\312
\367\365\152\211\346\243\225\177\251\333\051\044\034\065\320\070
\226\154\076\126\044\377\136\142\121\220\056\207\350\234\307\332
\274\063\361\236\241\157\013\216\012\044\364\370\115\220\246\262
\315\136\021\323\302\227\114\365\137\100\035\046\044\115\215\011
\020\013\377\273\040\033\223\046\031\014\103\077\351\216\274\061
\067\020\156\221\312\110\202\126\106\307\274\271\072\236\106\201
\146\317\331\350\134\020\317\071\236\145\303\236\305\132\364\113
\314\104\231\146\206\364\162\033\243\123\111\352\256\107\315\062
\015\160\346\240\240\166\007\235\377\130\357\344\074\221\300\265
\344\334\270\001\014\323\376\263\102\240\073\141\002\324\067\133
\327\114\105\225\322\165\135\365\156\060\137\127\121\213\262\377
\176\310\213\234\252\243\101\067\014\020\221\250\246\205\134\271
\307\217\005\121\262\320\170\322\342\113\111\351\324\032\247\073
\254\252\063\346\232\052\003\100\230\157\164\122\023\061\224\321
\022\301\264\313\060\371\377\104\270\222\133\122\326\060\331\063
\321\165\343\031\245\026\025\267\124\127\361\126\120\316\116\276
\003\073\057\354\266\060\356\024\140\136\137\172\065\364\116\144
\007\021\352\245\007\146\033\156\223\342\260\117\136\326\340\104
\340\263\334\256\357\270\375\250\263\354\354\345\071\210\104\264
\241\273\024\140\144\217\326\222\223\313\363\314\120\335\351\007
\310\147\147\371\360\207\204\221\262\000\142\351\277\112\025\164
\305\277\004\114\005\106\135\012\313\345\352\141\000\341\157\101
\261\064\216\246\000\242\174\246\245\246\372\154\114\103\345\250
\046\232\064\230\036\207\230\347\114\170\321\217\237\005\125\135
\212\113\311\317\240\013\175\006\220\234\030\222\262\304\262\327
\343\105\331\153\163\303\227\071\277\051\036\006\011\125\100\272
\274\332\110\165\103\355\376\104\176\075\054\346\142\221\003\375
\075\211\357\176\364\135\044\217\245\013\053\263\076\172\051\050
\274\273\077\277\353\167\205\004\046\213\224\262\220\365\353\215
\117\242\104\042\120\250\234\052\104\110\000\170\031\253\235\010
\226\025\002\003\001\000\001\243\077\060\075\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\014\006\003\125
\035\023\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\141\263\171\122\235\112\225\222\121\216\202\044
\160\323\216\100\310\305\146\320\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\002\001\000\177\306\263\044
\204\120\067\371\304\260\305\060\074\026\351\120\015\172\272\264

\073\322\043\345\351\211\170\152\345\343\033\005\036\221\034\316
\006\227\215\146\026\007\104\357\201\271\010\176\243\307\071\064
\270\277\232\155\215\260\301\040\102\056\015\367\013\006\003\117
\156\313\274\267\260\057\031\161\215\216\257\012\115\130\061\213
\104\231\052\050\146\205\307\200\046\146\260\107\302\071\262\372
\117\076\125\275\334\211\047\113\163\063\004\376\173\107\220\311
\005\300\055\063\370\267\010\202\051\101\103\375\046\123\346\372
\037\067\126\215\117\027\272\330\375\072\204\160\330\076\360\063
\256\304\005\110\124\241\271\325\041\077\352\076\307\251\061\107
\367\233\256\112\142\230\321\147\040\145\336\171\341\261\062\036
\153\337\373\200\153\107\134\071\307\016\010\252\307\243\356\051
\351\064\342\233\371\165\270\046\353\210\235\264\071\021\056\160
\375\121\004\062\273\017\171\204\120\041\105\174\057\344\331\377
\045\070\006\043\253\116\261\016\334\073\061\012\255\332\113\000
\151\153\056\342\303\014\311\005\001\105\146\341\245\211\141\034
\144\231\215\013\230\220\263\176\146\073\013\330\253\350\165\016
\331\177\232\156\175\311\203\047\311\274\350\064\070\302\132\207
\062\162\007\014\376\325\224\321\360\300\170\362\200\250\106\365
\153\232\354\342\331\026\216\212\372\204\366\321\122\311\234\262
\041\126\140\103\246\020\367\177\111\277\276\007\323\120\144\155
\002\272\052\125\054\317\331\302\156\257\174\013\110\320\361\341
\247\302\255\164\217\206\344\355\252\372\134\203\175\102\350\175
\007\035\007\125\314\053\151\062\271\167\202\150\306\167\362\042
\151\246\311\012\135\207\231\345\161\236\175\057\023\036\322\364
\375\011\171\047\130\053\012\207\201\052\373\152\043\055\113\044
\205\164\026\107\030\017\011\305\376\251\110\044\343\254\320\151
\075\137\123\230\062\275\354\340\121\301\123\112\261\366\073\360
\064\110\365\232\336\334\321\340\343\275\045\263\104\350\072\163
\311\171\320\254\321\355\342\000\012\137\241\035\146\131\112\163
\150\324\005\162\063\070\247\153\257\221\333\015\307\214\100\350
\236\220\210\311\373\376\044\327\201\254\363\336

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "SAPO Class 3 Root CA"

Issuer: 1.2.840.113549.1.9.1=pkiadmin@trustcentre.co.za,CN=SAPO Class 3 Root CA,OU=SAPO Trust
Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA

Serial Number: 2 (0x2)

Subject: 1.2.840.113549.1.9.1=pkiadmin@trustcentre.co.za,CN=SAPO Class 3 Root CA,OU=SAPO Trust
Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA

Not Valid Before: Wed Sep 15 00:00:00 2010

Not Valid After: Sat Sep 14 00:00:00 2030

Fingerprint (MD5): 54:e5:eb:35:d1:75:05:3c:7c:df:30:d6:bf:f3:ff:53

Fingerprint (SHA1): 38:dd:76:59:c7:35:10:0b:00:a2:37:e4:91:b7:bc:0f:fc:d2:31:6c

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SAPO Class 3 Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\070\335\166\131\307\065\020\013\000\242\067\344\221\267\274\017
\374\322\061\154
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\124\345\353\065\321\165\005\074\174\337\060\326\277\363\377\123
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007
\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
\101\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146
\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
\003\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164
\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\063\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
\164\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172
\141
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "SAPO Class 4 Root CA"
# Issuer: 1.2.840.113549.1.9.1=pkiaadmin@trustcentre.co.za,CN=SAPO Class 4 Root CA,OU=SAPO Trust
Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA
# Serial Number: 3 (0x3)
# Subject: 1.2.840.113549.1.9.1=pkiaadmin@trustcentre.co.za,CN=SAPO Class 4 Root CA,OU=SAPO Trust
Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA
# Not Valid Before: Wed Sep 15 00:00:00 2010
# Not Valid After: Sat Sep 14 00:00:00 2030
# Fingerprint (MD5): f8:a7:f6:89:94:8c:61:f7:43:98:36:df:22:82:9b:3b
# Fingerprint (SHA1): 20:a8:f5:ff:c4:3a:f4:a9:bc:89:88:1e:bf:99:20:ff:91:e9:fd:0a
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```



```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SAPO Class 4 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007
\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
\101\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146
\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
\003\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164
\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\064\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
\164\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172
\141
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007
\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
\101\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146
\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
\003\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164
\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\064\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
\164\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172
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\002\001\003
END
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\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101\061
\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145\162
\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007\023
\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061\052
\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040\101
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\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206\367
\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100\164
\162\165\163\164\143\145\156\164\162\145\056\143\157\056\172\141
\060\036\027\015\061\060\060\071\061\065\060\060\060\060\060
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\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007
\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
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\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
\003\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164
\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\064\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
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\141\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
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\001\000\333\334\355\110\232\240\243\237\340\021\216\331\310\222
\165\072\125\301\121\042\312\013\172\244\065\015\305\346\127\055
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\202\075\105\060\100\045\034\356\130\107\101\346\360\236\000\036
\370\364\057\021\273\222\262\230\105\055\323\037\200\311\166\024
\023\303\314\100\346\255\353\071\140\374\317\310\337\052\375\214
\022\121\357\317\014\144\306\127\350\043\121\135\347\146\122\352
\146\275\223\177\235\172\050\361\031\160\156\204\237\060\107\267
\260\071\153\023\054\353\113\115\056\257\077\277\375\002\023\112
\071\347\076\063\305\020\221\121\276\017\107\235\115\122\374\054
\363\343\023\242\000\202\341\024\014\315\322\236\263\362\340\201
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\101\314\206\261\232\204\113\012\052\135\233\226\341\315\372\253
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\055\175\036\103\373\334\155\265\271\070\275\005\373\130\372\056
\323\354\136\144\055\257\130\001\112\174\042\106\323\101\313\075
\344\226\136\111\103\070\273\211\353\364\234\151\071\022\003\134
\204\273\345\214\036\352\340\146\273\300\277\214\376\236\012\115
\075\150\077\100\166\326\062\251\352\105\270\152\007\122\216\315

\121\361\135\050\143\014\323\131\070\374\311\375\202\311\105\040
\274\346\350\314\242\014\313\173\144\071\111\106\105\365\163\034
\152\227\040\353\041\102\367\264\040\122\267\112\375\165\274\313
\017\014\147\021\127\037\367\060\361\253\220\314\135\074\226\005
\142\323\312\125\001\113\106\305\200\207\034\162\320\163\124\041
\352\327\243\234\323\256\177\324\123\331\050\374\127\336\345\077
\122\112\273\310\046\044\107\123\034\163\272\317\306\264\060\315
\136\161\307\126\274\111\070\045\346\305\020\011\170\331\324\035
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\216\033\002\003\001\000\001\243\077\060\075\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\014\006\003\125
\035\023\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\026\204\055\373\033\347\264\036\150\230\323\102
\040\032\156\176\117\221\127\002\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\002\001\000\173\343\015\143
\072\144\040\155\314\374\054\270\351\326\253\333\327\253\046\051
\107\242\014\126\355\165\314\225\231\122\066\313\040\373\021\064
\027\102\116\165\005\260\330\344\270\260\204\057\230\031\271\373
\320\071\154\162\006\030\311\134\212\172\164\010\067\110\151\375
\042\241\135\305\327\170\023\360\050\102\101\303\311\303\071\011
\007\324\241\370\067\042\151\344\337\062\125\157\302\174\271\223
\361\262\067\165\314\256\322\063\226\214\066\367\001\355\343\144
\351\013\150\133\020\252\001\066\231\174\317\232\224\135\375\032
\131\141\242\145\025\175\236\027\144\324\237\123\230\001\375\161
\127\320\135\100\021\026\077\077\104\322\257\311\374\010\062\175
\166\370\325\103\350\334\066\150\007\303\116\303\226\227\127\306
\175\066\136\333\160\255\376\256\324\210\235\265\244\140\326\243
\142\276\174\371\064\036\374\273\364\112\162\305\203\036\106\150
\303\016\227\203\030\075\323\016\012\021\065\174\151\225\305\253
\052\365\310\071\020\115\014\211\060\051\211\111\033\104\227\221
\364\352\145\041\033\077\012\103\162\202\034\155\021\135\340\042
\105\137\141\114\242\246\372\337\243\106\272\341\201\140\154\062
\264\374\344\334\066\005\344\063\367\353\217\167\111\252\215\012
\357\110\212\346\101\227\176\073\253\103\207\362\010\140\013\157
\327\131\146\375\053\273\057\316\063\117\162\340\266\327\263\123
\127\211\360\073\274\156\342\020\277\163\076\142\217\245\010\351
\123\147\301\116\301\056\102\103\247\262\244\371\026\213\102\356
\334\064\177\110\263\220\333\044\342\310\344\123\065\123\234\352
\067\205\317\277\230\006\065\107\046\327\256\155\335\204\251\143
\130\046\101\365\165\062\056\141\236\117\223\122\122\366\132\043
\353\301\240\163\046\045\042\102\221\221\221\200\117\377\210\316
\136\163\347\226\302\355\011\022\367\166\226\251\171\142\220\111
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END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "SAPO Class 4 Root CA"

Issuer: 1.2.840.113549.1.9.1=pkiadmin@trustcentre.co.za,CN=SAPO Class 4 Root CA,OU=SAPO Trust Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA

Serial Number: 3 (0x3)

Subject: 1.2.840.113549.1.9.1=pkiadmin@trustcentre.co.za,CN=SAPO Class 4 Root CA,OU=SAPO Trust Centre,O=South African Post Office Limited,L=Somerset West,ST=Western Cape,C=ZA

Not Valid Before: Wed Sep 15 00:00:00 2010

Not Valid After: Sat Sep 14 00:00:00 2030

Fingerprint (MD5): f8:a7:f6:89:94:8c:61:f7:43:98:36:df:22:82:9b:3b

Fingerprint (SHA1): 20:a8:f5:ff:c4:3a:f4:a9:bc:89:88:1e:bf:99:20:ff:91:e9:fd:0a

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SAPO Class 4 Root CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\040\250\365\377\304\072\364\251\274\211\210\036\277\231\040\377
\221\351\375\012

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\370\247\366\211\224\214\141\367\103\230\066\337\042\202\233\073

END

CKA_ISSUER MULTILINE_OCTAL

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\162\156\040\103\141\160\145\061\026\060\024\006\003\125\004\007
\023\015\123\157\155\145\162\163\145\164\040\127\145\163\164\061
\052\060\050\006\003\125\004\012\023\041\123\157\165\164\150\040
\101\146\162\151\143\141\156\040\120\157\163\164\040\117\146\146
\151\143\145\040\114\151\155\151\164\145\144\061\032\060\030\006
\003\125\004\013\023\021\123\101\120\117\040\124\162\165\163\164
\040\103\145\156\164\162\145\061\035\060\033\006\003\125\004\003
\023\024\123\101\120\117\040\103\154\141\163\163\040\064\040\122
\157\157\164\040\103\101\061\051\060\047\006\011\052\206\110\206
\367\015\001\011\001\026\032\160\153\151\141\144\155\151\156\100
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\141

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\003

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Certificate "CA Disig Root R1"
Issuer: CN=CA Disig Root R1,O=Disig a.s.,L=Bratislava,C=SK
Serial Number:c3:03:9a:ee:50:90:6e:28
Subject: CN=CA Disig Root R1,O=Disig a.s.,L=Bratislava,C=SK
Not Valid Before: Thu Jul 19 09:06:56 2012
Not Valid After: Sat Jul 19 09:06:56 2042
Fingerprint (MD5): be:ec:11:93:9a:f5:69:21:bc:d7:c1:c0:67:89:cc:2a
Fingerprint (SHA1): 8e:1c:74:f8:a6:20:b9:e5:8a:f4:61:fa:ec:2b:47:56:51:1a:52:c6

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig Root R1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL
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\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
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\164\040\122\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\303\003\232\356\120\220\156\050

END

CKA_VALUE MULTILINE_OCTAL

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\004\006\023\002\123\113\061\023\060\021\006\003\125\004\007\023
\012\102\162\141\164\151\163\154\141\166\141\061\023\060\021\006
\003\125\004\012\023\012\104\151\163\151\147\040\141\056\163\056
\061\031\060\027\006\003\125\004\003\023\020\103\101\040\104\151
\163\151\147\040\122\157\157\164\040\122\061\060\036\027\015\061
\062\060\067\061\071\060\071\060\066\065\066\132\027\015\064\062

\060\067\061\071\060\071\060\066\065\066\132\060\122\061\013\060
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040
\141\056\163\056\061\031\060\027\006\003\125\004\003\023\020\103
\101\040\104\151\163\151\147\040\122\157\157\164\040\122\061\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\252\303\170\367\334\230\243\247\132\136\167\030\262\335\004\144
\017\143\375\233\226\011\200\325\350\252\245\342\234\046\224\072
\350\231\163\214\235\337\327\337\203\363\170\117\100\341\177\322
\247\322\345\312\023\223\347\355\306\167\137\066\265\224\257\350
\070\216\333\233\345\174\273\314\215\353\165\163\341\044\315\346
\247\055\031\056\330\326\212\153\024\353\010\142\012\330\334\263
\000\115\303\043\174\137\103\010\043\062\022\334\355\014\255\300
\175\017\245\172\102\331\132\160\331\277\247\327\001\034\366\233
\253\216\267\112\206\170\240\036\126\061\256\357\202\012\200\101
\367\033\311\256\253\062\046\324\054\153\355\175\153\344\342\136
\042\012\105\313\204\061\115\254\376\333\321\107\272\371\140\227
\071\261\145\307\336\373\231\344\012\042\261\055\115\345\110\046
\151\253\342\252\363\373\374\222\051\062\351\263\076\115\037\047
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\377\041\350\131\006\340\010\325\204\025\123\367\103\345\174\305
\240\211\230\153\163\306\150\316\145\336\275\177\005\367\261\356
\366\127\241\140\225\305\314\352\223\072\276\231\256\233\002\243
\255\311\026\265\316\335\136\231\170\176\032\071\176\262\300\005
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\063\135\145\370\101\371\056\313\224\077\037\243\014\061\044\104
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\372\227\262\144\166\332\253\364\355\343\303\140\357\325\371\002
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\004\005\307\130\254\137\026\033\345\322\243\353\061\333\037\063
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\252\362\346\115\233\111\345\305\050\241\272\260\132\306\240\265
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\305\130\030\146\115\202\332\325\334\223\300\047\341\276\174\237
\122\236\022\126\366\325\234\251\364\165\234\372\067\022\217\034
\223\354\127\376\007\017\253\325\022\367\017\256\141\136\126\200
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\355\272\266\213\036\004\157\226\040\071\355\244\175\051\333\110
\316\202\334\324\002\215\035\004\061\132\307\113\360\154\141\122
\327\264\121\302\201\154\315\341\373\247\241\322\222\166\317\261
\017\067\130\244\362\122\161\147\077\014\210\170\200\211\301\310
\265\037\222\143\276\247\172\212\126\054\032\250\246\234\265\135
\263\143\320\023\040\241\353\221\154\320\215\175\257\337\013\344
\027\271\206\236\070\261\224\014\130\214\340\125\252\073\143\155
\232\211\140\270\144\052\222\306\067\364\176\103\103\267\163\350
\001\347\177\227\017\327\362\173\031\375\032\327\217\311\372\205
\153\172\235\236\211\266\246\050\231\223\210\100\367\076\315\121
\243\312\352\357\171\107\041\265\376\062\342\307\303\121\157\276
\200\164\360\244\303\072\362\117\351\137\337\031\012\362\073\023
\103\254\061\244\263\347\353\374\030\326\001\251\363\052\217\066
\016\353\264\261\274\267\114\311\153\277\241\363\331\364\355\342
\360\343\355\144\236\075\057\226\122\117\200\123\213

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "CA Disig Root R1"
Issuer: CN=CA Disig Root R1,O=Disig a.s.,L=Bratislava,C=SK
Serial Number:c3:03:9a:ee:50:90:6e:28
Subject: CN=CA Disig Root R1,O=Disig a.s.,L=Bratislava,C=SK
Not Valid Before: Thu Jul 19 09:06:56 2012
Not Valid After: Sat Jul 19 09:06:56 2042
Fingerprint (MD5): be:ec:11:93:9a:f5:69:21:bc:d7:c1:c0:67:89:cc:2a
Fingerprint (SHA1): 8e:1c:74:f8:a6:20:b9:e5:8a:f4:61:fa:ec:2b:47:56:51:1a:52:c6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "CA Disig Root R1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\216\034\164\370\246\040\271\345\212\364\141\372\354\053\107\126
\121\032\122\306
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\276\354\021\223\232\365\151\041\274\327\301\300\147\211\314\052
END
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\303\003\232\356\120\220\156\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Autoridad Certificadora Raíz Nacional de Uruguay"
# Issuer: C=UY,O=AGESIC,CN=Autoridad Certificadora Raíz Nacional de Uruguay
# Serial Number:02:ee:00:9b:66:d8:6a:1d:67:fe:da:8a:25:6f:21:5a:75:1b
# Subject: C=UY,O=AGESIC,CN=Autoridad Certificadora Raíz Nacional de Uruguay
# Not Valid Before: Thu Nov 03 15:02:49 2011
# Not Valid After: Wed Oct 29 15:02:49 2031
# Fingerprint (MD5): 7b:b7:e7:2e:64:18:e4:11:0c:f7:42:78:3e:65:a2:ae
# Fingerprint (SHA1): 7a:1c:dd:e3:d2:19:7e:71:37:43:3d:3f:99:c0:b3:69:f7:06:c7:49
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad Certificadora Raíz Nacional de Uruguay"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\072\060\070\006\003\125\004\003\014\061\101\165\164
\157\162\151\144\141\144\040\103\145\162\164\151\146\151\143\141
\144\157\162\141\040\122\141\303\255\172\040\116\141\143\151\157
\156\141\154\040\144\145\040\125\162\165\147\165\141\171\061\017
\060\015\006\003\125\004\012\023\006\101\107\105\123\111\103\061
\013\060\011\006\003\125\004\006\023\002\125\131
END
CKA_ID UTF8 "0"

```


CKA_ISSUER MULTILINE_OCTAL

\060\132\061\072\060\070\006\003\125\004\003\014\061\101\165\164
\157\162\151\144\141\144\040\103\145\162\164\151\146\151\143\141
\144\157\162\141\040\122\141\303\255\172\040\116\141\143\151\157
\156\141\154\040\144\145\040\125\162\165\147\165\141\171\061\017
\060\015\006\003\125\004\012\023\006\101\107\105\123\111\103\061
\013\060\011\006\003\125\004\006\023\002\125\131

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\022\002\356\000\233\146\330\152\035\147\376\332\212\045\157
\041\132\165\033

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\235\060\202\004\205\240\003\002\001\002\002\022\002
\356\000\233\146\330\152\035\147\376\332\212\045\157\041\132\165
\033\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\060\132\061\072\060\070\006\003\125\004\003\014\061\101\165\164
\157\162\151\144\141\144\040\103\145\162\164\151\146\151\143\141
\144\157\162\141\040\122\141\303\255\172\040\116\141\143\151\157
\156\141\154\040\144\145\040\125\162\165\147\165\141\171\061\017
\060\015\006\003\125\004\012\023\006\101\107\105\123\111\103\061
\013\060\011\006\003\125\004\006\023\002\125\131\060\036\027\015
\061\061\061\061\060\063\061\065\060\062\064\071\132\027\015\063
\061\061\060\062\071\061\065\060\062\064\071\132\060\132\061\072
\060\070\006\003\125\004\003\014\061\101\165\164\157\162\151\144
\141\144\040\103\145\162\164\151\146\151\143\141\144\157\162\141
\040\122\141\303\255\172\040\116\141\143\151\157\156\141\154\040
\144\145\040\125\162\165\147\165\141\171\061\017\060\015\006\003
\125\004\012\023\006\101\107\105\123\111\103\061\013\060\011\006
\003\125\004\006\023\002\125\131\060\202\002\040\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\015\000
\060\202\002\010\002\202\002\001\000\227\304\037\052\104\241\201
\113\110\221\165\335\353\332\217\312\033\213\362\264\074\054\306
\345\364\301\036\321\270\060\023\157\134\237\345\121\226\177\032
\244\026\376\322\324\035\045\366\320\346\067\140\137\000\243\031
\251\354\047\277\120\055\005\240\134\136\223\353\343\150\375\233
\075\271\024\066\055\347\045\025\020\220\032\222\311\021\261\051
\227\223\126\125\142\255\107\254\177\325\014\167\226\322\223\150
\152\061\335\124\357\223\362\012\117\240\137\002\132\357\266\104
\076\347\231\262\216\105\336\240\367\300\350\110\260\107\354\336
\102\024\333\065\173\240\151\374\036\300\001\051\026\332\063\241
\041\241\062\062\020\166\175\250\307\300\056\163\203\144\374\132
\367\233\066\214\151\355\040\125\043\171\315\363\363\154\153\140
\134\170\215\374\075\205\054\274\251\367\160\350\245\312\115\330
\174\230\357\206\166\030\204\325\100\051\020\047\062\347\357\003
\104\013\117\311\052\361\266\264\053\240\325\003\224\204\041\323
\164\363\051\155\170\360\005\152\256\001\017\141\037\306\245\360
\307\202\025\331\073\373\335\213\164\151\356\344\307\307\364\021

\334\024\121\301\204\032\045\126\023\153\133\316\137\054\375\213
\033\055\017\310\300\125\252\030\117\230\234\317\242\167\010\264
\065\225\330\271\213\234\111\016\264\020\013\374\374\107\115\324
\232\127\371\237\172\275\351\127\273\264\017\137\025\220\330\150
\154\325\205\045\203\055\206\014\107\142\227\263\171\115\271\145
\010\167\122\157\112\343\156\200\300\254\243\325\274\352\111\342
\145\342\114\131\152\202\336\053\365\252\076\376\145\350\121\160
\115\067\204\006\004\077\222\203\324\126\050\343\045\325\124\312
\205\356\126\300\056\316\371\160\020\022\137\135\236\306\274\113
\020\035\126\155\312\162\301\123\011\052\023\075\330\265\371\034
\073\105\306\207\024\320\070\176\236\041\137\374\166\035\377\013
\051\102\333\241\304\171\071\341\115\325\206\120\343\362\340\263
\327\131\233\336\077\036\032\003\363\324\151\206\113\107\034\062
\177\074\007\011\023\020\247\233\007\060\167\063\274\151\021\321
\064\075\174\020\052\270\036\216\275\107\336\371\262\171\125\146
\041\002\007\373\071\054\012\027\241\002\001\003\243\202\001\135
\060\202\001\131\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\142\006\003\125\035\037\004\133\060\131
\060\054\240\052\240\050\206\046\150\164\164\160\072\057\057\167
\167\167\056\141\147\145\163\151\143\056\147\165\142\056\165\171
\057\141\143\162\156\057\141\143\162\156\056\143\162\154\060\051
\240\047\240\045\206\043\150\164\164\160\072\057\057\167\167\167
\056\165\143\145\056\147\165\142\056\165\171\057\141\143\162\156
\057\141\143\162\156\056\143\162\154\060\201\262\006\003\125\035
\040\004\201\252\060\201\247\060\134\006\013\140\206\132\204\342
\256\035\204\210\005\000\060\115\060\113\006\010\053\006\001\005
\005\007\002\001\026\077\150\164\164\160\072\057\057\167\167\167
\056\165\143\145\056\147\165\142\056\165\171\057\151\156\146\157
\162\155\141\143\151\157\156\055\164\145\143\156\151\143\141\057
\160\157\154\151\164\151\143\141\163\057\143\160\137\141\143\162
\156\056\160\144\146\060\107\006\013\140\206\132\204\342\256\035
\204\210\005\001\060\070\060\066\006\010\053\006\001\005\005\007
\002\001\026\052\150\164\164\160\072\057\057\167\167\167\056\141
\147\145\163\151\143\056\147\165\142\056\165\171\057\141\143\162
\156\057\143\160\163\137\141\143\162\156\056\160\144\146\060\035
\006\003\125\035\016\004\026\004\024\222\236\221\270\125\050\075
\167\102\054\063\245\230\137\320\311\254\215\265\243\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001
\000\135\347\253\131\352\111\334\277\106\103\375\224\273\230\160
\224\024\372\316\003\135\361\175\061\023\222\116\205\044\060\024
\153\154\323\347\316\346\171\325\333\116\125\116\027\053\327\223
\105\337\023\014\047\147\035\307\102\220\124\060\306\361\250\151
\050\264\116\246\155\245\065\246\120\226\150\111\243\356\057\013
\253\374\003\002\120\150\361\225\051\076\161\054\334\332\345\055
\331\166\056\356\126\063\176\027\241\047\002\341\241\047\050\041
\212\277\001\347\142\307\273\262\045\004\332\033\246\043\214\174
\223\272\311\213\353\012\371\067\267\224\071\375\115\217\176\242

\334\201\157\033\255\024\017\133\040\003\170\101\163\147\236\322
\227\027\220\052\212\124\113\247\171\177\044\022\221\237\073\054
\307\067\244\014\134\162\152\023\236\062\011\047\353\103\062\165
\137\327\107\303\052\105\123\025\126\166\117\273\011\350\204\140
\021\357\163\325\347\120\156\151\050\375\353\306\313\312\116\023
\143\015\016\067\054\061\037\333\247\130\240\262\375\015\027\207
\263\222\256\033\050\200\037\266\222\176\206\021\341\366\114\230
\177\146\213\037\023\111\003\102\374\373\230\234\356\206\226\251
\056\005\176\160\034\301\167\310\351\135\202\270\016\316\133\144
\005\143\356\077\006\055\066\014\351\037\162\133\036\254\335\046
\365\034\070\156\375\214\075\115\206\353\047\313\312\003\215\100
\363\052\321\212\330\064\016\302\255\265\210\355\207\232\212\205
\242\207\357\351\271\070\347\150\226\243\001\317\202\075\034\113
\050\235\047\365\371\231\226\173\110\375\254\320\360\062\367\070
\004\335\115\231\256\016\222\202\303\372\074\033\023\307\150\267
\135\340\223\106\270\270\270\244\014\304\033\306\272\106\226\335
\236\125\017\107\235\366\201\245\254\145\131\330\335\256\006\154
\340\103\202\306\147\330\160\002\065\365\066\004\343\112\071\251
\165\002\036\346\077\106\317\234\054\036\204\210\027\252\046\251
\246\103\200\340\300\133\243\144\203\233\232\355\153\001\145\266
\301\075\030\354\223\031\146\224\250\323\021\120\231\172\210\175
\257\076\177\224\220\073\012\303\152\267\215\137\322\247\121\321
\062\037\271\362\062\175\167\223\155\103\354\101\151\253\317\311
\141

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Autoridad Certificadora Raíz Nacional de Uruguay"
Issuer: C=UY,O=AGESIC,CN=Autoridad Certificadora Raíz Nacional de Uruguay
Serial Number:02:ee:00:9b:66:d8:6a:1d:67:fe:da:8a:25:6f:21:5a:75:1b
Subject: C=UY,O=AGESIC,CN=Autoridad Certificadora Raíz Nacional de Uruguay
Not Valid Before: Thu Nov 03 15:02:49 2011
Not Valid After: Wed Oct 29 15:02:49 2031
Fingerprint (MD5): 7b:b7:e7:2e:64:18:e4:11:0c:f7:42:78:3e:65:a2:ae
Fingerprint (SHA1): 7a:1c:dd:e3:d2:19:7e:71:37:43:3d:3f:99:c0:b3:69:f7:06:c7:49
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad Certificadora Raíz Nacional de Uruguay"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\172\034\335\343\322\031\176\161\067\103\075\077\231\300\263\151
\367\006\307\111
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL

\173\267\347\056\144\030\344\021\014\367\102\170\076\145\242\256

END

CKA_ISSUER MULTILINE_OCTAL

\060\132\061\072\060\070\006\003\125\004\003\014\061\101\165\164
\157\162\151\144\141\144\040\103\145\162\164\151\146\151\143\141
\144\157\162\141\040\122\141\303\255\172\040\116\141\143\151\157
\156\141\154\040\144\145\040\125\162\165\147\165\141\171\061\017
\060\015\006\003\125\004\012\023\006\101\107\105\123\111\103\061
\013\060\011\006\003\125\004\006\023\002\125\131

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\022\002\356\000\233\146\330\152\035\147\376\332\212\045\157
\041\132\165\033

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "ApplicationCA2 Root"

Issuer: CN=ApplicationCA2 Root,OU=GPKI,O=Japanese Government,C=JP

Serial Number:31:32:35:33:37:32:38:32:38:32:38

Subject: CN=ApplicationCA2 Root,OU=GPKI,O=Japanese Government,C=JP

Not Valid Before: Tue Mar 12 15:00:00 2013

Not Valid After: Sat Mar 12 15:00:00 2033

Fingerprint (MD5): 7b:4c:15:74:3b:54:96:07:aa:95:3b:60:10:23:cf:f3

Fingerprint (SHA1): f0:0f:c3:7d:6a:1c:92:61:fb:6b:c1:c2:18:49:8c:5a:a4:dc:51:fb

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ApplicationCA2 Root"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\034\060\032\006\003\125\004\012\023\023\112\141\160\141\156\145
\163\145\040\107\157\166\145\162\156\155\145\156\164\061\015\060
\013\006\003\125\004\013\023\004\107\120\113\111\061\034\060\032
\006\003\125\004\003\023\023\101\160\160\154\151\143\141\164\151
\157\156\103\101\062\040\122\157\157\164

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\034\060\032\006\003\125\004\012\023\023\112\141\160\141\156\145
\163\145\040\107\157\166\145\162\156\155\145\156\164\061\015\060
\013\006\003\125\004\013\023\004\107\120\113\111\061\034\060\032

\006\003\125\004\003\023\023\101\160\160\154\151\143\141\164\151
\157\156\103\101\062\040\122\157\157\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\013\061\062\065\063\067\062\070\062\070\062\070

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\367\060\202\002\337\240\003\002\001\002\002\013\061
\062\065\063\067\062\070\062\070\062\070\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\130\061\013\060\011\006
\003\125\004\006\023\002\112\120\061\034\060\032\006\003\125\004
\012\023\023\112\141\160\141\156\145\163\145\040\107\157\166\145
\162\156\155\145\156\164\061\015\060\013\006\003\125\004\013\023
\004\107\120\113\111\061\034\060\032\006\003\125\004\003\023\023
\101\160\160\154\151\143\141\164\151\157\156\103\101\062\040\122
\157\157\164\060\036\027\015\061\063\060\063\061\062\061\065\060\060
\060\060\060\132\027\015\063\063\060\063\061\062\061\065\060\060
\060\060\132\060\130\061\013\060\011\006\003\125\004\006\023\002
\112\120\061\034\060\032\006\003\125\004\012\023\023\112\141\160
\141\156\145\163\145\040\107\157\166\145\162\156\155\145\156\164
\061\015\060\013\006\003\125\004\013\023\004\107\120\113\111\061
\034\060\032\006\003\125\004\003\023\023\101\160\160\154\151\143
\141\164\151\157\156\103\101\062\040\122\157\157\164\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\246\252
\255\045\145\326\000\021\326\350\172\166\252\364\346\264\113\363
\314\303\122\264\215\254\246\117\265\222\161\157\106\265\325\255
\213\022\042\027\045\316\105\350\024\172\205\232\344\043\020\250
\372\261\147\120\345\155\107\340\152\211\023\343\256\256\065\361
\364\102\305\005\367\115\227\176\074\050\374\260\046\221\036\214
\036\070\032\226\334\130\104\227\142\343\062\310\321\025\101\115
\165\230\170\276\253\150\251\136\355\107\276\244\272\216\241\002
\227\336\223\164\231\155\147\264\005\045\356\224\310\355\252\244
\272\062\154\102\021\353\276\313\027\006\220\341\223\205\310\144
\050\316\037\107\307\300\135\140\356\166\066\334\063\073\121\353
\173\317\162\330\017\170\250\031\202\010\220\076\032\230\215\216
\264\317\025\066\246\156\335\267\342\115\100\040\123\331\166\052
\320\170\254\211\360\117\213\062\155\104\352\056\272\260\251\353
\211\335\267\157\171\017\253\201\156\270\346\213\051\013\131\257
\266\111\015\121\054\251\375\235\050\143\146\270\160\225\163\232
\330\372\073\063\274\102\102\033\062\254\261\062\373\075\002\003
\001\000\001\243\201\301\060\201\276\060\035\006\003\125\035\016
\004\026\004\024\126\247\254\252\002\035\262\254\075\220\016\240
\157\056\101\306\166\347\173\332\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\174\006\003\125\035\021\004
\165\060\163\244\161\060\157\061\013\060\011\006\003\125\004\006
\023\002\112\120\061\030\060\026\006\003\125\004\012\014\017\346
\227\245\346\234\254\345\233\275\346\224\277\345\272\234\061\033

\060\031\006\003\125\004\013\014\022\346\224\277\345\272\234\350
\252\215\350\250\274\345\237\272\347\233\244\061\051\060\047\006
\003\125\004\003\014\040\343\202\242\343\203\227\343\203\252\343
\202\261\343\203\274\343\202\267\343\203\247\343\203\263\103\101
\062\040\122\157\157\164\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\001\001\000\177\232\011\165\254
\007\321\162\164\056\167\127\060\302\004\234\324\200\246\203\347
\245\240\033\237\376\253\363\200\275\325\112\243\241\217\266\114
\140\021\347\312\341\140\201\327\110\301\040\131\245\141\062\213
\235\236\227\323\146\203\332\145\056\130\076\333\345\057\245\315
\214\163\246\121\276\130\050\240\171\134\151\057\103\337\143\262
\211\107\312\273\336\271\064\021\143\240\016\045\027\345\207\364
\035\260\260\245\317\101\250\164\306\350\123\325\102\364\202\055
\123\011\021\150\046\161\224\165\023\115\252\166\210\074\164\261
\326\343\114\117\142\303\111\114\116\155\361\160\176\303\177\246
\005\314\170\233\351\201\333\250\310\307\134\236\374\222\222\055
\246\227\362\070\265\156\163\225\014\300\077\316\246\224\060\265
\372\005\267\336\236\040\252\374\023\144\311\212\272\144\357\342
\143\344\330\230\256\153\265\076\246\125\270\063\076\054\162\373
\054\021\000\373\133\026\057\204\322\023\236\372\005\305\301\313
\162\116\042\335\204\312\113\274\322\055\206\032\004\166\131\037
\111\102\142\073\023\037\026\350\272\327\375

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "ApplicationCA2 Root"
Issuer: CN=ApplicationCA2 Root,OU=GPKI,O=Japanese Government,C=JP
Serial Number:31:32:35:33:37:32:38:32:38:32:38
Subject: CN=ApplicationCA2 Root,OU=GPKI,O=Japanese Government,C=JP
Not Valid Before: Tue Mar 12 15:00:00 2013
Not Valid After: Sat Mar 12 15:00:00 2033
Fingerprint (MD5): 7b:4c:15:74:3b:54:96:07:aa:95:3b:60:10:23:cf:f3
Fingerprint (SHA1): f0:0f:c3:7d:6a:1c:92:61:fb:6b:c1:c2:18:49:8c:5a:a4:dc:51:fb
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ApplicationCA2 Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\360\017\303\175\152\034\222\141\373\153\301\302\030\111\214\132
\244\334\121\373
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\173\114\025\164\073\124\226\007\252\225\073\140\020\043\317\363

```
END
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\034\060\032\006\003\125\004\012\023\023\112\141\160\141\156\145
\163\145\040\107\157\166\145\162\156\155\145\156\164\061\015\060
\013\006\003\125\004\013\023\004\107\120\113\111\061\034\060\032
\006\003\125\004\003\023\023\101\160\160\154\151\143\141\164\151
\157\156\103\101\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\061\062\065\063\067\062\070\062\070\062\070
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "GlobalSign"
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Serial Number:2a:38:a4:1c:96:0a:04:de:42:b2:28:a5:0b:e8:34:98:02
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Not Valid Before: Tue Nov 13 00:00:00 2012
# Not Valid After: Tue Jan 19 03:14:07 2038
# Fingerprint (MD5): 20:f0:27:68:d1:7e:a0:9d:0e:e6:2a:ca:df:5c:89:8e
# Fingerprint (SHA1): 69:69:56:2e:40:80:f4:24:a1:e7:19:9f:14:ba:f3:ee:58:ab:6a:bb
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
```

```
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\052\070\244\034\226\012\004\336\102\262\050\245\013\350
\064\230\002

END

CKA_VALUE MULTILINE_OCTAL

\060\202\001\341\060\202\001\207\240\003\002\001\002\002\021\052
\070\244\034\226\012\004\336\102\262\050\245\013\350\064\230\002
\060\012\006\010\052\206\110\316\075\004\003\002\060\120\061\044
\060\042\006\003\125\004\013\023\033\107\154\157\142\141\154\123
\151\147\156\040\105\103\103\040\122\157\157\164\040\103\101\040
\055\040\122\064\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156\060\036
\027\015\061\062\061\061\061\063\060\060\060\060\060\132\027
\015\063\070\060\061\061\071\060\063\061\064\060\067\132\060\120
\061\044\060\042\006\003\125\004\013\023\033\107\154\157\142\141
\154\123\151\147\156\040\105\103\103\040\122\157\157\164\040\103
\101\040\055\040\122\064\061\023\060\021\006\003\125\004\012\023
\012\107\154\157\142\141\154\123\151\147\156\061\023\060\021\006
\003\125\004\003\023\012\107\154\157\142\141\154\123\151\147\156
\060\131\060\023\006\007\052\206\110\316\075\002\001\006\010\052
\206\110\316\075\003\001\007\003\102\000\004\270\306\171\323\217
\154\045\016\237\056\071\031\034\003\244\256\232\345\071\007\011
\026\312\143\261\271\206\370\212\127\301\127\316\102\372\163\241
\367\145\102\377\036\301\000\262\156\163\016\377\307\041\345\030
\244\252\331\161\077\250\324\271\316\214\035\243\102\060\100\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\124\260\173\255\105
\270\342\100\177\373\012\156\373\276\063\311\074\243\204\325\060
\012\006\010\052\206\110\316\075\004\003\002\003\110\000\060\105
\002\041\000\334\222\241\240\023\246\317\003\260\346\304\041\227
\220\372\024\127\055\003\354\356\074\323\156\312\250\154\166\274
\242\336\273\002\040\047\250\205\047\065\233\126\306\243\362\107
\322\267\156\033\002\000\027\252\147\246\025\221\336\372\224\354
\173\013\370\237\204

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "GlobalSign"

Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

Serial Number:2a:38:a4:1c:96:0a:04:de:42:b2:28:a5:0b:e8:34:98:02

Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

Not Valid Before: Tue Nov 13 00:00:00 2012


```

# Not Valid After: Tue Jan 19 03:14:07 2038
# Fingerprint (MD5): 20:f0:27:68:d1:7e:a0:9d:0e:e6:2a:ca:df:5c:89:8e
# Fingerprint (SHA1): 69:69:56:2e:40:80:f4:24:a1:e7:19:9f:14:ba:f3:ee:58:ab:6a:bb
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\151\151\126\056\100\200\364\044\241\347\031\237\024\272\363\356
\130\253\152\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\040\360\047\150\321\176\240\235\016\346\052\312\337\134\211\216
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\052\070\244\034\226\012\004\336\102\262\050\245\013\350
\064\230\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "Symantec Class 3 Public Primary Certification Authority - G6"
# Issuer: CN=Symantec Class 3 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Serial Number:65:63:71:85:d3:6f:45:c6:8f:7f:31:f9:09:87:92:82
# Subject: CN=Symantec Class 3 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Not Valid Before: Thu Oct 18 00:00:00 2012
# Not Valid After: Tue Dec 01 23:59:59 2037
# Fingerprint (MD5): 8d:d1:96:24:c4:4c:8f:5d:26:f4:6c:8d:52:41:1a:c6
# Fingerprint (SHA1): 26:a1:6c:23:5a:24:72:22:9b:23:62:80:25:bc:80:97:c8:85:24:a1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 3 Public Primary Certification Authority - G6"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\063\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\063\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\145\143\161\205\323\157\105\306\217\177\061\371\011\207
\222\202

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\366\060\202\003\336\240\003\002\001\002\002\020\145
\143\161\205\323\157\105\306\217\177\061\371\011\207\222\202\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145
\143\040\103\154\141\163\163\040\063\040\120\165\142\154\151\143
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\066\060\036\027\015\061\062\061\060\061\070\060
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141

\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\063
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\267\016\262
\372\115\274\232\162\025\373\167\133\333\375\103\017\313\013\367
\140\056\263\053\176\014\273\123\362\314\116\145\363\031\273\377
\065\035\367\323\251\273\100\055\265\335\170\324\246\371\067\352
\205\005\173\155\267\346\023\113\006\174\373\166\143\217\040\035
\055\070\053\004\205\362\350\260\321\137\115\112\041\311\152\330
\224\352\036\002\120\246\252\220\007\240\107\041\352\146\371\004
\240\346\203\360\304\365\136\226\342\047\115\141\303\263\301\214
\042\266\146\241\000\321\126\051\373\355\301\177\044\312\075\372
\132\224\260\204\303\307\272\103\034\375\144\016\361\050\373\107
\131\362\046\341\061\271\104\371\253\335\373\276\276\054\067\343
\254\013\030\323\374\001\242\361\244\012\065\202\107\114\253\275
\212\136\337\023\205\374\040\314\110\131\257\257\101\157\313\043
\315\312\223\247\335\325\137\310\144\073\377\001\003\240\012\117
\055\156\075\204\276\257\310\062\262\123\051\220\025\367\260\005
\232\012\074\366\271\006\220\311\245\341\135\240\073\260\376\250
\266\277\365\211\050\127\044\072\041\206\161\344\334\212\213\101
\125\354\036\060\044\131\321\300\131\270\170\257\252\132\164\336
\045\200\060\230\355\060\104\157\041\160\034\333\022\123\016\326
\246\050\146\223\054\037\314\117\074\033\201\305\271\366\170\157
\320\062\072\010\162\333\153\016\106\027\205\224\363\274\357\274
\367\244\136\216\351\351\265\144\345\267\113\105\022\054\114\067
\267\140\103\012\115\161\006\000\224\046\065\164\037\273\172\071
\134\116\073\346\270\003\342\307\223\213\204\054\045\111\105\335
\177\043\224\140\037\313\351\315\366\253\227\367\141\347\373\177
\142\201\310\334\012\060\134\030\174\346\316\357\307\156\036\207
\174\263\351\312\310\173\152\364\150\374\203\245\014\126\264\272
\262\215\112\012\307\227\227\305\210\060\025\075\020\010\124\025
\162\162\147\063\063\364\174\267\316\000\047\123\145\316\044\361
\132\144\347\066\057\362\056\002\302\227\337\162\350\002\036\240
\367\075\265\373\150\140\003\372\063\251\346\022\155\006\341\251
\250\135\116\074\376\331\347\000\145\254\266\031\115\173\203\177
\064\107\352\341\030\155\261\213\034\171\253\347\235\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\071\161\010\000\076\336\310\206\347\220\377\344\375\041
\017\316\044\031\026\366\060\015\006\011\052\206\110\206\367\015
\001\001\014\005\000\003\202\002\001\000\120\153\210\115\140\110
\316\132\343\042\316\147\174\204\247\315\034\375\351\014\003\214

\066\257\012\207\016\152\256\127\256\001\320\066\273\362\375\271
\163\301\137\265\250\256\114\242\372\111\313\007\106\026\066\275
\343\310\127\070\176\070\344\277\045\063\140\306\334\067\234\143
\273\136\230\036\032\262\202\360\256\246\167\021\200\104\107\241
\051\305\360\263\072\316\230\360\270\354\323\016\200\006\167\043
\060\114\377\171\144\143\042\133\167\223\103\113\165\263\333\073
\156\073\112\335\361\310\256\265\067\212\225\210\072\020\150\160
\070\271\133\160\176\325\103\311\374\137\117\345\346\173\066\356
\360\040\355\107\127\023\046\020\136\024\006\015\173\166\007\302
\306\055\026\364\256\247\154\017\274\210\017\117\054\002\266\243
\327\042\346\231\107\065\330\215\245\117\201\022\072\021\175\263
\314\013\165\363\036\160\243\033\003\352\372\232\350\346\056\066
\071\314\231\316\072\077\014\267\256\370\103\231\260\223\156\157
\252\331\017\152\061\221\273\234\323\264\050\373\203\114\172\163
\202\120\147\322\016\254\355\140\305\262\135\065\230\317\207\176
\036\131\035\044\274\126\272\332\244\132\330\314\346\274\036\020
\217\033\214\216\363\301\333\267\276\324\260\133\145\217\026\150
\363\126\305\052\031\026\115\017\270\145\207\155\044\203\270\142
\334\340\107\141\032\210\173\316\116\177\375\334\306\015\132\232
\244\363\265\114\366\335\061\246\350\035\021\041\063\060\004\141
\175\034\340\076\117\215\077\265\213\022\000\132\175\251\241\000
\324\203\353\160\273\030\370\244\322\034\201\055\267\010\021\310
\046\173\266\324\345\017\003\106\162\324\045\100\036\276\111\135
\155\223\361\134\262\073\165\124\151\072\240\356\114\042\272\254
\232\342\010\255\105\143\005\112\122\065\166\304\064\365\136\007
\062\255\334\174\046\321\133\217\255\344\346\252\033\165\237\353
\135\264\350\300\251\025\174\116\112\007\162\337\106\311\324\221
\222\165\126\260\341\356\067\066\145\050\305\025\310\053\166\314
\155\157\031\203\364\375\332\025\342\101\347\063\171\106\203\127
\371\361\245\266\155\323\274\327\123\347\356\161\155\170\251\227
\247\356\040\234\031\025\162\025\075\004

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Symantec Class 3 Public Primary Certification Authority - G6"
Issuer: CN=Symantec Class 3 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Serial Number:65:63:71:85:d3:6f:45:c6:8f:7f:31:f9:09:87:92:82
Subject: CN=Symantec Class 3 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Not Valid Before: Thu Oct 18 00:00:00 2012
Not Valid After: Tue Dec 01 23:59:59 2037
Fingerprint (MD5): 8d:d1:96:24:c4:4c:8f:5d:26:f4:6c:8d:52:41:1a:c6
Fingerprint (SHA1): 26:a1:6c:23:5a:24:72:22:9b:23:62:80:25:bc:80:97:c8:85:24:a1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 3 Public Primary Certification Authority - G6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\046\241\154\043\132\044\162\042\233\043\142\200\045\274\200\227
\310\205\044\241
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\215\321\226\044\304\114\217\135\046\364\154\215\122\101\032\306
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\063\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\145\143\161\205\323\157\105\306\217\177\061\371\011\207
\222\202
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Symantec Class 3 Public Primary Certification Authority - G4"
# Issuer: CN=Symantec Class 3 Public Primary Certification Authority - G4,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Serial Number:4c:79:b5:9a:28:9c:76:31:64:f5:89:44:d0:91:02:de
# Subject: CN=Symantec Class 3 Public Primary Certification Authority - G4,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Not Valid Before: Thu Oct 18 00:00:00 2012
# Not Valid After: Tue Dec 01 23:59:59 2037
# Fingerprint (MD5): 36:c9:b7:4b:6c:b0:21:4c:c7:11:17:b1:18:fe:2b:4d
# Fingerprint (SHA1): 58:d5:2d:b9:33:01:a4:fd:29:1a:8c:96:45:a0:8f:ee:7f:52:92:82
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 3 Public Primary Certification Authority - G4"
```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\063\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\064

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\063\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\114\171\265\232\050\234\166\061\144\365\211\104\320\221
\002\336

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\247\060\202\002\055\240\003\002\001\002\002\020\114
\171\265\232\050\234\166\061\144\365\211\104\320\221\002\336\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\224\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\035\060\033\006
\003\125\004\012\023\024\123\171\155\141\156\164\145\143\040\103
\157\162\160\157\162\141\164\151\157\156\061\037\060\035\006\003
\125\004\013\023\026\123\171\155\141\156\164\145\143\040\124\162
\165\163\164\040\116\145\164\167\157\162\153\061\105\060\103\006
\003\125\004\003\023\074\123\171\155\141\156\164\145\143\040\103
\154\141\163\163\040\063\040\120\165\142\154\151\143\040\120\162
\151\155\141\162\171\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\064\060\036\027\015\061\062\061\060\061\070\060\060\060\060
\060\060\132\027\015\063\067\061\062\060\061\062\063\065\071\065
\071\132\060\201\224\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\035\060\033\006\003\125\004\012\023\024\123\171\155
\141\156\164\145\143\040\103\157\162\160\157\162\141\164\151\157

\156\061\037\060\035\006\003\125\004\013\023\026\123\171\155\141
\156\164\145\143\040\124\162\165\163\164\040\116\145\164\167\157
\162\153\061\105\060\103\006\003\125\004\003\023\074\123\171\155
\141\156\164\145\143\040\103\154\141\163\163\040\063\040\120\165
\142\154\151\143\040\120\162\151\155\141\162\171\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\055\040\107\064\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\127\317\352\263\071\115\077\241\041\340\156\057\070\162\306
\207\227\363\205\013\107\347\017\121\310\321\364\231\233\312\131
\145\377\114\371\352\013\267\045\325\322\366\354\061\055\062\142
\022\327\166\206\247\372\070\311\145\324\376\163\342\204\071\370
\114\111\142\023\335\272\325\210\240\137\075\310\117\260\077\217
\241\120\021\344\223\106\255\303\137\313\361\244\152\225\126\350
\300\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\044\235\274\322\161\367\035\302\045\276\042\361\211\245\054
\025\073\064\036\136\060\012\006\010\052\206\110\316\075\004\003
\003\003\150\000\060\145\002\061\000\271\146\150\145\333\005\320
\070\175\016\363\310\165\141\270\320\050\304\261\112\063\121\130
\373\362\074\020\310\256\107\170\166\312\146\044\027\206\076\120
\126\156\245\055\231\210\270\275\044\002\060\003\352\247\347\250
\074\352\235\142\306\137\124\332\230\364\167\275\117\217\030\234
\221\134\107\153\100\115\020\035\263\341\211\312\013\042\310\032
\305\305\376\213\335\301\337\157\170\237\221

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "Symantec Class 3 Public Primary Certification Authority - G4"

Issuer: CN=Symantec Class 3 Public Primary Certification Authority - G4,OU=Symantec Trust
Network,O=Symantec Corporation,C=US

Serial Number:4c:79:b5:9a:28:9c:76:31:64:f5:89:44:d0:91:02:de

Subject: CN=Symantec Class 3 Public Primary Certification Authority - G4,OU=Symantec Trust
Network,O=Symantec Corporation,C=US

Not Valid Before: Thu Oct 18 00:00:00 2012

Not Valid After: Tue Dec 01 23:59:59 2037

Fingerprint (MD5): 36:c9:b7:4b:6c:b0:21:4c:c7:11:17:b1:18:fe:2b:4d

Fingerprint (SHA1): 58:d5:2d:b9:33:01:a4:fd:29:1a:8c:96:45:a0:8f:ee:7f:52:92:82

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Symantec Class 3 Public Primary Certification Authority - G4"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\130\325\055\271\063\001\244\375\051\032\214\226\105\240\217\356

\177\122\222\202

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\066\311\267\113\154\260\041\114\307\021\027\261\030\376\053\115

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156

\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061

\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164

\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153

\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156

\164\145\143\040\103\154\141\163\163\040\063\040\120\165\142\154

\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151

\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151

\164\171\040\055\040\107\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\114\171\265\232\050\234\166\061\144\365\211\104\320\221

\002\336

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Halcom Root CA"

Issuer: CN=Halcom Root CA,O=Halcom,C=SI

Serial Number: 504275 (0x7b1d3)

Subject: CN=Halcom Root CA,O=Halcom,C=SI

Not Valid Before: Wed Feb 08 09:55:41 2012

Not Valid After: Sun Feb 08 09:55:41 2032

Fingerprint (MD5): c3:8b:d2:53:ac:00:ec:d1:db:97:61:a5:38:d9:7d:87

Fingerprint (SHA1): 53:5b:00:16:72:ab:bf:7b:6c:c2:54:05:ae:4d:24:fe:03:3f:d1:cc

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Halcom Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\067\061\013\060\011\006\003\125\004\006\023\002\123\111\061

\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157\155

\061\027\060\025\006\003\125\004\003\023\016\110\141\154\143\157

\155\040\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\067\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157\155
\061\027\060\025\006\003\125\004\003\023\016\110\141\154\143\157
\155\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\007\261\323

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\036\060\202\002\006\240\003\002\001\002\002\003\007
\261\323\060\015\006\011\052\206\110\206\367\015\001\001\015\005
\000\060\067\061\013\060\011\006\003\125\004\006\023\002\123\111
\061\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157
\155\061\027\060\025\006\003\125\004\003\023\016\110\141\154\143
\157\155\040\122\157\157\164\040\103\101\060\036\027\015\061\062
\060\062\060\070\060\071\065\065\064\061\132\027\015\063\062\060
\062\060\070\060\071\065\065\064\061\132\060\067\061\013\060\011
\006\003\125\004\006\023\002\123\111\061\017\060\015\006\003\125
\004\012\023\006\110\141\154\143\157\155\061\027\060\025\006\003
\125\004\003\023\016\110\141\154\143\157\155\040\122\157\157\164
\040\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\211\271\205\312\376\364\165\175\177\354\235\102
\067\272\272\215\274\354\075\027\003\375\331\105\145\326\315\311
\116\137\214\110\134\227\010\127\024\213\055\234\074\220\111\231
\317\151\257\111\215\333\034\001\260\156\351\364\352\221\147\135
\312\263\151\117\330\314\301\015\075\356\252\003\166\340\311\160
\242\237\376\353\233\320\266\311\226\323\360\373\133\320\360\007
\253\114\136\115\244\342\107\136\005\150\164\246\216\042\107\356
\176\323\147\204\124\067\222\107\016\363\243\354\025\032\363\155
\173\277\031\065\041\217\202\113\254\124\234\011\315\156\266\301
\127\275\320\111\075\157\237\163\216\261\154\176\275\376\326\273
\075\003\350\346\114\032\264\356\257\264\203\116\062\220\124\366
\116\033\341\057\316\245\064\032\216\243\040\371\331\076\042\153
\157\156\343\372\331\063\134\010\240\367\025\000\075\234\020\222
\112\125\315\200\262\006\252\375\327\217\267\132\222\047\044\017
\063\074\050\272\361\037\150\265\167\051\136\256\302\332\215\066
\160\342\172\062\033\043\246\336\305\141\015\232\245\022\040\265
\363\226\131\265\002\003\001\000\001\243\063\060\061\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\021
\006\003\125\035\016\004\012\004\010\116\224\330\212\143\302\317
\171\060\013\006\003\125\035\017\004\004\003\002\001\006\060\015
\006\011\052\206\110\206\367\015\001\001\015\005\000\003\202\001
\001\000\051\276\347\261\344\372\003\242\017\257\166\131\235\370
\116\123\115\074\004\203\237\241\342\214\366\224\331\264\256\150
\052\126\153\062\123\050\203\007\162\114\260\116\250\035\201\203

```
\041\147\003\067\321\214\306\301\116\204\351\064\073\323\365\365
\047\266\215\043\005\122\270\114\062\362\056\332\321\052\175\076
\203\003\052\322\261\343\232\351\212\203\102\360\054\012\241\123
\017\300\053\342\217\032\116\225\271\105\274\113\147\072\275\062
\363\255\245\217\217\303\056\352\366\364\173\142\320\156\156\305
\141\061\023\146\346\147\111\231\073\057\200\117\172\174\163\212
\003\015\137\365\263\062\050\012\212\300\341\371\270\243\046\356
\334\033\127\317\166\032\117\123\276\366\112\213\127\027\053\057
\231\206\252\336\214\332\266\250\154\337\150\066\326\141\213\156
\300\163\116\267\071\105\364\175\316\111\304\363\035\371\251\167
\154\357\357\222\025\023\047\231\106\350\237\251\212\033\237\051
\057\242\035\076\326\053\307\344\125\020\072\030\367\263\173\117
\056\307\000\042\355\344\061\320\347\270\344\124\117\301\200\105
\045\156
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "Halcom Root CA"

Issuer: CN=Halcom Root CA,O=Halcom,C=SI

Serial Number: 504275 (0x7b1d3)

Subject: CN=Halcom Root CA,O=Halcom,C=SI

Not Valid Before: Wed Feb 08 09:55:41 2012

Not Valid After: Sun Feb 08 09:55:41 2032

Fingerprint (MD5): c3:8b:d2:53:ac:00:ec:d1:db:97:61:a5:38:d9:7d:87

Fingerprint (SHA1): 53:5b:00:16:72:ab:bf:7b:6c:c2:54:05:ae:4d:24:fe:03:3f:d1:cc

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Halcom Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\123\133\000\026\162\253\277\173\154\302\124\005\256\115\044\376
\003\077\321\314
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\303\213\322\123\254\000\354\321\333\227\141\245\070\331\175\207
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\067\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157\155
\061\027\060\025\006\003\125\004\003\023\016\110\141\154\143\157
\155\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\003\007\261\323
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Swisscom Root EV CA 2"
# Issuer: CN=Swisscom Root EV CA 2,OU=Digital Certificate Services,O=Swisscom,C=ch
# Serial Number:f2:fa:64:e2:74:63:d3:8d:fd:10:1d:04:1f:76:ca:58
# Subject: CN=Swisscom Root EV CA 2,OU=Digital Certificate Services,O=Swisscom,C=ch
# Not Valid Before: Fri Jun 24 09:45:08 2011
# Not Valid After: Wed Jun 25 08:45:08 2031
# Fingerprint (MD5): 7b:30:34:9f:dd:0a:4b:6b:35:ca:31:51:28:5d:ae:ec
# Fingerprint (SHA1): e7:a1:90:29:d3:d5:52:dc:0d:0f:c6:92:d3:ea:88:0d:15:2e:1a:6b
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swisscom Root EV CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147
\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\061\036\060\034\006\003\125
\004\003\023\025\123\167\151\163\163\143\157\155\040\122\157\157
\164\040\105\126\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147
\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\061\036\060\034\006\003\125
\004\003\023\025\123\167\151\163\163\143\157\155\040\122\157\157
\164\040\105\126\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\362\372\144\342\164\143\323\215\375\020\035\004\037
\166\312\130
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\340\060\202\003\310\240\003\002\001\002\002\021\000
\362\372\144\342\164\143\323\215\375\020\035\004\037\166\312\130
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060

```

\147\061\013\060\011\006\003\125\004\006\023\002\143\150\061\021
\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143\157
\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147\151
\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145\040
\123\145\162\166\151\143\145\163\061\036\060\034\006\003\125\004
\003\023\025\123\167\151\163\163\143\157\155\040\122\157\157\164
\040\105\126\040\103\101\040\062\060\036\027\015\061\061\060\066
\062\064\060\071\064\065\060\070\132\027\015\063\061\060\066\062
\065\060\070\064\065\060\070\132\060\147\061\013\060\011\006\003
\125\004\006\023\002\143\150\061\021\060\017\006\003\125\004\012
\023\010\123\167\151\163\163\143\157\155\061\045\060\043\006\003
\125\004\013\023\034\104\151\147\151\164\141\154\040\103\145\162
\164\151\146\151\143\141\164\145\040\123\145\162\166\151\143\145
\163\061\036\060\034\006\003\125\004\003\023\025\123\167\151\163
\163\143\157\155\040\122\157\157\164\040\105\126\040\103\101\040
\062\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\304\367\035\057\127\352\127\154\367\160\135\143\260\161
\122\011\140\104\050\063\243\172\116\012\372\330\352\154\213\121
\026\032\125\256\124\046\304\314\105\007\101\117\020\171\177\161
\322\172\116\077\070\116\263\000\306\225\312\133\315\301\052\203
\327\047\037\061\016\043\026\267\045\313\034\264\271\200\062\136
\032\235\223\361\350\074\140\054\247\136\127\031\130\121\136\274
\054\126\013\270\330\357\213\202\264\074\270\302\044\250\023\307
\240\041\066\033\172\127\051\050\247\056\277\161\045\220\363\104
\203\151\120\244\344\341\033\142\031\224\011\243\363\303\274\357
\364\275\354\333\023\235\317\235\110\011\122\147\300\067\051\021
\036\373\322\021\247\205\030\164\171\344\117\205\024\353\122\067
\342\261\105\330\314\015\103\177\256\023\322\153\053\077\247\302
\342\250\155\166\133\103\237\276\264\235\263\046\206\073\037\177
\345\362\350\146\050\026\045\320\113\227\070\247\344\317\011\321
\066\303\013\276\332\073\104\130\215\276\361\236\011\153\076\363
\062\307\053\207\306\354\136\234\366\207\145\255\063\051\304\057
\211\331\271\313\311\003\235\373\154\224\121\227\020\033\206\013
\032\033\077\366\002\176\173\324\305\121\144\050\235\365\323\254
\203\201\210\323\164\264\131\235\301\353\141\063\132\105\321\313
\071\320\006\152\123\140\035\257\366\373\151\274\152\334\001\317
\275\371\217\331\275\133\301\072\137\216\332\017\113\251\233\235
\052\050\153\032\012\174\074\253\042\013\345\167\055\161\366\202
\065\201\256\370\173\201\346\352\376\254\364\032\233\164\134\350
\217\044\366\135\235\106\304\054\322\036\053\041\152\203\047\147
\125\112\244\343\310\062\227\146\220\162\332\343\324\144\056\137
\343\241\152\366\140\324\347\065\315\312\304\150\215\327\161\310
\323\044\063\163\261\154\371\152\341\050\333\137\306\075\350\276
\125\346\067\033\355\044\331\017\031\217\137\143\030\130\120\201
\121\145\157\362\237\176\152\004\347\064\044\161\272\166\113\130
\036\031\275\025\140\105\252\014\022\100\001\235\020\342\307\070
\007\162\012\145\300\266\273\045\051\332\026\236\213\065\213\141

\355\345\161\127\203\265\074\161\237\343\117\277\176\036\201\237
\101\227\002\003\001\000\001\243\201\206\060\201\203\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035\006
\003\125\035\041\004\026\060\024\060\022\006\007\140\205\164\001
\123\002\002\006\007\140\205\164\001\123\002\002\060\022\006\003
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\003
\060\035\006\003\125\035\016\004\026\004\024\105\331\245\201\156
\075\210\115\215\161\322\106\301\156\105\036\363\304\200\235\060
\037\006\003\125\035\043\004\030\060\026\200\024\105\331\245\201
\156\075\210\115\215\161\322\106\301\156\105\036\363\304\200\235
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\224\072\163\006\237\122\113\060\134\324\376\261
\134\045\371\327\216\157\365\207\144\237\355\024\216\270\004\216
\050\113\217\252\173\216\071\264\331\130\366\173\241\065\012\241
\235\212\367\143\345\353\275\071\202\324\343\172\055\157\337\023
\074\272\376\176\126\230\013\363\124\237\315\104\116\156\074\341
\076\025\277\006\046\235\344\360\220\266\324\302\236\060\056\037
\357\307\172\304\120\307\352\173\332\120\313\172\046\313\000\264
\132\253\265\223\037\200\211\204\004\225\215\215\177\011\223\277
\324\250\250\344\143\155\331\144\344\270\051\132\010\277\120\341
\204\017\125\173\137\010\042\033\365\275\231\036\024\366\316\364
\130\020\202\263\012\075\031\301\277\133\253\252\231\330\362\061
\275\345\070\146\334\130\005\307\355\143\032\056\012\227\174\207
\223\053\262\212\343\361\354\030\345\165\266\051\207\347\334\213
\032\176\264\330\311\323\212\027\154\175\051\104\276\212\252\365
\176\072\056\150\061\223\271\152\332\232\340\333\351\056\245\204
\315\034\012\270\112\010\371\234\361\141\046\230\223\267\173\146
\354\221\136\335\121\077\333\163\017\255\004\130\011\335\004\002
\225\012\076\323\166\337\246\020\036\200\075\350\315\244\144\321
\063\307\222\307\342\116\104\343\011\311\116\302\135\207\016\022
\236\277\017\311\005\020\336\172\243\261\074\362\077\245\252\047
\171\255\061\175\037\375\374\031\151\305\335\271\077\174\315\306
\264\302\060\036\176\156\222\327\177\141\166\132\217\353\225\115
\274\021\156\041\174\131\067\231\320\006\274\371\006\155\062\026
\245\331\151\250\341\334\074\200\036\140\121\334\327\124\041\036
\312\142\167\117\372\330\217\263\053\072\015\170\162\311\150\101
\132\107\112\302\243\353\032\327\012\253\074\062\125\310\012\021
\234\337\164\326\360\100\025\035\310\271\217\265\066\305\257\370
\042\270\312\035\363\326\266\031\017\237\141\145\152\352\164\310
\174\217\303\117\135\145\202\037\331\015\211\332\165\162\373\357
\361\107\147\023\263\310\321\031\210\047\046\232\231\171\177\036
\344\054\077\173\356\361\336\115\213\226\227\303\325\077\174\033
\043\355\244\263\035\026\162\103\113\040\341\131\176\302\350\255
\046\277\242\367

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
# Trust for "Swisscom Root EV CA 2"
# Issuer: CN=Swisscom Root EV CA 2,OU=Digital Certificate Services,O=Swisscom,C=ch
# Serial Number:f2:fa:64:e2:74:63:d3:8d:fd:10:1d:04:1f:76:ca:58
# Subject: CN=Swisscom Root EV CA 2,OU=Digital Certificate Services,O=Swisscom,C=ch
# Not Valid Before: Fri Jun 24 09:45:08 2011
# Not Valid After: Wed Jun 25 08:45:08 2031
# Fingerprint (MD5): 7b:30:34:9f:dd:0a:4b:6b:35:ca:31:51:28:5d:ae:ec
# Fingerprint (SHA1): e7:a1:90:29:d3:d5:52:dc:0d:0f:c6:92:d3:ea:88:0d:15:2e:1a:6b
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swisscom Root EV CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\347\241\220\051\323\325\122\334\015\017\306\222\323\352\210\015
\025\056\032\153
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\173\060\064\237\335\012\113\153\065\312\061\121\050\135\256\354
END
CKA_ISSUER MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147
\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\061\036\060\034\006\003\125
\004\003\023\025\123\167\151\163\163\143\157\155\040\122\157\157
\164\040\105\126\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\362\372\144\342\164\143\323\215\375\020\035\004\037
\166\312\130
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "CFCA GT CA"
# Issuer: O=CFCA GT CA,C=CN
# Serial Number:19:99:3c:3f
# Subject: O=CFCA GT CA,C=CN
# Not Valid Before: Mon Jun 13 08:15:09 2011
# Not Valid After: Tue Jun 09 08:15:09 2026
# Fingerprint (MD5): 2c:cd:f3:c5:59:a6:84:64:a0:67:50:ff:4b:4c:d6:14
```

Fingerprint (SHA1): ea:bd:a2:40:44:0a:bb:d6:94:93:0a:01:d0:97:64:c6:c2:d7:79:66

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CFCA GT CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\042\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\023\060\021\006\003\125\004\012\023\012\103\106\103\101\040\107
\124\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\042\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\023\060\021\006\003\125\004\012\023\012\103\106\103\101\040\107
\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\031\231\074\077
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\037\060\202\002\007\240\003\002\001\002\002\004\031
\231\074\077\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\042\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\023\060\021\006\003\125\004\012\023\012\103\106\103\101
\040\107\124\040\103\101\060\036\027\015\061\061\060\066\061\063
\060\070\061\065\060\071\132\027\015\062\066\060\066\060\071\060
\070\061\065\060\071\132\060\042\061\013\060\011\006\003\125\004
\006\023\002\103\116\061\023\060\021\006\003\125\004\012\023\012
\103\106\103\101\040\107\124\040\103\101\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\277\163\306\132\053
\214\170\366\130\267\374\322\027\220\245\053\164\354\201\054\223
\315\122\314\156\344\052\313\044\241\061\344\255\060\156\343\230
\042\061\327\041\233\237\325\017\067\057\132\273\070\242\267\171
\046\147\326\015\305\027\052\234\271\124\004\341\015\165\206\156
\330\314\305\200\147\033\310\214\055\000\046\206\074\172\171\076
\266\251\302\116\040\260\067\227\306\205\166\022\202\012\347\124
\273\213\376\075\256\343\354\153\130\103\366\245\067\353\130\242
\275\220\304\345\373\312\153\312\060\154\267\173\211\366\061\322
\214\377\117\302\226\045\103\251\161\065\045\013\030\341\254\310
\243\044\266\161\223\214\361\135\374\234\020\005\173\377\300\133
\340\261\227\255\037\330\376\105\365\300\037\235\133\107\071\034
\006\372\333\146\205\333\044\043\352\173\322\071\040\370\353\052
\262\032\121\363\224\132\050\002\116\247\134\107\156\317\374\331
\350\346\141\132\026\047\307\025\015\230\331\350\323\003\065\220
\051\337\262\057\215\020\167\043\310\270\172\323\021\141\152\363
```

\377\201\222\245\354\102\113\150\116\200\327\002\003\001\000\001
\243\135\060\133\060\037\006\003\125\035\043\004\030\060\026\200
\024\214\166\120\316\045\323\171\053\074\364\155\235\232\341\236
\005\117\350\075\045\060\014\006\003\125\035\023\004\005\060\003
\001\001\377\060\013\006\003\125\035\017\004\004\003\002\001\306
\060\035\006\003\125\035\016\004\026\004\024\214\166\120\316\045
\323\171\053\074\364\155\235\232\341\236\005\117\350\075\045\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\001\001\000\276\273\226\130\324\335\211\211\017\054\315\372\143
\105\166\015\071\200\232\215\372\250\105\141\075\041\125\350\316
\150\307\031\351\302\261\007\302\213\073\057\317\141\205\220\247
\122\027\062\072\257\012\005\025\310\306\316\335\216\224\046\006
\370\320\140\356\263\156\324\015\272\132\335\253\240\174\120\162
\246\325\220\223\126\327\131\071\333\350\177\263\225\170\123\201
\122\122\137\364\222\201\002\301\373\042\271\321\003\127\247\176
\313\373\300\106\274\023\164\114\050\053\166\222\151\037\301\120
\221\021\305\114\336\013\224\214\027\203\214\257\067\207\264\352
\153\157\242\132\065\101\141\205\057\234\027\300\373\271\016\242
\141\006\107\166\274\220\011\230\164\015\322\010\057\275\344\015
\162\361\246\137\303\174\300\175\352\274\323\253\040\221\313\134
\005\214\235\250\065\372\066\126\273\011\363\204\135\326\361\342
\054\236\331\176\361\202\240\341\267\057\176\355\371\173\240\000
\270\262\336\035\171\341\201\363\122\131\232\024\135\347\302\021
\363\232\303\072\170\043\276\116\146\336\244\071\151\362\230\072
\054\012\000

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "CFCA GT CA"

Issuer: O=CFCA GT CA,C=CN

Serial Number:19:99:3c:3f

Subject: O=CFCA GT CA,C=CN

Not Valid Before: Mon Jun 13 08:15:09 2011

Not Valid After: Tue Jun 09 08:15:09 2026

Fingerprint (MD5): 2c:cd:f3:c5:59:a6:84:64:a0:67:50:ff:4b:4c:d6:14

Fingerprint (SHA1): ea:bd:a2:40:44:0a:bb:d6:94:93:0a:01:d0:97:64:c6:c2:d7:79:66

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "CFCA GT CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\352\275\242\100\104\012\273\326\224\223\012\001\320\227\144\306
\302\327\171\146

END


```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\054\315\363\305\131\246\204\144\240\147\120\377\113\114\326\024
END
CKA_ISSUER MULTILINE_OCTAL
\060\042\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\023\060\021\006\003\125\004\012\023\012\103\106\103\101\040\107
\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\031\231\074\077
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Digidentity L3 Root CA - G2"
# Issuer: CN=Digidentity L3 Root CA - G2,O=Digidentity B.V.,C=NL
# Serial Number: 1 (0x1)
# Subject: CN=Digidentity L3 Root CA - G2,O=Digidentity B.V.,C=NL
# Not Valid Before: Fri Apr 29 10:44:19 2011
# Not Valid After: Mon Nov 10 10:44:19 2031
# Fingerprint (MD5): 26:8f:5b:c8:b6:3f:88:8c:4c:49:08:2e:18:c1:02:10
# Fingerprint (SHA1): f1:38:a3:30:a4:ea:98:6b:eb:52:0b:b1:10:35:87:6e:fb:9d:7f:1c
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Digidentity L3 Root CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\031\060\027\006\003\125\004\012\023\020\104\151\147\151\144\145
\156\164\151\164\171\040\102\056\126\056\061\044\060\042\006\003
\125\004\003\023\033\104\151\147\151\144\145\156\164\151\164\171
\040\114\063\040\122\157\157\164\040\103\101\040\055\040\107\062
END
```

```
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\031\060\027\006\003\125\004\012\023\020\104\151\147\151\144\145
\156\164\151\164\171\040\102\056\126\056\061\044\060\042\006\003
\125\004\003\023\033\104\151\147\151\144\145\156\164\151\164\171
\040\114\063\040\122\157\157\164\040\103\101\040\055\040\107\062
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\241\060\202\003\211\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\114\061\031
\060\027\006\003\125\004\012\023\020\104\151\147\151\144\145\156
\164\151\164\171\040\102\056\126\056\061\044\060\042\006\003\125
\004\003\023\033\104\151\147\151\144\145\156\164\151\164\171\040
\114\063\040\122\157\157\164\040\103\101\040\055\040\107\062\060
\036\027\015\061\061\060\064\062\071\061\060\064\064\061\071\132
\027\015\063\061\061\061\061\060\061\060\064\064\061\071\132\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\114\061\031
\060\027\006\003\125\004\012\023\020\104\151\147\151\144\145\156
\164\151\164\171\040\102\056\126\056\061\044\060\042\006\003\125
\004\003\023\033\104\151\147\151\144\145\156\164\151\164\171\040
\114\063\040\122\157\157\164\040\103\101\040\055\040\107\062\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\270\021\243\105\336\001\107\126\015\142\270\216\272\130\146\134
\372\062\306\153\200\156\270\177\370\123\337\176\337\142\250\301
\127\117\232\105\045\310\112\105\055\123\070\044\263\040\254\117
\352\255\377\232\020\257\177\342\016\312\264\016\044\045\221\316
\166\216\020\251\057\231\123\247\220\113\004\213\155\172\271\101
\033\323\001\171\214\237\101\153\271\220\327\201\022\032\007\226
\320\011\257\351\344\152\041\123\200\270\206\236\142\150\103\255
\263\152\025\372\366\155\003\062\152\065\261\120\023\110\307\172
\265\041\023\234\004\234\332\223\371\152\053\301\247\030\375\366
\300\176\131\366\373\347\016\021\265\334\043\352\034\357\147\005
\127\316\027\351\361\173\261\321\062\044\214\317\145\347\324\274
\066\031\160\174\242\047\041\326\200\322\055\025\117\112\265\340
\125\220\225\121\223\041\200\363\234\104\037\377\035\125\125\344
\342\020\021\224\026\123\320\376\257\363\357\227\272\106\342\167
\133\313\326\242\131\021\210\246\347\125\101\303\222\145\035\043
\024\142\024\177\045\162\040\366\244\207\051\157\007\374\376\340
\320\030\322\227\371\024\216\066\306\350\014\030\227\361\166\034
\364\044\332\343\112\371\267\114\022\031\147\363\360\341\123\373
\135\344\300\164\143\137\045\221\012\331\076\364\063\254\344\013
\165\137\316\346\230\274\124\015\235\242\061\305\025\124\135\042
\034\213\072\124\246\015\321\327\043\072\254\076\252\112\027\144
\166\055\015\373\124\345\353\202\074\071\101\103\235\341\256\171
\140\317\146\356\307\161\203\173\014\153\011\333\236\242\115\116
\106\223\150\267\372\147\341\332\277\337\221\200\332\243\242\211
\255\136\154\314\113\167\165\144\157\215\044\343\210\210\013\343
\077\351\277\247\345\126\142\015\203\177\275\152\141\310\220\211
\170\133\014\257\022\052\342\223\255\144\347\331\105\056\366\260
\310\253\105\356\160\070\157\273\065\076\026\376\253\236\303\146
\057\363\276\011\140\325\157\200\275\115\333\257\215\376\014\140
\063\153\017\350\235\153\304\060\167\237\054\120\070\320\230\151

\354\067\350\236\017\344\142\352\372\377\021\104\124\331\357\315
\223\165\221\114\341\211\145\246\224\271\123\371\371\111\143\305
\002\003\001\000\001\243\201\211\060\201\206\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\053\043\040\140\275\055\212\210\107
\254\255\053\276\002\071\272\230\324\354\230\060\104\006\003\125
\035\040\004\075\060\073\060\071\006\004\125\035\040\000\060\061
\060\057\006\010\053\006\001\005\005\007\002\001\026\043\150\164
\164\160\072\057\057\160\153\151\056\144\151\147\151\144\145\156
\164\151\164\171\056\145\165\057\166\141\154\151\144\141\164\151
\145\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\002\001\000\251\375\357\272\217\033\176\062\022\147\035
\101\015\055\246\213\317\362\364\255\126\170\176\012\230\330\233
\250\321\264\113\054\046\254\344\322\177\147\067\275\011\215\345
\271\163\021\072\156\011\307\127\144\007\041\064\370\016\135\052
\330\221\174\361\124\121\274\234\360\014\152\102\364\074\001\116
\223\105\101\075\254\363\230\113\036\161\036\063\131\062\377\174
\060\360\134\344\341\276\055\056\265\352\335\142\041\016\075\264
\015\225\374\311\270\331\272\240\367\142\247\355\303\003\256\010
\054\101\325\357\103\161\070\267\024\162\256\077\364\024\164\107
\330\336\214\121\171\316\357\261\124\254\160\107\226\176\055\056
\335\233\356\241\001\056\031\357\276\130\140\161\055\255\227\133
\132\140\060\313\062\202\142\116\126\345\147\152\264\322\061\124
\162\077\002\320\274\060\071\217\267\103\011\052\037\046\073\014
\307\174\035\233\200\140\204\016\351\056\322\371\025\273\133\340
\212\244\000\351\343\051\373\050\133\275\066\105\140\041\103\061
\377\160\241\137\134\203\133\227\174\015\267\123\131\354\230\265
\116\342\051\261\324\174\106\343\350\343\103\352\072\226\065\037
\123\361\004\026\045\343\054\363\150\241\246\221\337\025\373\275
\237\346\116\236\302\124\153\176\042\127\343\244\234\134\042\045
\037\201\257\231\310\337\021\025\110\103\370\263\063\251\043\177
\016\063\217\274\106\035\103\264\073\140\365\227\205\031\242\026
\260\125\334\032\160\051\145\332\331\176\011\027\064\353\211\272
\351\141\222\330\336\064\143\074\112\125\152\277\332\206\355\316
\063\336\273\123\157\317\034\332\224\117\166\124\254\145\125\020
\123\232\310\270\153\334\006\346\272\345\121\325\101\177\037\304
\300\101\241\140\221\064\363\023\202\321\241\167\323\367\114\344
\031\377\327\104\232\260\265\274\334\312\136\217\334\316\361\240
\151\066\340\104\222\056\231\372\274\257\263\307\170\072\125\146
\307\153\245\344\151\046\351\064\035\037\052\227\012\351\167\251
\167\133\163\110\062\201\277\377\321\354\203\305\160\203\151\236
\230\033\303\127\337\221\225\034\200\374\215\350\226\203\005\323
\237\172\210\173\372\350\127\361\301\204\050\275\315\326\034\314
\245\342\111\012\163

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Digidentity L3 Root CA - G2"
Issuer: CN=Digidentity L3 Root CA - G2,O=Digidentity B.V.,C=NL
Serial Number: 1 (0x1)
Subject: CN=Digidentity L3 Root CA - G2,O=Digidentity B.V.,C=NL
Not Valid Before: Fri Apr 29 10:44:19 2011
Not Valid After: Mon Nov 10 10:44:19 2031
Fingerprint (MD5): 26:8f:5b:c8:b6:3f:88:8c:4c:49:08:2e:18:c1:02:10
Fingerprint (SHA1): f1:38:a3:30:a4:ea:98:6b:eb:52:0b:b1:10:35:87:6e:fb:9d:7f:1c

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Digidentity L3 Root CA - G2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\361\070\243\060\244\352\230\153\353\122\013\261\020\065\207\156
\373\235\177\034

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\046\217\133\310\266\077\210\214\114\111\010\056\030\301\002\020

END

CKA_ISSUER MULTILINE_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\031\060\027\006\003\125\004\012\023\020\104\151\147\151\144\145
\156\164\151\164\171\040\102\056\126\056\061\044\060\042\006\003
\125\004\003\023\033\104\151\147\151\144\145\156\164\151\164\171
\040\114\063\040\122\157\157\164\040\103\101\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "SITHS Root CA v1"

Issuer: CN=SITHS Root CA v1,O=Inera AB,C=SE

Serial Number:90:66:61:a8:62:3d:65:44:77:04:3f:71:9a:c3:97:0c

Subject: CN=SITHS Root CA v1,O=Inera AB,C=SE

Not Valid Before: Thu Mar 29 07:54:49 2012

Not Valid After: Mon Mar 29 07:54:49 2032

Fingerprint (MD5): 7f:7b:02:6c:68:9f:32:03:c7:af:04:9d:ec:23:df:f3

Fingerprint (SHA1): 58:5f:78:75:be:e7:43:3e:b0:79:ea:ab:7d:05:bb:0f:7a:f2:bc:cc

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SITHS Root CA v1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\021\060\017\006\003\125\004\012\014\010\111\156\145\162\141\040
\101\102\061\031\060\027\006\003\125\004\003\014\020\123\111\124
\110\123\040\122\157\157\164\040\103\101\040\166\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\021\060\017\006\003\125\004\012\014\010\111\156\145\162\141\040
\101\102\061\031\060\027\006\003\125\004\003\014\020\123\111\124
\110\123\040\122\157\157\164\040\103\101\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\220\146\141\250\142\075\145\104\167\004\077\161\232
\303\227\014
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\223\060\202\003\173\240\003\002\001\002\002\021\000
\220\146\141\250\142\075\145\104\167\004\077\161\232\303\227\014
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\073\061\013\060\011\006\003\125\004\006\023\002\123\105\061\021
\060\017\006\003\125\004\012\014\010\111\156\145\162\141\040\101
\102\061\031\060\027\006\003\125\004\003\014\020\123\111\124\110
\123\040\122\157\157\164\040\103\101\040\166\061\060\036\027\015
\061\062\060\063\062\071\060\067\065\064\064\071\132\027\015\063
\062\060\063\062\071\060\067\065\064\064\071\132\060\073\061\013
\060\011\006\003\125\004\006\023\002\123\105\061\021\060\017\006
\003\125\004\012\014\010\111\156\145\162\141\040\101\102\061\031
\060\027\006\003\125\004\003\014\020\123\111\124\110\123\040\122
\157\157\164\040\103\101\040\166\061\060\202\002\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017
\000\060\202\002\012\002\202\002\001\000\300\355\346\236\250\254
\250\377\330\065\271\374\373\360\225\117\077\075\107\043\321\222
\311\311\370\360\342\037\206\255\210\077\340\000\317\117\021\225
\141\075\245\326\040\031\321\210\322\302\126\011\105\040\241\052
\352\042\303\352\272\314\102\151\236\270\205\237\160\300\154\247
\276\157\243\134\335\103\210\007\315\312\051\337\151\172\037\055
\237\126\152\033\142\040\041\141\306\120\113\145\165\111\106\277
\134\327\051\036\302\036\205\102\341\016\070\115\303\066\161\102
\104\121\072\321\130\314\311\264\252\154\100\307\203\361\307\011
\237\112\363\153\363\007\026\065\364\202\216\136\213\204\334\161
\171\271\373\156\127\105\267\305\160\072\377\102\002\321\064\277
```

\205\160\155\117\217\347\037\031\041\367\325\064\274\356\131\346
\056\042\363\161\202\142\031\237\005\144\174\073\042\161\030\245
\055\301\170\130\231\321\257\336\224\100\006\031\166\023\120\207
\043\313\107\127\256\154\305\023\352\232\205\122\303\312\127\046
\037\336\026\155\255\161\176\362\330\141\375\346\066\116\161\032
\235\323\040\065\255\022\041\130\165\066\213\211\026\244\067\050
\317\240\203\072\100\243\312\021\357\264\345\220\033\343\145\222
\147\230\157\016\051\345\147\030\327\210\372\215\266\307\172\245
\240\177\221\036\253\266\371\164\230\166\122\140\057\132\067\231
\250\333\321\076\326\204\152\157\122\323\264\332\032\307\270\262
\321\224\021\037\305\210\211\351\133\251\243\224\346\242\175\115
\247\062\211\241\336\046\153\315\325\243\362\062\033\332\065\023
\211\021\111\115\277\106\061\273\351\055\023\370\016\000\245\376
\003\365\126\106\074\217\023\053\340\345\307\036\003\337\212\352
\106\205\105\206\331\355\136\013\270\144\223\364\320\130\056\051
\215\105\127\115\211\165\220\145\314\152\073\301\234\200\271\264
\200\065\003\216\337\156\052\223\276\246\276\012\001\104\157\100
\163\252\052\202\034\204\166\177\151\335\261\273\222\130\350\100
\121\162\134\367\076\071\104\372\245\231\240\177\215\213\260\101
\130\167\255\042\305\240\300\272\375\061\231\065\152\331\311\040
\032\136\363\275\274\010\177\335\111\055\057\235\221\020\015\133
\250\077\317\264\127\163\073\133\340\147\002\003\001\000\001\243
\201\221\060\201\216\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\114\006\003\125\035\040\004\105\060
\103\060\101\006\011\052\205\160\112\010\001\002\001\001\060\064
\060\062\006\010\053\006\001\005\005\007\002\001\026\046\150\164
\164\160\072\057\057\143\160\163\056\163\151\164\150\163\056\163
\145\057\163\151\164\150\163\162\157\157\164\143\141\166\061\056
\150\164\155\154\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\062
\371\235\117\151\351\230\215\240\326\214\175\371\035\316\243\074
\272\166\025\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\003\202\002\001\000\037\077\343\170\130\310\012\312\064
\042\011\330\262\005\213\321\145\234\341\327\327\175\012\300\034
\230\245\044\122\070\063\332\144\042\043\200\256\376\075\200\276
\117\217\335\203\366\015\114\063\132\325\243\073\120\212\122\132
\046\024\163\121\224\344\122\227\143\333\267\006\250\357\217\255
\342\355\336\243\277\040\321\106\333\055\170\350\054\047\104\234
\074\354\267\027\374\211\227\363\243\242\136\302\131\123\340\317
\344\265\001\073\143\123\050\323\257\146\113\064\071\257\141\016
\076\233\356\263\211\326\223\240\073\001\304\263\043\124\020\074
\115\327\252\260\332\331\154\312\060\104\055\335\262\050\142\212
\101\140\362\100\023\154\260\174\076\101\340\213\246\064\361\347
\256\121\207\003\216\231\177\331\150\242\366\234\015\171\202\262
\237\337\044\310\146\140\350\266\110\104\047\310\153\126\267\104
\205\316\002\267\323\212\161\134\127\121\127\041\214\352\302\121
\017\120\077\200\253\004\115\311\122\335\344\245\362\056\037\155
\165\272\207\035\220\013\356\030\204\200\163\273\213\225\204\212

```
\141\015\116\135\142\237\343\146\014\373\066\016\047\323\110\370
\006\210\006\245\137\356\176\134\335\255\012\035\075\034\252\100
\171\230\171\270\120\214\066\215\013\012\066\013\325\076\347\135
\201\335\154\334\155\261\157\015\164\236\054\057\302\005\362\104
\021\262\063\372\201\305\112\155\076\105\326\054\342\153\137\056
\344\103\225\121\033\231\061\005\337\045\033\163\321\173\234\304
\163\111\373\142\140\331\151\143\335\321\076\145\155\107\372\144
\114\003\130\120\331\246\276\345\052\150\353\077\213\020\361\346
\273\042\006\050\232\240\244\230\151\157\066\264\324\015\016\014
\175\300\051\061\273\054\003\047\341\147\247\275\321\213\056\266
\207\304\012\340\011\013\202\241\346\117\130\235\373\330\370\141
\341\312\227\304\270\267\120\071\314\061\116\375\055\034\032\366
\107\343\154\354\033\005\350\177\027\065\020\204\332\063\347\064
\346\265\244\353\304\042\007\112\366\233\130\330\017\234\100\373
\261\213\137\242\375\231\352\242\173\131\142\321\136\256\321\112
\162\030\053\113\066\071\162\007\232\132\360\143\072\317\033\371
\317\335\110\163\131\160\344
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "SITHS Root CA v1"
# Issuer: CN=SITHS Root CA v1,O=Inera AB,C=SE
# Serial Number:90:66:61:a8:62:3d:65:44:77:04:3f:71:9a:c3:97:0c
# Subject: CN=SITHS Root CA v1,O=Inera AB,C=SE
# Not Valid Before: Thu Mar 29 07:54:49 2012
# Not Valid After: Mon Mar 29 07:54:49 2032
# Fingerprint (MD5): 7f:7b:02:6c:68:9f:32:03:c7:af:04:9d:ec:23:df:f3
# Fingerprint (SHA1): 58:5f:78:75:be:e7:43:3e:b0:79:ea:ab:7d:05:bb:0f:7a:f2:bc:cc
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SITHS Root CA v1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\130\137\170\165\276\347\103\076\260\171\352\253\175\005\273\017
\172\362\274\314
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\177\173\002\154\150\237\062\003\307\257\004\235\354\043\337\363
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\021\060\017\006\003\125\004\012\014\010\111\156\145\162\141\040
\101\102\061\031\060\027\006\003\125\004\003\014\020\123\111\124
\110\123\040\122\157\157\164\040\103\101\040\166\061
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\220\146\141\250\142\075\145\104\167\004\077\161\232
\303\227\014
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Macao Post eSignTrust Root Certification Authority (G02)"
# Issuer: CN=Macao Post eSignTrust Root Certification Authority (G02),O=Macao Post,C=MO
# Serial Number:52:ac:be:07:11:49:97:bb:1f:bf:87:1b:25:17:bf:a4
# Subject: CN=Macao Post eSignTrust Root Certification Authority (G02),O=Macao Post,C=MO
# Not Valid Before: Wed Jan 06 00:00:00 2010
# Not Valid After: Sun Jan 05 23:59:59 2020
# Fingerprint (MD5): a1:2d:ed:eb:8a:3b:88:2f:fa:38:f3:86:a4:fb:bc:f2
# Fingerprint (SHA1): 06:14:31:51:e0:2b:45:dd:ba:dd:5d:8e:56:53:0d:aa:e3:28:cf:90
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Macao Post eSignTrust Root Certification Authority (G02)"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\115\117\061
\023\060\021\006\003\125\004\012\023\012\115\141\143\141\157\040
\120\157\163\164\061\101\060\077\006\003\125\004\003\023\070\115
\141\143\141\157\040\120\157\163\164\040\145\123\151\147\156\124
\162\165\163\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\040\050\107\060\062\051
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\115\117\061
\023\060\021\006\003\125\004\012\023\012\115\141\143\141\157\040
\120\157\163\164\061\101\060\077\006\003\125\004\003\023\070\115
\141\143\141\157\040\120\157\163\164\040\145\123\151\147\156\124
\162\165\163\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\040\050\107\060\062\051
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\122\254\276\007\021\111\227\273\037\277\207\033\045\027
\277\244
END

```


CKA_VALUE MULTILINE_OCTAL

\060\202\005\226\060\202\003\176\240\003\002\001\002\002\020\122
\254\276\007\021\111\227\273\037\277\207\033\045\027\277\244\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\115\117\061\023\060
\021\006\003\125\004\012\023\012\115\141\143\141\157\040\120\157
\163\164\061\101\060\077\006\003\125\004\003\023\070\115\141\143
\141\157\040\120\157\163\164\040\145\123\151\147\156\124\162\165
\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040
\050\107\060\062\051\060\036\027\015\061\060\060\061\060\066\060
\060\060\060\060\060\132\027\015\062\060\060\061\060\065\062\063
\065\071\065\071\132\060\145\061\013\060\011\006\003\125\004\006
\023\002\115\117\061\023\060\021\006\003\125\004\012\023\012\115
\141\143\141\157\040\120\157\163\164\061\101\060\077\006\003\125
\004\003\023\070\115\141\143\141\157\040\120\157\163\164\040\145
\123\151\147\156\124\162\165\163\164\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\050\107\060\062\051\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\266\370\207
\247\164\314\135\043\136\256\253\226\334\327\044\050\035\244\024
\146\327\240\150\214\136\235\105\324\324\051\323\263\013\353\255
\026\352\235\122\021\311\244\341\160\345\335\276\016\034\021\167
\353\237\243\160\170\027\217\271\076\027\123\151\251\353\365\125
\371\225\227\351\337\071\166\236\037\122\027\264\033\000\022\320
\315\074\343\252\111\321\236\101\067\066\365\141\315\043\017\127
\261\366\115\323\333\015\102\123\002\210\364\360\251\206\213\127
\317\162\012\325\224\113\132\332\067\345\075\107\131\147\276\323
\216\126\325\127\071\320\047\333\237\111\117\250\026\124\277\170
\137\317\034\235\136\241\013\214\203\003\263\014\024\311\132\251
\273\377\306\256\131\317\365\145\037\043\211\001\123\212\325\133
\027\235\233\377\230\121\017\103\111\367\252\054\355\345\351\206
\072\063\120\163\334\122\245\153\143\204\351\023\242\174\307\167
\032\363\252\251\015\013\116\116\035\104\303\162\073\231\131\347
\101\042\073\054\124\136\022\061\226\150\101\031\325\355\165\247
\271\127\133\021\366\232\244\111\057\142\363\013\230\121\033\263
\063\102\322\314\324\141\031\303\323\334\233\373\223\262\142\315
\066\373\214\351\032\156\032\261\071\044\216\135\331\076\073\206
\174\210\346\267\047\003\370\225\121\260\277\120\067\376\370\116
\023\001\033\047\055\233\222\320\162\127\327\243\232\126\350\153
\243\367\125\336\100\135\342\010\037\134\273\121\246\236\264\335
\016\246\032\131\142\147\206\163\020\225\235\225\315\272\277\330
\234\052\016\213\166\231\223\324\113\260\350\124\077\015\330\212
\371\200\317\101\375\001\172\105\174\175\326\075\116\371\142\117
\101\045\174\252\155\130\126\033\007\264\163\252\037\021\037\074
\272\123\043\340\355\112\315\226\211\334\110\320\115\142\313\223
\007\366\240\256\123\027\174\137\134\007\034\005\114\253\114\152

\252\302\017\240\031\153\171\171\302\174\263\251\375\075\373\314
\174\161\305\273\276\045\155\041\247\373\326\276\140\363\265\251
\251\154\164\030\077\250\236\102\140\101\362\071\055\035\302\015
\163\362\340\261\266\112\032\030\275\167\151\031\327\322\172\261
\334\226\065\232\330\046\205\203\266\023\051\302\343\002\003\001
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026
\004\024\002\201\267\266\146\370\222\105\155\302\161\322\237\354
\057\323\272\037\271\377\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\002\001\000\130\123\213\276\317\101
\262\117\266\325\336\112\150\315\145\317\306\100\212\254\113\232
\133\143\155\275\361\077\131\120\102\320\337\232\343\137\126\221
\263\133\233\331\105\006\103\357\223\033\375\063\167\035\006\124
\070\110\361\124\214\072\123\153\073\161\065\011\166\145\351\127
\017\103\366\221\232\336\020\273\272\150\222\052\045\313\147\104
\011\153\277\235\227\146\313\251\105\266\276\067\231\035\165\045
\276\075\074\143\154\277\251\023\107\307\162\214\313\303\317\364
\366\207\005\231\211\027\250\064\040\361\337\241\047\147\323\247
\043\357\253\131\203\075\032\330\052\315\302\255\112\060\014\006
\072\040\213\244\370\332\106\067\103\056\264\211\035\204\163\212
\140\276\144\061\047\102\300\353\162\141\155\314\336\174\163\053
\350\277\071\102\136\171\221\354\200\033\252\066\166\116\041\350
\206\004\227\011\050\313\107\347\100\324\054\136\032\136\110\372
\256\307\351\004\352\107\044\233\276\361\107\236\325\325\172\321
\136\324\205\362\013\043\004\230\324\053\232\126\162\106\114\101
\232\063\360\222\264\277\101\324\275\233\260\263\361\365\023\326
\257\133\324\362\321\101\360\107\135\172\274\172\131\361\175\140
\150\224\016\112\117\201\222\042\252\037\304\074\276\034\072\072
\114\360\160\241\177\273\237\334\322\305\244\361\046\156\341\363
\046\251\160\373\361\211\226\142\025\134\131\240\265\043\372\226
\152\262\032\222\075\015\044\112\053\270\010\376\157\337\334\302
\356\226\377\316\277\173\270\371\204\357\101\073\344\115\271\207
\221\272\306\137\310\355\360\313\213\323\017\221\366\040\336\221
\230\306\347\110\144\321\316\123\022\356\304\025\155\334\200\120
\033\023\140\117\171\133\374\032\234\376\242\237\240\021\063\221
\311\113\155\072\146\226\055\323\070\370\331\231\201\264\104\046
\177\261\347\236\160\155\035\155\365\042\011\344\254\031\066\373
\047\005\330\172\233\331\274\236\033\332\031\067\330\361\335\025
\230\144\033\217\123\360\050\235\254\024\272\137\151\317\226\043
\356\126\254\231\315\072\217\325\136\031\346\142\023\072\137\353
\213\137\026\300\073\341\321\223\217\126\141\067\005\320\171\033
\375\250\274\017\171\322\263\346\323\146

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```

# Microsoft Code Signing Only Certificate
# Trust for "Macao Post eSignTrust Root Certification Authority (G02)"
# Issuer: CN=Macao Post eSignTrust Root Certification Authority (G02),O=Macao Post,C=MO
# Serial Number:52:ac:be:07:11:49:97:bb:1f:bf:87:1b:25:17:bf:a4
# Subject: CN=Macao Post eSignTrust Root Certification Authority (G02),O=Macao Post,C=MO
# Not Valid Before: Wed Jan 06 00:00:00 2010
# Not Valid After: Sun Jan 05 23:59:59 2020
# Fingerprint (MD5): a1:2d:ed:eb:8a:3b:88:2f:fa:38:f3:86:a4:fb:bc:f2
# Fingerprint (SHA1): 06:14:31:51:e0:2b:45:dd:ba:dd:5d:8e:56:53:0d:aa:e3:28:cf:90
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Macao Post eSignTrust Root Certification Authority (G02)"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\006\024\061\121\340\053\105\335\272\335\135\216\126\123\015\252
\343\050\317\220
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\241\055\355\353\212\073\210\057\372\070\363\206\244\373\274\362
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\115\117\061
\023\060\021\006\003\125\004\012\023\012\115\141\143\141\157\040
\120\157\163\164\061\101\060\077\006\003\125\004\003\023\070\115
\141\143\141\157\040\120\157\163\164\040\145\123\151\147\156\124
\162\165\163\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\040\050\107\060\062\051
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\122\254\276\007\021\111\227\273\037\277\207\033\045\027
\277\244
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "Autoridade Certificadora Raiz Brasileira v2"
# Issuer: CN=Autoridade Certificadora Raiz Brasileira v2,OU=Instituto Nacional de Tecnologia da Informacao - ITI,O=ICP-Brasil,C=BR
# Serial Number: 1 (0x1)
# Subject: CN=Autoridade Certificadora Raiz Brasileira v2,OU=Instituto Nacional de Tecnologia da Informacao - ITI,O=ICP-Brasil,C=BR
# Not Valid Before: Mon Jun 21 19:04:57 2010
# Not Valid After: Wed Jun 21 19:04:57 2023

```

```
# Fingerprint (MD5): 00:11:ae:73:15:fb:2d:6d:88:d8:43:bd:b4:b6:4c:5f
# Fingerprint (SHA1): a9:82:2e:6c:69:33:c6:3c:14:8c:2d:ca:a4:4a:5c:f1:aa:d2:c4:2e
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridade Certificadora Raiz Brasileira v2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\227\061\013\060\011\006\003\125\004\006\023\002\102\122
\061\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102
\162\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064
\111\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156
\141\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141
\040\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055
\040\111\124\111\061\064\060\062\006\003\125\004\003\023\053\101
\165\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146
\151\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141
\163\151\154\145\151\162\141\040\166\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\227\061\013\060\011\006\003\125\004\006\023\002\102\122
\061\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102
\162\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064
\111\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156
\141\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141
\040\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055
\040\111\124\111\061\064\060\062\006\003\125\004\003\023\053\101
\165\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146
\151\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141
\163\151\154\145\151\162\141\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\241\060\202\004\211\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060
\201\227\061\013\060\011\006\003\125\004\006\023\002\102\122\061
\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102\162
\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064\111
\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156\141
\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141\040
\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055\040
\111\124\111\061\064\060\062\006\003\125\004\003\023\053\101\165
\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146\151
\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141\163
```

\151\154\145\151\162\141\040\166\062\060\036\027\015\061\060\060
\066\062\061\061\071\060\064\065\067\132\027\015\062\063\060\066
\062\061\061\071\060\064\065\067\132\060\201\227\061\013\060\011
\006\003\125\004\006\023\002\102\122\061\023\060\021\006\003\125
\004\012\023\012\111\103\120\055\102\162\141\163\151\154\061\075
\060\073\006\003\125\004\013\023\064\111\156\163\164\151\164\165
\164\157\040\116\141\143\151\157\156\141\154\040\144\145\040\124
\145\143\156\157\154\157\147\151\141\040\144\141\040\111\156\146
\157\162\155\141\143\141\157\040\055\040\111\124\111\061\064\060
\062\006\003\125\004\003\023\053\101\165\164\157\162\151\144\141
\144\145\040\103\145\162\164\151\146\151\143\141\144\157\162\141
\040\122\141\151\172\040\102\162\141\163\151\154\145\151\162\141
\040\166\062\060\202\002\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002
\202\002\001\000\272\106\244\016\335\347\100\362\265\240\174\122
\225\127\105\374\155\204\363\206\001\311\205\003\255\230\253\322
\362\136\005\231\311\273\157\142\147\375\167\104\271\003\007\074
\322\033\000\142\324\160\054\102\203\171\146\253\231\126\256\201
\274\152\111\275\363\164\017\142\267\353\133\007\146\224\102\044
\235\106\254\232\102\030\060\360\044\250\121\101\352\253\225\361
\250\053\002\170\151\265\051\047\136\234\056\163\306\376\043\245
\343\246\316\375\154\033\153\000\124\353\000\255\117\072\114\074
\347\012\210\133\332\136\232\013\126\344\265\124\070\035\362\012
\223\144\116\303\101\222\123\040\052\317\374\164\156\324\333\063
\070\142\344\376\216\114\130\034\367\217\052\115\377\305\222\331
\011\122\275\317\160\000\235\151\232\063\152\210\207\105\041\231
\026\121\015\064\337\202\275\264\151\250\174\174\324\335\323\362
\025\134\113\305\130\020\352\205\031\313\066\042\130\052\162\014
\232\226\336\312\317\010\121\141\277\264\005\051\006\053\206\220
\376\351\115\303\004\005\107\313\317\166\331\177\161\246\207\173
\025\100\344\063\200\170\007\035\244\362\216\233\100\073\311\162
\120\337\151\276\360\054\226\037\220\265\325\256\164\343\145\264
\214\032\351\152\033\373\162\134\305\202\124\352\340\123\007\304
\314\022\351\367\336\327\057\324\110\057\107\077\046\141\004\261
\022\232\063\153\265\206\113\023\053\320\206\235\107\355\151\373
\374\204\022\146\370\126\345\016\212\154\166\304\153\032\172\302
\240\132\022\321\043\211\130\001\174\010\130\332\025\216\025\331
\176\175\067\266\244\105\365\003\205\314\107\372\213\171\105\270
\146\142\063\323\046\112\336\034\351\324\177\346\155\046\271\074
\175\315\017\050\012\051\017\233\335\143\253\271\246\107\032\204
\327\205\244\003\145\006\004\113\122\215\203\064\102\177\061\216
\021\056\346\263\147\225\100\176\227\172\100\000\371\021\154\203
\070\130\255\003\063\133\246\304\301\305\260\254\015\251\006\360
\246\151\001\064\266\351\370\224\110\117\076\246\165\011\354\112
\305\073\340\311\136\260\062\377\237\151\131\317\074\060\157\015
\316\047\127\354\132\033\150\377\354\117\157\170\062\076\171\305
\264\135\225\177\002\003\001\000\001\243\201\365\060\201\362\060
\116\006\003\125\035\040\004\107\060\105\060\103\006\005\140\114

\001\001\000\060\072\060\070\006\010\053\006\001\005\005\007\002
\001\026\054\150\164\164\160\072\057\057\141\143\162\141\151\172
\056\151\143\160\142\162\141\163\151\154\056\147\157\166\056\142
\162\057\104\120\103\141\143\162\141\151\172\056\160\144\146\060
\077\006\003\125\035\037\004\070\060\066\060\064\240\062\240\060
\206\056\150\164\164\160\072\057\057\141\143\162\141\151\172\056
\151\143\160\142\162\141\163\151\154\056\147\157\166\056\142\162
\057\114\103\122\141\143\162\141\151\172\166\062\056\143\162\154
\060\037\006\003\125\035\043\004\030\060\026\200\024\014\071\040
\072\267\001\037\313\327\050\175\101\240\307\372\112\255\062\044
\276\060\035\006\003\125\035\016\004\026\004\024\014\071\040\072
\267\001\037\313\327\050\175\101\240\307\372\112\255\062\044\276
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000
\003\202\002\001\000\131\232\024\151\030\155\175\051\103\160\175
\166\233\141\337\167\216\032\166\344\251\326\313\166\244\026\014
\114\224\022\306\220\321\201\003\305\255\006\331\055\104\274\262
\011\166\011\200\071\147\000\030\064\155\006\012\346\265\020\131
\110\272\165\140\374\077\216\035\030\125\160\053\236\113\225\254
\211\253\012\167\044\173\141\304\307\221\046\216\106\023\121\067
\266\214\047\012\323\015\360\232\053\042\203\203\263\275\203\065
\255\233\074\274\170\203\051\065\141\066\370\021\161\063\040\124
\143\123\105\001\330\023\132\204\073\327\146\023\044\267\304\106
\305\042\330\163\044\356\034\023\027\226\310\045\350\033\036\317
\337\205\120\155\074\352\367\120\236\033\227\336\247\153\333\326
\163\322\317\174\120\300\260\214\345\123\022\172\206\071\254\065
\133\147\307\352\324\373\321\302\135\352\016\227\163\230\256\051
\277\344\072\363\004\066\120\054\355\336\036\333\205\350\035\204
\011\356\363\246\203\063\133\157\107\171\117\110\265\374\270\046
\023\253\252\263\364\141\021\373\105\147\363\035\076\156\376\052
\113\046\104\032\237\261\242\340\074\332\340\344\005\072\170\254
\373\250\241\115\277\135\054\167\051\220\315\023\035\357\006\050
\330\267\024\363\133\310\311\236\247\176\061\022\212\170\142\304
\321\005\274\006\002\143\004\053\015\211\335\344\134\133\062\200
\104\324\102\354\052\363\362\100\207\061\325\076\342\012\062\014
\024\215\325\162\155\013\346\375\215\344\250\363\005\215\165\027
\167\233\012\271\372\220\222\231\145\210\062\147\103\005\216\055
\013\025\273\065\361\141\350\331\147\167\355\026\345\350\001\055
\153\064\077\216\203\263\367\352\017\112\036\076\065\204\235\214
\200\064\077\251\225\350\303\255\304\315\236\312\024\026\054\031
\236\344\066\213\271\271\243\102\045\007\076\303\345\325\150\117
\240\146\034\246\263\266\163\034\220\032\077\100\271\032\126\102
\160\207\377\157\055\017\021\375\036\377\367\205\060\025\016\343
\027\061\356\047\225\314\311\351\231\036\227\307\155\133\007\265
\005\152\075\362\105\337\272\202\171\044\160\056\233\202\037\146
\251\245\155\047\314\366\052\242\321\137\205\157\340\106\235\252
\322\245\116\125\016

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Trust for "Autoridade Certificadora Raiz Brasileira v2"
# Issuer: CN=Autoridade Certificadora Raiz Brasileira v2,OU=Instituto Nacional de Tecnologia da Informacao -
ITI,O=ICP-Brasil,C=BR
# Serial Number: 1 (0x1)
# Subject: CN=Autoridade Certificadora Raiz Brasileira v2,OU=Instituto Nacional de Tecnologia da Informacao -
ITI,O=ICP-Brasil,C=BR
# Not Valid Before: Mon Jun 21 19:04:57 2010
# Not Valid After: Wed Jun 21 19:04:57 2023
# Fingerprint (MD5): 00:11:ae:73:15:fb:2d:6d:88:d8:43:bd:b4:b6:4c:5f
# Fingerprint (SHA1): a9:82:2e:6c:69:33:c6:3c:14:8c:2d:ca:a4:4a:5c:f1:aa:d2:c4:2e
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridade Certificadora Raiz Brasileira v2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\251\202\056\154\151\063\306\074\024\214\055\312\244\112\134\361
\252\322\304\056
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\000\021\256\163\025\373\055\155\210\330\103\275\264\266\114\137
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\227\061\013\060\011\006\003\125\004\006\023\002\102\122
\061\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102
\162\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064
\111\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156
\141\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141
\040\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055
\040\111\124\111\061\064\060\062\006\003\125\004\003\023\053\101
\165\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146
\151\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141
\163\151\154\145\151\162\141\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

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# Microsoft Code Signing Only Certificate
# Certificate "Swisscom Root CA 2"
# Issuer: CN=Swisscom Root CA 2,OU=Digital Certificate Services,O=Swisscom,C=ch
# Serial Number:1e:9e:28:e8:f2:e5:ef:c3:7c:4a:1e:5a:18:67:b6
# Subject: CN=Swisscom Root CA 2,OU=Digital Certificate Services,O=Swisscom,C=ch
# Not Valid Before: Fri Jun 24 08:38:14 2011
# Not Valid After: Wed Jun 25 07:38:14 2031
# Fingerprint (MD5): 5b:04:69:ec:a5:83:94:63:18:a7:86:d0:e4:f2:6e:19
# Fingerprint (SHA1): 77:47:4f:c6:30:e4:0f:4c:47:64:3f:84:ba:b8:c6:95:4a:8a:41:ec
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swisscom Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147
\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\061\033\060\031\006\003\125
\004\003\023\022\123\167\151\163\163\143\157\155\040\122\157\157
\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147
\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\061\033\060\031\006\003\125
\004\003\023\022\123\167\151\163\163\143\157\155\040\122\157\157
\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\236\050\350\110\362\345\357\303\174\112\036\132\030
\147\266
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\331\060\202\003\301\240\003\002\001\002\002\020\036
\236\050\350\110\362\345\357\303\174\112\036\132\030\147\266\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\144
\061\013\060\011\006\003\125\004\006\023\002\143\150\061\021\060
\017\006\003\125\004\012\023\010\123\167\151\163\163\143\157\155
\061\045\060\043\006\003\125\004\013\023\034\104\151\147\151\164
\141\154\040\103\145\162\164\151\146\151\143\141\164\145\040\123
\145\162\166\151\143\145\163\061\033\060\031\006\003\125\004\003
\023\022\123\167\151\163\163\143\157\155\040\122\157\157\164\040
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\103\101\040\062\060\036\027\015\061\061\060\066\062\064\060\070
\063\070\061\064\132\027\015\063\061\060\066\062\065\060\067\063
\070\061\064\132\060\144\061\013\060\011\006\003\125\004\006\023
\002\143\150\061\021\060\017\006\003\125\004\012\023\010\123\167
\151\163\163\143\157\155\061\045\060\043\006\003\125\004\013\023
\034\104\151\147\151\164\141\154\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163\061\033\060
\031\006\003\125\004\003\023\022\123\167\151\163\163\143\157\155
\040\122\157\157\164\040\103\101\040\062\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\225\102\116\204\235
\121\346\323\011\350\162\132\043\151\333\170\160\216\026\361\053
\217\015\003\316\223\314\056\000\010\173\253\063\214\364\351\100
\346\027\114\253\236\270\107\024\062\167\062\335\050\014\336\030
\113\137\166\237\370\071\073\374\116\211\330\174\305\147\357\253
\322\271\064\137\153\072\363\144\066\316\302\260\317\023\150\312
\310\313\353\265\342\075\056\041\337\352\054\324\340\371\160\226
\114\377\152\130\230\267\027\344\033\122\345\176\007\000\035\137
\332\346\076\225\004\267\151\210\071\241\101\140\045\141\113\225
\071\150\142\034\261\013\005\211\300\066\202\024\041\077\256\333
\241\375\274\157\034\140\206\266\123\224\111\271\053\106\305\117
\000\053\277\241\273\313\077\340\307\127\034\127\350\326\151\370
\301\044\122\235\210\125\335\302\207\056\164\043\320\024\375\052
\107\132\273\246\235\375\224\344\321\212\245\137\206\143\166\205
\313\257\377\111\050\374\200\355\114\171\322\273\344\300\357\001
\356\120\101\010\065\043\160\053\251\026\264\214\156\205\351\266
\021\317\061\335\123\046\033\337\055\132\112\002\100\374\304\300
\266\351\061\032\010\050\345\140\303\037\304\220\216\020\142\140
\104\015\354\012\276\125\030\161\054\245\364\262\274\025\142\377
\034\343\276\035\332\036\127\263\074\176\315\202\035\221\343\113
\353\054\122\064\260\212\375\022\116\226\260\353\160\177\236\071
\367\146\102\261\253\254\122\332\166\100\127\173\052\275\350\156
\003\262\013\200\205\210\235\014\307\302\167\260\232\232\127\364
\270\372\023\134\150\223\072\147\244\227\320\033\231\267\206\062
\113\140\330\316\357\320\014\177\225\237\157\207\117\207\212\216
\137\010\174\252\133\374\132\276\241\221\237\125\175\116\260\013
\151\314\260\224\250\247\207\362\323\112\120\334\137\162\260\026
\165\036\313\264\030\142\232\260\247\071\252\233\237\146\330\215
\246\154\226\025\343\346\362\370\361\203\142\154\273\125\351\141
\223\243\075\365\261\127\213\117\043\260\233\345\224\152\057\337
\214\337\225\121\051\140\241\013\051\344\134\125\130\267\250\374
\231\356\045\115\114\016\263\323\114\217\204\350\051\017\375\020
\124\002\205\310\371\345\303\213\317\347\017\002\003\001\000\001
\243\201\206\060\201\203\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\035\006\003\125\035\041\004\026\060
\024\060\022\006\007\140\205\164\001\123\002\001\006\007\140\205
\164\001\123\002\001\060\022\006\003\125\035\023\001\001\377\004
\010\060\006\001\001\377\002\001\007\060\035\006\003\125\035\016

\004\026\004\024\115\046\040\042\211\113\323\325\244\012\241\157
\336\342\022\201\305\361\074\056\060\037\006\003\125\035\043\004
\030\060\026\200\024\115\046\040\042\211\113\323\325\244\012\241
\157\336\342\022\201\305\361\074\056\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\003\202\002\001\000\062\012\262
\244\033\313\175\276\202\127\211\271\152\177\363\364\301\056\021
\175\270\031\076\171\267\250\250\162\067\146\233\032\355\254\023
\073\016\277\142\360\234\337\236\173\241\123\110\016\101\172\312
\040\247\027\033\266\170\354\100\221\363\102\255\020\303\134\357
\377\140\131\177\315\205\243\213\075\110\034\045\002\074\147\175
\365\062\351\057\060\345\175\245\172\070\320\363\146\052\146\036
\215\063\203\212\157\174\156\250\132\165\232\270\327\332\130\110
\104\107\250\114\372\114\111\012\112\302\022\067\250\100\014\303
\310\341\320\127\015\227\062\225\307\072\237\227\323\127\370\013
\336\345\162\363\243\333\377\265\330\131\262\163\335\115\052\161
\262\272\111\365\313\034\325\365\171\310\231\263\374\301\114\164
\343\264\275\051\067\025\004\050\036\336\105\106\160\354\257\272
\170\016\212\052\316\000\171\334\300\137\031\147\054\153\113\357
\150\150\013\103\343\254\301\142\011\357\246\335\145\141\240\257
\204\125\110\221\122\034\306\045\221\052\320\301\042\043\141\131
\257\105\021\205\035\001\044\064\217\317\263\377\027\162\040\023
\302\200\252\041\054\161\071\016\320\217\134\301\323\321\216\042
\162\106\114\035\226\256\117\161\261\341\005\051\226\131\364\273
\236\165\075\317\015\067\015\142\333\046\214\143\251\043\337\147
\006\074\174\072\332\064\102\341\146\264\106\004\336\306\226\230
\017\113\110\172\044\062\165\221\237\254\367\150\351\052\271\125
\145\316\135\141\323\047\160\330\067\376\237\271\257\240\056\126
\267\243\145\121\355\073\253\024\277\114\121\003\350\137\212\005
\233\356\212\156\234\357\277\150\372\310\332\013\343\102\311\320
\027\024\234\267\112\340\257\223\047\041\125\046\265\144\057\215
\361\377\246\100\005\205\005\134\312\007\031\134\013\023\050\114
\130\177\302\245\357\105\332\140\323\256\145\141\235\123\203\164
\302\256\362\134\302\026\355\222\076\204\076\163\140\210\274\166
\364\054\317\320\175\175\323\270\136\321\221\022\020\351\315\335
\312\045\343\325\355\231\057\276\165\201\113\044\371\105\106\224
\311\051\041\123\234\046\105\252\023\027\344\347\315\170\342\071
\301\053\022\236\246\236\033\305\346\016\331\061\331

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Swisscom Root CA 2"
Issuer: CN=Swisscom Root CA 2,OU=Digital Certificate Services,O=Swisscom,C=ch
Serial Number: 1e:9e:28:e8:f2:e5:ef:c3:7c:4a:1e:5a:18:67:b6
Subject: CN=Swisscom Root CA 2,OU=Digital Certificate Services,O=Swisscom,C=ch
Not Valid Before: Fri Jun 24 08:38:14 2011

```
# Not Valid After: Wed Jun 25 07:38:14 2031
# Fingerprint (MD5): 5b:04:69:ec:a5:83:94:63:18:a7:86:d0:e4:f2:6e:19
# Fingerprint (SHA1): 77:47:4f:c6:30:e4:0f:4c:47:64:3f:84:ba:b8:c6:95:4a:8a:41:ec
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swisscom Root CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\167\107\117\306\060\344\017\114\107\144\077\204\272\270\306\225
\112\212\101\354
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\133\004\151\354\245\203\224\143\030\247\206\320\344\362\156\031
END
CKA_ISSUER MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147
\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\061\033\060\031\006\003\125
\004\003\023\022\123\167\151\163\163\143\157\155\040\122\157\157
\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\236\050\350\110\362\345\357\303\174\112\036\132\030
\147\266
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "IGC/A AC racine Etat francais"
# Issuer: CN=IGC/A AC racine Etat francais,OU=0002 130007669,O=ANSSI,C=FR
# Serial Number:11:21:85:0c:b3:9c:6a:32:fa:be:67:1b:81:3f:a4:86:15:8f
# Subject: CN=IGC/A AC racine Etat francais,OU=0002 130007669,O=ANSSI,C=FR
# Not Valid Before: Fri Jul 08 09:00:00 2011
# Not Valid After: Sat Apr 15 09:00:00 2028
# Fingerprint (MD5): f4:f5:81:33:de:2e:15:b5:70:3a:57:3c:26:0a:72:8d
# Fingerprint (SHA1): 1a:c9:2f:09:ea:89:e2:8b:12:6d:fa:c5:1e:3a:f7:ea:90:95:a3:ee
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IGC/A AC racine Etat francais"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

CKA_SUBJECT MULTILINE_OCTAL

\060\136\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\016\060\014\006\003\125\004\012\023\005\101\116\123\123\111\061
\027\060\025\006\003\125\004\013\023\016\060\060\060\062\040\061
\063\060\060\060\067\066\066\071\061\046\060\044\006\003\125\004
\003\023\035\111\107\103\057\101\040\101\103\040\162\141\143\151
\156\145\040\105\164\141\164\040\146\162\141\156\143\141\151\163
END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\136\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\016\060\014\006\003\125\004\012\023\005\101\116\123\123\111\061
\027\060\025\006\003\125\004\013\023\016\060\060\060\062\040\061
\063\060\060\060\067\066\066\071\061\046\060\044\006\003\125\004
\003\023\035\111\107\103\057\101\040\101\103\040\162\141\143\151
\156\145\040\105\164\141\164\040\146\162\141\156\143\141\151\163
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\022\021\041\205\014\263\234\152\062\372\276\147\033\201\077
\244\206\025\217

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\303\060\202\003\253\240\003\002\001\002\002\022\021
\041\205\014\263\234\152\062\372\276\147\033\201\077\244\206\025
\217\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\060\136\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\016\060\014\006\003\125\004\012\023\005\101\116\123\123\111\061
\027\060\025\006\003\125\004\013\023\016\060\060\060\062\040\061
\063\060\060\060\067\066\066\071\061\046\060\044\006\003\125\004
\003\023\035\111\107\103\057\101\040\101\103\040\162\141\143\151
\156\145\040\105\164\141\164\040\146\162\141\156\143\141\151\163
\060\036\027\015\061\061\060\067\060\070\060\071\060\060\060\060
\132\027\015\062\070\060\064\061\065\060\071\060\060\060\060\132
\060\136\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\016\060\014\006\003\125\004\012\023\005\101\116\123\123\111\061
\027\060\025\006\003\125\004\013\023\016\060\060\060\062\040\061
\063\060\060\060\067\066\066\071\061\046\060\044\006\003\125\004
\003\023\035\111\107\103\057\101\040\101\103\040\162\141\143\151
\156\145\040\105\164\141\164\040\146\162\141\156\143\141\151\163
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\252\174\050\237\021\060\230\315\157\156\054\205\022\046\073
\010\006\312\101\375\122\117\103\275\300\046\047\161\166\032\131
\226\330\011\353\007\252\046\116\117\076\113\241\343\227\207\205
\146\201\161\311\271\025\166\157\167\120\030\223\020\055\067\210
\115\027\267\363\105\275\042\056\267\047\230\133\307\005\375\275
\063\355\242\365\123\035\050\043\145\277\100\065\156\316\152\013
\303\251\365\045\014\253\042\360\270\300\304\175\067\014\243\142

\174\356\264\333\075\041\071\247\234\211\343\233\242\020\370\212
\266\112\057\056\230\151\053\152\240\206\332\361\010\345\276\114
\147\026\055\045\141\363\325\015\013\027\104\107\011\324\106\005
\235\017\300\210\115\141\344\044\304\307\150\011\257\254\322\257
\271\225\046\157\200\004\374\166\254\252\307\043\266\344\006\221
\125\104\354\144\333\231\201\034\322\126\164\375\326\062\050\273
\313\311\067\015\373\151\154\157\272\243\153\006\214\152\100\056
\027\072\071\352\320\014\337\132\034\272\157\244\062\260\270\314
\076\167\033\323\213\037\206\372\377\076\076\157\134\210\106\347
\343\017\372\253\035\363\175\113\370\124\156\116\314\334\062\132
\143\170\242\062\257\063\170\352\103\341\114\172\115\327\224\006
\055\346\117\245\102\222\257\050\212\117\303\025\354\251\153\251
\337\340\335\023\002\274\314\175\377\055\346\007\251\276\165\226
\352\102\136\133\032\336\242\063\263\143\275\253\005\371\213\346
\275\115\321\155\126\232\353\211\074\237\300\170\344\276\045\160
\006\305\021\163\240\310\312\024\313\072\324\362\234\052\074\332
\137\027\063\331\166\024\067\252\111\207\145\331\364\331\056\031
\137\371\240\315\250\271\101\062\155\161\246\244\313\367\143\042
\320\051\344\272\201\032\152\051\035\232\245\244\134\106\124\044
\105\324\310\355\172\171\205\354\204\167\156\147\115\144\017\103
\336\172\203\244\247\330\333\265\123\114\376\142\310\023\303\142
\066\245\050\061\062\233\264\226\207\342\231\306\037\126\277\106
\243\251\144\061\345\325\261\113\250\146\314\133\241\377\026\374
\012\070\052\150\217\167\045\046\255\221\164\205\150\310\177\032
\345\132\024\270\175\016\267\043\061\300\144\267\005\057\101\130
\125\002\003\001\000\001\243\173\060\171\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\026\006\003\125
\035\040\004\017\060\015\060\013\006\011\052\201\172\001\201\137
\001\001\002\060\035\006\003\125\035\016\004\026\004\024\237\252
\323\051\226\337\000\345\103\340\361\143\254\336\022\216\302\047
\170\372\060\037\006\003\125\035\043\004\030\060\026\200\024\237
\252\323\051\226\337\000\345\103\340\361\143\254\336\022\216\302
\047\170\372\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\002\001\000\165\265\165\321\216\066\146\234\110
\367\205\015\116\005\273\115\232\234\264\016\050\242\004\274\120
\060\273\364\224\114\230\220\205\253\340\122\144\117\322\322\056
\142\223\220\260\205\015\210\124\373\306\124\154\236\353\225\171
\200\136\242\227\026\037\362\147\164\101\234\125\364\267\152\233
\112\026\206\275\005\037\146\200\160\176\311\321\365\055\041\161
\120\071\245\255\210\246\046\034\213\327\045\034\072\326\343\364
\302\014\237\127\301\144\310\127\121\043\026\043\215\017\043\152
\126\113\377\372\306\237\065\223\306\042\300\145\361\257\336\251
\154\030\276\127\145\131\315\364\043\125\144\041\330\355\225\141
\151\063\162\152\121\366\237\345\225\155\216\336\153\163\047\023
\224\136\176\227\110\300\062\026\276\075\067\355\326\334\216\274
\134\055\374\142\250\317\366\220\367\261\213\011\353\072\044\143
\015\310\226\105\324\057\167\110\102\365\055\142\347\047\013\340

```
\021\206\031\335\247\020\367\143\006\221\060\151\132\165\364\254
\371\241\215\227\306\240\357\072\037\223\045\110\126\072\032\210
\041\031\223\303\225\040\111\010\125\111\115\242\123\234\231\234
\163\151\056\247\365\312\267\016\045\357\067\043\137\220\330\103
\176\356\204\027\152\047\136\177\322\055\077\254\076\257\060\247
\215\221\304\364\217\011\035\363\367\221\016\343\030\272\334\104
\311\175\005\123\003\267\156\240\363\171\327\321\032\117\320\270
\154\210\166\301\200\230\125\205\123\141\317\104\127\114\336\116
\015\026\121\361\075\211\201\256\175\013\255\212\265\356\126\304
\306\314\021\013\030\324\374\375\171\373\376\004\021\234\043\357
\166\162\307\215\276\271\036\170\166\362\232\034\255\143\102\307
\330\355\155\141\220\302\041\052\017\010\024\055\040\103\045\174
\030\265\267\240\244\175\271\245\014\031\376\311\253\075\347\133
\336\257\372\127\031\047\205\347\043\016\364\315\015\031\060\076
\212\344\306\021\036\360\264\175\151\143\233\016\226\206\220\340
\373\003\157\133\131\076\035\041\365\127\147\126\046\362\207\031
\007\204\272\054\220\072\303\050\244\005\132\040\315\251\133\225
\165\071\177\042\120\012\116\177\027\367\263\254\323\007\246\276
\055\122\012\060\114\170\020
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "IGC/A AC racine Etat francais"
# Issuer: CN=IGC/A AC racine Etat francais,OU=0002 130007669,O=ANSSI,C=FR
# Serial Number: 11:21:85:0c:b3:9c:6a:32:fa:be:67:1b:81:3f:a4:86:15:8f
# Subject: CN=IGC/A AC racine Etat francais,OU=0002 130007669,O=ANSSI,C=FR
# Not Valid Before: Fri Jul 08 09:00:00 2011
# Not Valid After: Sat Apr 15 09:00:00 2028
# Fingerprint (MD5): f4:f5:81:33:de:2e:15:b5:70:3a:57:3c:26:0a:72:8d
# Fingerprint (SHA1): 1a:c9:2f:09:ea:89:e2:8b:12:6d:fa:c5:1e:3a:f7:ea:90:95:a3:ee
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IGC/A AC racine Etat francais"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\032\311\057\011\352\211\342\213\022\155\372\305\036\072\367\352
\220\225\243\356
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\364\365\201\063\336\056\025\265\160\072\127\074\046\012\162\215
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\016\060\014\006\003\125\004\012\023\005\101\116\123\123\111\061
```

```
\027\060\025\006\003\125\004\013\023\016\060\060\060\062\040\061
\063\060\060\060\067\066\066\071\061\046\060\044\006\003\125\004
\003\023\035\111\107\103\057\101\040\101\103\040\162\141\143\151
\156\145\040\105\164\141\164\040\146\162\141\156\143\141\151\163
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\022\021\041\205\014\263\234\152\062\372\276\147\033\201\077
\244\206\025\217
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Certificate "PersonalID Trustworthy RootCA 2011"

Issuer: CN=PersonalID Trustworthy RootCA 2011,OU=Certificate Services,O=PersonalID Ltd.,C=IL

Serial Number:58:cb:f9:64:96:71:74:95:40:f4:ad:08:ac:64:e4:e3

Subject: CN=PersonalID Trustworthy RootCA 2011,OU=Certificate Services,O=PersonalID Ltd.,C=IL

Not Valid Before: Thu Sep 01 08:35:21 2011

Not Valid After: Sun Sep 01 08:45:16 2041

Fingerprint (MD5): 20:3c:23:dc:f6:7a:97:14:0e:5f:48:b4:7d:ad:ac:c8

Fingerprint (SHA1): 43:94:ce:31:26:ff:1a:22:4c:dd:4d:ee:b4:f4:ec:1d:a3:68:ef:6a

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "PersonalID Trustworthy RootCA 2011"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\163\061\013\060\011\006\003\125\004\006\023\002\111\114\061
\030\060\026\006\003\125\004\012\014\017\120\145\162\163\157\156
\141\154\111\104\040\114\164\144\056\061\035\060\033\006\003\125
\004\013\014\024\103\145\162\164\151\146\151\143\141\164\145\040
\123\145\162\166\151\143\145\163\061\053\060\051\006\003\125\004
\003\014\042\120\145\162\163\157\156\141\154\111\104\040\124\162
\165\163\164\167\157\162\164\150\171\040\122\157\157\164\103\101
\040\062\060\061\061
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\163\061\013\060\011\006\003\125\004\006\023\002\111\114\061
\030\060\026\006\003\125\004\012\014\017\120\145\162\163\157\156
\141\154\111\104\040\114\164\144\056\061\035\060\033\006\003\125
\004\013\014\024\103\145\162\164\151\146\151\143\141\164\145\040
\123\145\162\166\151\143\145\163\061\053\060\051\006\003\125\004
\003\014\042\120\145\162\163\157\156\141\154\111\104\040\124\162
\165\163\164\167\157\162\164\150\171\040\122\157\157\164\103\101
```

\040\062\060\061\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\130\313\371\144\226\161\164\225\100\364\255\010\254\144
\344\343

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\062\060\202\004\032\240\003\002\001\002\002\020\130
\313\371\144\226\161\164\225\100\364\255\010\254\144\344\343\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\163
\061\013\060\011\006\003\125\004\006\023\002\111\114\061\030\060
\026\006\003\125\004\012\014\017\120\145\162\163\157\156\141\154
\111\104\040\114\164\144\056\061\035\060\033\006\003\125\004\013
\014\024\103\145\162\164\151\146\151\143\141\164\145\040\123\145
\162\166\151\143\145\163\061\053\060\051\006\003\125\004\003\014
\042\120\145\162\163\157\156\141\154\111\104\040\124\162\165\163
\164\167\157\162\164\150\171\040\122\157\157\164\103\101\040\062
\060\061\061\060\036\027\015\061\061\060\071\060\061\060\070\063
\065\062\061\132\027\015\064\061\060\071\060\061\060\070\064\065
\061\066\132\060\163\061\013\060\011\006\003\125\004\006\023\002
\111\114\061\030\060\026\006\003\125\004\012\014\017\120\145\162
\163\157\156\141\154\111\104\040\114\164\144\056\061\035\060\033
\006\003\125\004\013\014\024\103\145\162\164\151\146\151\143\141
\164\145\040\123\145\162\166\151\143\145\163\061\053\060\051\006
\003\125\004\003\014\042\120\145\162\163\157\156\141\154\111\104
\040\124\162\165\163\164\167\157\162\164\150\171\040\122\157\157
\164\103\101\040\062\060\061\061\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\260\225\214\140\376\005\016
\152\063\355\367\213\343\362\325\362\174\323\126\102\124\367\053
\362\210\245\365\347\267\154\207\001\053\151\276\005\111\104\330
\333\041\172\052\327\212\061\241\041\020\236\323\342\156\143\202
\205\124\204\115\050\046\033\342\023\367\121\373\057\353\022\325
\075\071\214\144\237\244\023\207\303\330\311\372\051\043\216\011
\217\111\106\304\324\311\127\130\151\237\027\317\163\164\245\356
\312\030\271\307\301\060\315\117\072\065\010\123\370\354\032\373
\157\060\355\366\237\011\360\360\320\304\216\073\171\116\056\205
\042\134\324\175\160\321\377\222\272\037\324\125\123\147\272\050
\130\055\367\023\214\374\245\013\234\070\246\106\034\016\350\252
\170\053\365\012\060\323\073\140\206\310\177\245\233\242\143\001
\057\320\323\022\045\205\176\226\315\061\261\344\233\216\352\054
\223\244\142\250\067\325\366\217\337\041\232\323\076\035\341\120
\021\160\124\233\004\027\235\115\253\141\316\217\052\054\357\171
\346\167\105\131\326\150\325\266\113\232\253\221\113\016\141\027
\271\130\302\236\146\241\217\211\301\103\040\102\260\177\200\234
\112\052\267\172\040\101\306\115\304\222\157\172\176\135\133\271
\243\311\116\312\345\120\145\274\000\000\171\107\360\105\004\260
\042\373\016\230\252\141\035\117\140\143\162\217\265\260\004\224

\177\020\254\031\077\047\142\151\326\034\127\335\071\117\070\352
\000\232\375\050\235\100\046\300\100\235\304\240\111\310\101\265
\147\075\240\113\224\051\022\251\130\047\131\004\177\217\321\214
\176\014\263\010\027\064\254\217\271\134\275\351\160\241\176\302
\245\145\141\351\266\020\120\217\334\344\164\141\361\137\162\173
\177\134\057\055\174\253\326\103\061\020\034\131\167\312\110\112
\030\242\144\013\000\131\147\307\324\312\303\233\032\010\122\025
\276\327\305\306\267\057\346\142\234\246\307\330\336\360\025\373
\256\071\125\055\157\120\165\056\375\240\007\264\137\172\176\004
\213\366\231\242\165\355\311\073\325\075\317\147\122\075\076\357
\037\160\232\030\074\247\040\006\111\014\261\145\254\063\273\324
\177\107\151\210\366\212\201\356\235\324\264\307\057\003\350\256
\032\311\126\005\147\151\250\310\201\002\003\001\000\001\243\201
\301\060\201\276\060\013\006\003\125\035\017\004\004\003\002\001
\206\060\022\006\003\125\035\023\001\001\377\004\010\060\006\001
\001\377\002\001\002\060\035\006\003\125\035\016\004\026\004\024
\307\177\013\310\057\127\216\051\362\366\001\213\353\047\245\126
\216\375\244\036\060\020\006\011\053\006\001\004\001\202\067\025
\001\004\003\002\001\000\060\152\006\003\125\035\040\004\143\060
\141\060\137\006\010\053\006\001\004\001\341\030\001\060\123\060
\121\006\010\053\006\001\005\005\007\002\001\026\105\150\164\164
\160\072\057\057\167\167\167\056\151\143\141\056\143\157\056\151
\154\057\162\145\160\157\163\151\164\157\162\171\057\143\160\163
\057\120\145\162\163\157\156\141\154\111\104\137\120\162\141\143
\164\151\143\145\137\123\164\141\164\145\155\145\156\164\056\160
\144\146\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\003\202\002\001\000\102\145\213\044\372\222\025\064\032\034
\372\310\316\115\172\057\173\337\320\003\101\034\324\244\341\373
\350\314\255\011\335\035\244\010\331\250\040\175\227\237\014\111
\361\245\302\346\325\167\106\227\176\244\220\242\171\351\275\032
\136\064\202\146\011\122\374\120\321\217\320\253\034\242\377\377
\075\356\376\043\370\277\043\263\315\276\341\367\317\344\330\022
\343\224\310\116\314\327\173\260\067\233\167\352\355\134\201\310
\314\217\316\071\343\344\145\135\336\202\330\217\043\151\341\121
\257\137\267\117\220\151\244\231\145\123\272\346\375\257\170\147
\224\112\310\303\177\214\002\117\112\346\207\230\366\070\267\110
\370\155\050\177\367\306\154\045\124\375\056\326\352\332\006\342
\261\375\007\150\360\257\200\214\264\302\351\164\025\244\032\277
\271\312\103\133\022\347\205\107\136\122\003\360\221\340\351\120
\161\324\041\002\054\173\206\221\160\066\306\234\266\164\371\052
\125\367\041\373\157\240\006\135\327\060\022\362\121\361\311\070
\066\217\310\146\141\101\331\307\113\202\150\122\243\365\211\014
\025\274\116\052\225\254\061\151\247\033\342\324\327\110\364\221
\365\003\174\171\026\076\054\015\151\341\212\067\036\237\174\030
\125\101\057\137\347\244\162\233\125\363\343\001\260\002\245\204
\022\152\100\246\253\344\241\254\353\003\331\274\137\044\126\047
\255\040\340\146\065\105\075\107\011\360\005\261\157\161\176\100
\260\320\025\136\053\254\122\201\250\373\203\365\054\127\104\206

```
\064\344\024\152\343\317\175\232\167\330\154\110\134\313\232\341
\246\373\277\021\242\006\345\037\161\275\064\265\317\275\304\102
\026\305\051\370\324\300\114\212\262\336\305\224\202\206\233\314
\340\251\006\104\061\044\044\115\372\355\341\102\045\146\242\301
\327\200\027\357\172\225\145\103\076\146\323\005\361\001\344\102
\126\104\000\170\153\235\066\040\373\145\377\100\134\350\150\065
\037\341\046\240\202\003\166\003\313\160\106\021\044\256\337\057
\140\375\361\047\000\003\275\113\047\333\274\234\227\067\121\053
\345\170\264\301\066\220\020\214\377\075\000\324\272\110\237\110
\312\207\061\232\355\304\232\123\322\335\163\024\077\011\202\241
\135\145\116\115\046\342
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "PersonalID Trustworthy RootCA 2011"

Issuer: CN=PersonalID Trustworthy RootCA 2011,OU=Certificate Services,O=PersonalID Ltd.,C=IL

Serial Number:58:cb:f9:64:96:71:74:95:40:f4:ad:08:ac:64:e4:e3

Subject: CN=PersonalID Trustworthy RootCA 2011,OU=Certificate Services,O=PersonalID Ltd.,C=IL

Not Valid Before: Thu Sep 01 08:35:21 2011

Not Valid After: Sun Sep 01 08:45:16 2041

Fingerprint (MD5): 20:3c:23:dc:f6:7a:97:14:0e:5f:48:b4:7d:ad:ac:c8

Fingerprint (SHA1): 43:94:ce:31:26:ff:1a:22:4c:dd:4d:ee:b4:f4:ec:1d:a3:68:ef:6a

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "PersonalID Trustworthy RootCA 2011"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\103\224\316\061\046\377\032\042\114\335\115\356\264\364\354\035
\243\150\357\152
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\040\074\043\334\366\172\227\024\016\137\110\264\175\255\254\310
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\163\061\013\060\011\006\003\125\004\006\023\002\111\114\061
\030\060\026\006\003\125\004\012\014\017\120\145\162\163\157\156
\141\154\111\104\040\114\164\144\056\061\035\060\033\006\003\125
\004\013\014\024\103\145\162\164\151\146\151\143\141\164\145\040
\123\145\162\166\151\143\145\163\061\053\060\051\006\003\125\004
\003\014\042\120\145\162\163\157\156\141\154\111\104\040\124\162
\165\163\164\167\157\162\164\150\171\040\122\157\157\164\103\101
\040\062\060\061\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

\002\020\130\313\371\144\226\161\164\225\100\364\255\010\254\144
\344\343

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Swedish Government Root Authority v1"

Issuer: CN=Swedish Government Root Authority v1,O=Swedish Social Insurance Agency,C=SE

Serial Number:3e:bd:43:96:a3:65:42:a8:49:b6:91:a8:12:51:26:cf

Subject: CN=Swedish Government Root Authority v1,O=Swedish Social Insurance Agency,C=SE

Not Valid Before: Wed Apr 14 13:33:23 2010

Not Valid After: Sun Apr 14 13:43:19 2030

Fingerprint (MD5): 8f:a9:d7:45:06:57:d0:80:00:cf:96:04:55:8e:64:c4

Fingerprint (SHA1): 11:e1:9b:bc:74:7b:1a:ed:0d:b8:33:c9:4c:ac:6c:3f:85:bd:eb:db

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Swedish Government Root Authority v1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\146\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\050\060\046\006\003\125\004\012\023\037\123\167\145\144\151\163
\150\040\123\157\143\151\141\154\040\111\156\163\165\162\141\156
\143\145\040\101\147\145\156\143\171\061\055\060\053\006\003\125
\004\003\023\044\123\167\145\144\151\163\150\040\107\157\166\145
\162\156\155\145\156\164\040\122\157\157\164\040\101\165\164\150
\157\162\151\164\171\040\166\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\146\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\050\060\046\006\003\125\004\012\023\037\123\167\145\144\151\163
\150\040\123\157\143\151\141\154\040\111\156\163\165\162\141\156
\143\145\040\101\147\145\156\143\171\061\055\060\053\006\003\125
\004\003\023\044\123\167\145\144\151\163\150\040\107\157\166\145
\162\156\155\145\156\164\040\122\157\157\164\040\101\165\164\150
\157\162\151\164\171\040\166\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\076\275\103\226\243\145\102\250\111\266\221\250\022\121
\046\317

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\255\060\202\002\225\240\003\002\001\002\002\020\076

\275\103\226\243\145\102\250\111\266\221\250\022\121\046\317\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\146
\061\013\060\011\006\003\125\004\006\023\002\123\105\061\050\060
\046\006\003\125\004\012\023\037\123\167\145\144\151\163\150\040
\123\157\143\151\141\154\040\111\156\163\165\162\141\156\143\145
\040\101\147\145\156\143\171\061\055\060\053\006\003\125\004\003
\023\044\123\167\145\144\151\163\150\040\107\157\166\145\162\156
\155\145\156\164\040\122\157\157\164\040\101\165\164\150\157\162
\151\164\171\040\166\061\060\036\027\015\061\060\060\064\061\064
\061\063\063\063\062\063\132\027\015\063\060\060\064\061\064\061
\063\064\063\061\071\132\060\146\061\013\060\011\006\003\125\004
\006\023\002\123\105\061\050\060\046\006\003\125\004\012\023\037
\123\167\145\144\151\163\150\040\123\157\143\151\141\154\040\111
\156\163\165\162\141\156\143\145\040\101\147\145\156\143\171\061
\055\060\053\006\003\125\004\003\023\044\123\167\145\144\151\163
\150\040\107\157\166\145\162\156\155\145\156\164\040\122\157\157
\164\040\101\165\164\150\157\162\151\164\171\040\166\061\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\312
\034\117\164\025\367\325\136\311\300\130\204\062\347\334\374\121
\221\220\316\021\042\341\045\160\203\102\160\373\160\334\033\013
\157\302\055\320\212\333\135\126\051\252\267\136\205\265\167\347
\301\132\040\142\310\227\102\141\302\103\160\333\130\154\165\340
\013\266\062\212\340\244\055\105\276\347\133\073\213\172\261\375
\005\314\063\177\237\360\133\355\162\216\315\063\323\311\022\213
\300\223\100\243\217\206\156\337\215\210\363\346\152\114\157\245
\106\372\150\246\133\020\226\203\056\127\240\117\217\025\131\066
\245\156\150\204\105\036\020\207\266\342\125\325\270\277\253\267
\256\145\277\127\107\214\304\343\344\002\215\363\334\063\333\357
\047\107\370\354\313\362\074\347\011\363\371\345\371\213\307\351
\132\340\055\223\253\252\051\066\057\176\306\310\366\360\346\200
\105\061\026\064\152\360\350\111\071\104\141\000\363\233\346\276
\012\145\033\062\043\171\142\167\254\042\177\033\244\135\172\260
\347\254\330\340\166\003\057\175\357\153\367\067\357\243\242\144
\034\314\327\175\332\202\242\316\265\001\115\370\011\054\065\002
\003\001\000\001\243\127\060\125\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\022\006\003\125\035\023\001
\001\377\004\010\060\006\001\001\377\002\001\001\060\035\006\003
\125\035\016\004\026\004\024\135\007\272\367\215\135\111\360\134
\225\220\011\363\136\352\254\320\366\103\266\060\020\006\011\053
\006\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\060\337\244\234\350\224\163\051\153\256\037\014\160\272\114
\376\144\175\254\117\257\111\017\162\213\244\262\000\110\151\116
\325\362\204\063\013\215\163\333\316\151\016\267\142\277\261\221
\344\152\341\022\111\174\106\107\233\204\330\230\051\054\007\203
\044\360\036\353\161\235\221\150\172\367\133\103\255\202\004\017
\103\337\046\275\202\135\266\221\274\142\276\103\132\243\124\157

```
\176\121\061\055\371\067\234\266\037\250\373\347\021\233\026\013
\356\141\022\124\325\245\204\331\377\237\222\047\235\123\367\266
\013\063\027\306\353\262\352\202\362\366\103\166\034\274\061\223
\060\235\351\110\142\016\076\103\073\254\051\314\224\340\053\154
\232\277\027\336\361\312\360\346\035\205\322\017\253\275\207\235
\202\115\206\060\065\264\011\323\100\250\273\267\042\376\170\250
\333\321\120\151\200\063\140\055\175\217\204\271\354\207\322\230
\351\013\314\333\171\030\161\023\130\240\371\153\326\316\344\106
\114\000\167\212\057\134\235\256\211\005\353\352\034\340\232\143
\371\273\106\243\271\112\275\235\032\175\312\204\315\376\220\361
\272
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "Swedish Government Root Authority v1"
# Issuer: CN=Swedish Government Root Authority v1,O=Swedish Social Insurance Agency,C=SE
# Serial Number:3e:bd:43:96:a3:65:42:a8:49:b6:91:a8:12:51:26:cf
# Subject: CN=Swedish Government Root Authority v1,O=Swedish Social Insurance Agency,C=SE
# Not Valid Before: Wed Apr 14 13:33:23 2010
# Not Valid After: Sun Apr 14 13:43:19 2030
# Fingerprint (MD5): 8f:a9:d7:45:06:57:d0:80:00:cf:96:04:55:8e:64:c4
# Fingerprint (SHA1): 11:e1:9b:bc:74:7b:1a:ed:0d:b8:33:c9:4c:ac:6c:3f:85:bd:eb:db
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swedish Government Root Authority v1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\021\341\233\274\164\173\032\355\015\270\063\311\114\254\154\077
\205\275\353\333
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\217\251\327\105\006\127\320\200\000\317\226\004\125\216\144\304
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\146\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\050\060\046\006\003\125\004\012\023\037\123\167\145\144\151\163
\150\040\123\157\143\151\141\154\040\111\156\163\165\162\141\156
\143\145\040\101\147\145\156\143\171\061\055\060\053\006\003\125
\004\003\023\044\123\167\145\144\151\163\150\040\107\157\166\145
\162\156\155\145\156\164\040\122\157\157\164\040\101\165\164\150
\157\162\151\164\171\040\166\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\076\275\103\226\243\145\102\250\111\266\221\250\022\121
```

```

\046\317
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Swiss Government Root CA II"
# Issuer: CN=Swiss Government Root CA II,OU=Certification Authorities,OU=Services,O=The Federal Authorities
of the Swiss Confederation,C=CH
# Serial Number:0e:9f:17:99:a5:b1:3d:9c:cb:ec:06:eb:a3:f0:0e:69
# Subject: CN=Swiss Government Root CA II,OU=Certification Authorities,OU=Services,O=The Federal
Authorities of the Swiss Confederation,C=CH
# Not Valid Before: Wed Feb 16 09:00:00 2011
# Not Valid After: Fri Feb 16 08:59:59 2035
# Fingerprint (MD5): 30:b0:e4:cf:bf:f5:89:dc:bf:52:2d:88:1c:cb:aa:b3
# Fingerprint (SHA1): c7:f7:cb:e2:02:36:66:f9:86:02:5d:4a:3e:31:3f:29:eb:0c:5b:38
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swiss Government Root CA II"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\073\060\071\006\003\125\004\012\023\062\124\150\145\040\106
\145\144\145\162\141\154\040\101\165\164\150\157\162\151\164\151
\145\163\040\157\146\040\164\150\145\040\123\167\151\163\163\040
\103\157\156\146\145\144\145\162\141\164\151\157\156\061\021\060
\017\006\003\125\004\013\023\010\123\145\162\166\151\143\145\163
\061\042\060\040\006\003\125\004\013\023\031\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\151\145\163\061\044\060\042\006\003\125\004\003\023\033\123
\167\151\163\163\040\107\157\166\145\162\156\155\145\156\164\040
\122\157\157\164\040\103\101\040\111\111
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\073\060\071\006\003\125\004\012\023\062\124\150\145\040\106
\145\144\145\162\141\154\040\101\165\164\150\157\162\151\164\151
\145\163\040\157\146\040\164\150\145\040\123\167\151\163\163\040
\103\157\156\146\145\144\145\162\141\164\151\157\156\061\021\060
\017\006\003\125\004\013\023\010\123\145\162\166\151\143\145\163
\061\042\060\040\006\003\125\004\013\023\031\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\151\145\163\061\044\060\042\006\003\125\004\003\023\033\123

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\167\151\163\163\040\107\157\166\145\162\156\155\145\156\164\040
\122\157\157\164\040\103\101\040\111\111
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\016\237\027\231\245\261\075\234\313\354\006\353\243\360
\016\151
END
CKA_VALUE MULTILINE_OCTAL
\060\202\010\070\060\202\006\040\240\003\002\001\002\002\020\016
\237\027\231\245\261\075\234\313\354\006\353\243\360\016\151\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\247\061\013\060\011\006\003\125\004\006\023\002\103\110\061\073
\060\071\006\003\125\004\012\023\062\124\150\145\040\106\145\144
\145\162\141\154\040\101\165\164\150\157\162\151\164\151\145\163
\040\157\146\040\164\150\145\040\123\167\151\163\163\040\103\157
\156\146\145\144\145\162\141\164\151\157\156\061\021\060\017\006
\003\125\004\013\023\010\123\145\162\166\151\143\145\163\061\042
\060\040\006\003\125\004\013\023\031\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\151
\145\163\061\044\060\042\006\003\125\004\003\023\033\123\167\151
\163\163\040\107\157\166\145\162\156\155\145\156\164\040\122\157
\157\164\040\103\101\040\111\111\060\036\027\015\061\061\060\062
\061\066\060\071\060\060\060\060\132\027\015\063\065\060\062\061
\066\060\070\065\071\065\071\132\060\201\247\061\013\060\011\006
\003\125\004\006\023\002\103\110\061\073\060\071\006\003\125\004
\012\023\062\124\150\145\040\106\145\144\145\162\141\154\040\101
\165\164\150\157\162\151\164\151\145\163\040\157\146\040\164\150
\145\040\123\167\151\163\163\040\103\157\156\146\145\144\145\162
\141\164\151\157\156\061\021\060\017\006\003\125\004\013\023\010
\123\145\162\166\151\143\145\163\061\042\060\040\006\003\125\004
\013\023\031\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\151\145\163\061\044\060\042
\006\003\125\004\003\023\033\123\167\151\163\163\040\107\157\166
\145\162\156\155\145\156\164\040\122\157\157\164\040\103\101\040
\111\111\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\251\054\022\355\277\300\042\351\206\350\034\067\202
\203\233\150\005\157\026\343\210\250\001\017\313\161\236\177\107
\220\113\314\045\167\310\360\327\151\056\221\150\127\041\262\262
\007\041\063\356\114\244\067\045\230\114\264\106\062\116\326\371
\153\213\121\212\357\054\067\362\230\325\365\324\264\267\347\000
\312\357\301\023\136\224\253\156\273\234\275\372\153\217\253\370
\036\066\126\151\070\146\072\320\364\063\015\000\071\002\250\305
\034\013\041\267\134\040\014\141\320\255\256\316\216\136\331\072
\351\336\377\107\174\170\127\016\034\161\364\140\034\335\333\232
\030\051\257\331\200\243\237\205\204\143\063\221\357\275\164\356
\335\003\172\310\372\340\204\346\331\275\116\176\372\156\117\166
\321\135\076\250\350\207\105\220\171\363\255\256\365\302\135\021

\115\051\367\210\023\311\325\223\163\001\253\335\355\375\257\167
\373\151\116\357\217\122\034\317\365\054\132\154\354\376\202\233
\333\174\071\253\165\043\176\070\220\117\224\216\055\142\130\236
\367\347\162\374\224\133\162\126\305\235\243\256\253\265\266\300
\327\166\120\000\074\077\107\210\222\132\140\324\277\062\033\246
\224\100\015\166\171\351\074\316\344\263\035\307\214\365\350\206
\061\271\330\053\120\112\200\022\211\327\054\120\200\346\147\057
\266\223\234\255\254\005\122\042\123\040\231\016\275\227\306\341
\332\163\251\035\211\362\304\131\346\207\346\126\053\016\225\002
\032\207\306\171\376\231\152\351\164\354\360\022\371\024\050\040
\225\226\072\057\135\127\265\157\377\223\274\266\050\152\054\244
\050\170\106\141\257\101\044\244\363\372\004\216\361\212\031\242
\221\163\342\167\217\264\247\371\234\377\156\121\354\275\037\226
\023\350\143\221\136\207\150\157\353\330\174\056\020\117\120\030
\220\307\267\164\357\063\300\201\337\063\343\032\223\053\125\004
\054\174\322\053\267\143\014\376\255\173\275\266\072\227\271\075
\003\043\164\163\003\246\054\131\000\154\325\325\350\354\257\102
\314\323\177\160\213\140\140\347\262\240\266\212\122\114\376\012
\226\313\317\072\260\130\010\356\034\102\311\206\167\102\156\077
\264\254\220\000\130\102\034\100\304\156\270\105\310\274\063\066
\337\275\047\002\003\001\000\001\243\202\002\134\060\202\002\130
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\201\235\006\003\125\035\040\004\201\225\060\201\222\060
\201\217\006\010\140\205\164\001\021\003\025\001\060\201\202\060
\104\006\010\053\006\001\005\005\007\002\001\026\070\150\164\164
\160\072\057\057\167\167\167\056\160\153\151\056\141\144\155\151
\156\056\143\150\057\143\160\163\057\103\120\123\137\062\137\061
\066\137\067\065\066\137\061\137\061\067\137\063\137\062\061\137
\061\056\160\144\146\060\072\006\010\053\006\001\005\005\007\002
\002\060\056\032\054\124\150\151\163\040\151\163\040\164\150\145
\040\123\167\151\163\163\040\107\157\166\145\162\156\155\145\156
\164\040\122\157\157\164\040\103\101\040\111\111\040\103\120\123
\056\060\201\217\006\003\125\035\037\004\201\207\060\201\204\060
\201\201\240\177\240\175\206\173\154\144\141\160\072\057\057\141
\144\155\151\156\144\151\162\056\141\144\155\151\156\056\143\150
\072\063\070\071\057\143\156\075\123\167\151\163\163\045\062\060
\107\157\166\145\162\156\155\145\156\164\045\062\060\122\157\157
\164\045\062\060\103\101\045\062\060\111\111\054\157\165\075\103
\145\162\164\151\146\151\143\141\164\151\157\156\045\062\060\101
\165\164\150\157\162\151\164\151\145\163\054\157\165\075\123\145
\162\166\151\143\145\163\054\157\075\101\144\155\151\156\054\143
\075\103\110\060\035\006\003\125\035\016\004\026\004\024\345\204
\157\211\151\075\166\000\027\177\301\253\275\256\137\301\175\272
\341\142\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\201\343\006\003\125\035\043\004\201\333\060\201\330
\200\024\345\204\157\211\151\075\166\000\027\177\301\253\275\256
\137\301\175\272\341\142\241\201\255\244\201\252\060\201\247\061
\013\060\011\006\003\125\004\006\023\002\103\110\061\073\060\071

\006\003\125\004\012\023\062\124\150\145\040\106\145\144\145\162
\141\154\040\101\165\164\150\157\162\151\164\151\145\163\040\157
\146\040\164\150\145\040\123\167\151\163\163\040\103\157\156\146
\145\144\145\162\141\164\151\157\156\061\021\060\017\006\003\125
\004\013\023\010\123\145\162\166\151\143\145\163\061\042\060\040
\006\003\125\004\013\023\031\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\151\145\163
\061\044\060\042\006\003\125\004\003\023\033\123\167\151\163\163
\040\107\157\166\145\162\156\155\145\156\164\040\122\157\157\164
\040\103\101\040\111\111\202\020\016\237\027\231\245\261\075\234
\313\354\006\353\243\360\016\151\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\003\202\002\001\000\203\067\127\165
\311\070\120\277\101\006\226\160\302\331\307\327\260\132\000\315
\243\100\117\323\322\371\212\207\221\262\211\313\135\244\274\157
\117\076\124\366\312\074\263\304\114\213\307\076\364\331\304\142
\335\307\125\236\321\371\322\104\347\036\117\317\350\356\053\034
\250\001\360\063\007\373\341\073\024\323\317\120\221\136\330\352
\102\306\171\130\205\252\373\334\333\160\312\225\371\364\016\142
\002\160\151\104\055\150\117\321\160\352\050\122\146\267\161\336
\045\350\241\247\157\260\241\046\307\327\312\040\144\334\300\163
\074\020\242\024\036\364\255\301\076\024\220\071\066\143\210\157
\050\340\140\245\221\367\142\344\232\317\322\265\161\236\135\073
\366\231\054\355\221\072\010\234\264\204\205\111\343\341\272\246
\266\150\263\266\266\117\113\134\123\012\127\154\241\007\222\366
\142\236\250\372\212\326\363\153\247\017\262\053\146\275\257\102
\107\010\117\350\327\174\237\206\017\372\132\203\276\055\157\000
\004\265\166\207\026\257\335\117\072\226\264\064\127\267\342\377
\101\377\336\102\034\146\305\205\353\302\162\037\270\034\116\356
\027\362\142\357\012\004\254\233\253\241\362\356\356\242\100\044
\034\107\336\102\213\030\264\251\127\263\117\074\142\062\034\255
\154\104\255\274\325\034\143\070\075\311\063\246\373\274\050\067
\104\106\343\172\142\372\200\110\065\342\236\033\210\031\114\263
\101\375\356\167\340\131\200\032\141\036\065\244\101\172\263\301
\215\104\351\305\041\131\351\254\323\104\312\166\205\066\024\106
\012\036\026\064\246\304\064\167\303\202\070\110\041\002\376\022
\154\332\327\352\260\354\366\315\054\314\363\233\012\143\200\323
\365\013\175\004\055\204\015\302\331\114\053\227\361\325\124\367
\217\263\012\342\275\130\074\231\362\257\071\033\220\371\073\347
\267\105\347\132\152\175\301\237\024\157\060\127\230\031\240\007
\103\353\356\321\010\206\327\111\234\022\012\000\073\017\247\101
\261\112\253\220\263\324\275\011\347\210\017\236\044\016\053\373
\141\075\125\231\323\130\344\270\307\175\364\025\115\145\016\030
\171\101\311\273\351\232\301\131\030\104\064\142\325\350\070\173
\312\205\030\230\206\171\315\175\272\107\333\225

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
# Trust for "Swiss Government Root CA II"
# Issuer: CN=Swiss Government Root CA II,OU=Certification Authorities,OU=Services,O=The Federal Authorities
of the Swiss Confederation,C=CH
# Serial Number:0e:9f:17:99:a5:b1:3d:9c:cb:ec:06:eb:a3:f0:0e:69
# Subject: CN=Swiss Government Root CA II,OU=Certification Authorities,OU=Services,O=The Federal
Authorities of the Swiss Confederation,C=CH
# Not Valid Before: Wed Feb 16 09:00:00 2011
# Not Valid After: Fri Feb 16 08:59:59 2035
# Fingerprint (MD5): 30:b0:e4:cf:bf:f5:89:dc:bf:52:2d:88:1c:cb:aa:b3
# Fingerprint (SHA1): c7:f7:cb:e2:02:36:66:f9:86:02:5d:4a:3e:31:3f:29:eb:0c:5b:38
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swiss Government Root CA II"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\307\367\313\342\002\066\146\371\206\002\135\112\076\061\077\051
\353\014\133\070
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\060\260\344\317\277\365\211\334\277\122\055\210\034\313\252\263
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\073\060\071\006\003\125\004\012\023\062\124\150\145\040\106
\145\144\145\162\141\154\040\101\165\164\150\157\162\151\164\151
\145\163\040\157\146\040\164\150\145\040\123\167\151\163\163\040
\103\157\156\146\145\144\145\162\141\164\151\157\156\061\021\060
\017\006\003\125\004\013\023\010\123\145\162\166\151\143\145\163
\061\042\060\040\006\003\125\004\013\023\031\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\151\145\163\061\044\060\042\006\003\125\004\003\023\033\123
\167\151\163\163\040\107\157\166\145\162\156\155\145\156\164\040
\122\157\157\164\040\103\101\040\111\111
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\016\237\027\231\245\261\075\234\313\354\006\353\243\360
\016\151
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Swiss Government Root CA I"
```

```
# Issuer: CN=Swiss Government Root CA I,OU=Certification Authorities,OU=Services,O=The Federal Authorities
of the Swiss Confederation,C=CH
# Serial Number:fd:75:04:8d:7a:60:86:93:69:4c:aa:00:3c:65:d3:3d
# Subject: CN=Swiss Government Root CA I,OU=Certification Authorities,OU=Services,O=The Federal
Authorities of the Swiss Confederation,C=CH
# Not Valid Before: Tue Feb 15 09:00:00 2011
# Not Valid After: Thu Feb 15 08:59:59 2035
# Fingerprint (MD5): c7:c9:da:9b:76:e1:ac:86:6b:34:bd:03:3f:e3:cf:d2
# Fingerprint (SHA1): a1:58:51:87:15:65:86:ce:f9:c4:54:e2:2a:b1:5c:58:74:56:07:b4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swiss Government Root CA I"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\073\060\071\006\003\125\004\012\023\062\124\150\145\040\106
\145\144\145\162\141\154\040\101\165\164\150\157\162\151\164\151
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END
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\103\157\156\146\145\144\145\162\141\164\151\157\156\061\021\060
\017\006\003\125\004\013\023\010\123\145\162\166\151\143\145\163
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END
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\163\040\157\146\040\164\150\145\040\123\167\151\163\163\040\103
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\157\157\164\040\103\101\040\111\060\036\027\015\061\061\060\062
\061\065\060\071\060\060\060\060\132\027\015\063\065\060\062\061
\065\060\070\065\071\065\071\132\060\201\246\061\013\060\011\006
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\145\040\123\167\151\163\163\040\103\157\156\146\145\144\145\162
\141\164\151\157\156\061\021\060\017\006\003\125\004\013\023\010
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\156\144\151\162\056\141\144\155\151\156\056\143\150\072\063\070
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END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "Swiss Government Root CA I"

Issuer: CN=Swiss Government Root CA I,OU=Certification Authorities,OU=Services,O=The Federal Authorities
of the Swiss Confederation,C=CH

Serial Number:fd:75:04:8d:7a:60:86:93:69:4c:aa:00:3c:65:d3:3d

Subject: CN=Swiss Government Root CA I,OU=Certification Authorities,OU=Services,O=The Federal
Authorities of the Swiss Confederation,C=CH

Not Valid Before: Tue Feb 15 09:00:00 2011

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# Not Valid After: Thu Feb 15 08:59:59 2035
# Fingerprint (MD5): c7:c9:da:9b:76:e1:ac:86:6b:34:bd:03:3f:e3:cf:d2
# Fingerprint (SHA1): a1:58:51:87:15:65:86:ce:f9:c4:54:e2:2a:b1:5c:58:74:56:07:b4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swiss Government Root CA I"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\241\130\121\207\025\145\206\316\371\304\124\342\052\261\134\130
\164\126\007\264
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\307\311\332\233\166\341\254\206\153\064\275\003\077\343\317\322
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\073\060\071\006\003\125\004\012\023\062\124\150\145\040\106
\145\144\145\162\141\154\040\101\165\164\150\157\162\151\164\151
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\061\042\060\040\006\003\125\004\013\023\031\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\151\145\163\061\043\060\041\006\003\125\004\003\023\032\123
\167\151\163\163\040\107\157\166\145\162\156\155\145\156\164\040
\122\157\157\164\040\103\101\040\111
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\375\165\004\215\172\140\206\223\151\114\252\000\074
\145\323\075
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "LuxTrust Global Root"
# Issuer: CN=LuxTrust Global Root,O=LuxTrust s.a.,C=LU
# Serial Number: 3000 (0xbb8)
# Subject: CN=LuxTrust Global Root,O=LuxTrust s.a.,C=LU
# Not Valid Before: Thu Mar 17 09:51:37 2011
# Not Valid After: Wed Mar 17 09:51:37 2021
# Fingerprint (MD5): 42:a5:21:7a:4c:af:c7:bf:fd:a7:f5:b2:10:4c:3e:be
# Fingerprint (SHA1): c9:3c:34:ea:90:d9:13:0c:0f:03:00:4b:98:bd:8b:35:70:91:56:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

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CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "LuxTrust Global Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\114\125\061
\026\060\024\006\003\125\004\012\023\015\114\165\170\124\162\165
\163\164\040\163\056\141\056\061\035\060\033\006\003\125\004\003
\023\024\114\165\170\124\162\165\163\164\040\107\154\157\142\141
\154\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
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\163\164\040\163\056\141\056\061\035\060\033\006\003\125\004\003
\023\024\114\165\170\124\162\165\163\164\040\107\154\157\142\141
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END
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END
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\060\104\061\013\060\011\006\003\125\004\006\023\002\114\125\061
\026\060\024\006\003\125\004\012\023\015\114\165\170\124\162\165
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\060\071\065\061\063\067\132\027\015\062\061\060\063\061\067\060
\071\065\061\063\067\132\060\104\061\013\060\011\006\003\125\004
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\061\336\230\075\016\141\312\207\230\301\370\212\060\234\372\076
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\003\002\001\006\060\037\006\003\125\035\043\004\030\060\026\200
\024\027\025\205\211\011\057\044\207\157\077\035\033\344\362\226
\171\203\110\023\316\060\035\006\003\125\035\016\004\026\004\024
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\203\110\023\316\060\015\006\011\052\206\110\206\367\015\001\001
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\176\346\270\235\175\303\160\320\136\066\377\156\216\172\057\336
\110\021\325\064\056\074\267\105\302\124\045\247\341\301\036\067
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\134\037\056\323\153\202\201\103\133\012\077\021\125\143\254\372
\174\010\002\067\240\074\071\004\063\376\227\062\310\122\345\331
\045\115\260\306\356\150\037\160\252\163\316\127\003\334\175\012
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\242\205\065\002\327\200\042\322\204\262\370\300\252\150\277\325
\353\252\303\013\253\241\174\053\367\365\073\207\341\124\127\354
\005\044\357\171\102\116\363\213\150\237\344\156\313\202\231\311
\314\052\334\123\302\037\160\203\253\041\017\126\264\110\377\337
\007\042\263\214\371\035\246\004\337\055\003\066\271\335\157\376
\061\210\146\377\154\155\104\064\257\010\167\076\046\322\162\364
\273\107\126\223\074\230\143\341\063\273\231\043\222\265\203\171
\350\035\237\147\255\142\326\211\326\366\374\047\336\062\047\313
\204\332\167\205\041\241\022\041

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "LuxTrust Global Root"
Issuer: CN=LuxTrust Global Root,O=LuxTrust s.a.,C=LU
Serial Number: 3000 (0xbb8)
Subject: CN=LuxTrust Global Root,O=LuxTrust s.a.,C=LU
Not Valid Before: Thu Mar 17 09:51:37 2011
Not Valid After: Wed Mar 17 09:51:37 2021
Fingerprint (MD5): 42:a5:21:7a:4c:af:c7:bf:fd:a7:f5:b2:10:4c:3e:be
Fingerprint (SHA1): c9:3c:34:ea:90:d9:13:0c:0f:03:00:4b:98:bd:8b:35:70:91:56:11
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

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CKA_LABEL UTF8 "LuxTrust Global Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\311\074\064\352\220\331\023\014\017\003\000\113\230\275\213\065
\160\221\126\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\102\245\041\172\114\257\307\277\375\247\365\262\020\114\076\276
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\114\125\061
\026\060\024\006\003\125\004\012\023\015\114\165\170\124\162\165
\163\164\040\163\056\141\056\061\035\060\033\006\003\125\004\003
\023\024\114\165\170\124\162\165\163\164\040\107\154\157\142\141
\154\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\013\270
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "AC1 RAIZ MTIN"
# Issuer: C=ES,L=MADRID,O=MINISTERIO DE TRABAJO E INMIGRACION,OU=SUBDIRECCION
GENERAL DE PROCESO DE DATOS,OU=PRESTADOR DE SERVICIOS DE CERTIFICACION
MTIN,2.5.4.5=S2819001E,CN=AC1 RAIZ MTIN
# Serial Number:05:0b:41:5e:82:7b
# Subject: C=ES,L=MADRID,O=MINISTERIO DE TRABAJO E INMIGRACION,OU=SUBDIRECCION
GENERAL DE PROCESO DE DATOS,OU=PRESTADOR DE SERVICIOS DE CERTIFICACION
MTIN,2.5.4.5=S2819001E,CN=AC1 RAIZ MTIN
# Not Valid Before: Thu Nov 05 16:17:45 2009
# Not Valid After: Sun Nov 03 16:17:45 2019
# Fingerprint (MD5): 27:13:d5:2c:70:06:3e:15:7b:d3:62:59:32:ea:01:05
# Fingerprint (SHA1): 6a:d2:3b:9d:c4:8e:37:5f:85:9a:d9:ca:b5:85:32:5c:23:89:40:71
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC1 RAIZ MTIN"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\342\061\026\060\024\006\003\125\004\003\023\015\101\103
\061\040\122\101\111\132\040\115\124\111\116\061\022\060\020\006
\003\125\004\005\023\011\123\062\070\061\071\060\060\061\105\061
\065\060\063\006\003\125\004\013\023\054\120\122\105\123\124\101
\104\117\122\040\104\105\040\123\105\122\126\111\103\111\117\123

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\040\104\105\040\103\105\122\124\111\106\111\103\101\103\111\117
\116\040\115\124\111\116\061\061\060\057\006\003\125\004\013\023
\050\123\125\102\104\111\122\105\103\103\111\117\116\040\107\105
\116\105\122\101\114\040\104\105\040\120\122\117\103\105\123\117
\040\104\105\040\104\101\124\117\123\061\054\060\052\006\003\125
\004\012\023\043\115\111\116\111\123\124\105\122\111\117\040\104
\105\040\124\122\101\102\101\112\117\040\105\040\111\116\115\111
\107\122\101\103\111\117\116\061\017\060\015\006\003\125\004\007
\023\006\115\101\104\122\111\104\061\013\060\011\006\003\125\004
\006\023\002\105\123

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\342\061\026\060\024\006\003\125\004\003\023\015\101\103
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\003\125\004\005\023\011\123\062\070\061\071\060\060\061\105\061
\065\060\063\006\003\125\004\013\023\054\120\122\105\123\124\101
\104\117\122\040\104\105\040\123\105\122\126\111\103\111\117\123
\040\104\105\040\103\105\122\124\111\106\111\103\101\103\111\117
\116\040\115\124\111\116\061\061\060\057\006\003\125\004\013\023
\050\123\125\102\104\111\122\105\103\103\111\117\116\040\107\105
\116\105\122\101\114\040\104\105\040\120\122\117\103\105\123\117
\040\104\105\040\104\101\124\117\123\061\054\060\052\006\003\125
\004\012\023\043\115\111\116\111\123\124\105\122\111\117\040\104
\105\040\124\122\101\102\101\112\117\040\105\040\111\116\115\111
\107\122\101\103\111\117\116\061\017\060\015\006\003\125\004\007
\023\006\115\101\104\122\111\104\061\013\060\011\006\003\125\004
\006\023\002\105\123

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\006\005\013\101\136\202\173

END

CKA_VALUE MULTILINE_OCTAL

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\013\101\136\202\173\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\060\201\342\061\026\060\024\006\003\125\004\003
\023\015\101\103\061\040\122\101\111\132\040\115\124\111\116\061
\022\060\020\006\003\125\004\005\023\011\123\062\070\061\071\060
\060\061\105\061\065\060\063\006\003\125\004\013\023\054\120\122
\105\123\124\101\104\117\122\040\104\105\040\123\105\122\126\111
\103\111\117\123\040\104\105\040\103\105\122\124\111\106\111\103
\101\103\111\117\116\040\115\124\111\116\061\061\060\057\006\003
\125\004\013\023\050\123\125\102\104\111\122\105\103\103\111\117
\116\040\107\105\116\105\122\101\114\040\104\105\040\120\122\117
\103\105\123\117\040\104\105\040\104\101\124\117\123\061\054\060
\052\006\003\125\004\012\023\043\115\111\116\111\123\124\105\122
\111\117\040\104\105\040\124\122\101\102\101\112\117\040\105\040
\111\116\115\111\107\122\101\103\111\117\116\061\017\060\015\006

\003\125\004\007\023\006\115\101\104\122\111\104\061\013\060\011
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\060\063\061\066\061\067\064\065\132\060\201\342\061\026\060\024
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\061\060\057\006\003\125\004\013\023\050\123\125\102\104\111\122
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\207\145\210\374\363\237\376\277\353\325\035\266\250\003\351\145
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\156\056\145\163\057\155\164\151\156\057\104\120\103\171\120\157
\154\151\164\151\143\141\163\060\147\006\010\053\006\001\005\005
\007\002\002\060\133\032\131\103\145\162\164\151\146\151\143\141
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\123\202\006\005\013\101\136\202\173\060\015\006\011\052\206\110
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\233\263\103\310\045\176\347\016\110\243\344\117\006\055\025\036
\240\246\107\220\127\073\370\057\055\333\043\272\353\043\223\260
\270\122\033\140\034\324\031\260\155\170\217\113\235\247\013\050
\147\112\335\170\110\275\261\076\230\324\273\025\376\263\137\155
\035\165\310\036\317\017\256\112\032\135\207\054\006\164\154\012
\205\123\044\136\172\311\240\174\161\233\222\135\157\110\177\266
\130\161\262\114\246\032\011\043\064\120\161\025\153\107\333\373
\276\032\155\302\214\224\057\007\147\040\042\147\143\267\253\306
\031\234\226\015\142\352\010\244\032\160\357\251\271\357\116\305
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\143\276\144\077\226\116\113\217\375\055\246\164\300\337\111\072
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\271\036\354\114\037\276\320\203\123\303\233\025\105\377\056\007
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\057\067\371\223\034\052\011\340\147\375\226\211\102\312\353\066
\260\326\033\246\120\017\132\235\166\377\244\117\306\354\015\304
\341\320\347\130\076\326\171\300\167\115\014\325\263\344\230\115
\335\106\056\122\260\342\017\015\102\066\245\020\044\122\050\276
\142\065\102\071\311\172\226\037\356\346\113\131\077\044\163\213
\277\042\113\146\362\333\017\065\361\067\235\240\044

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "AC1 RAIZ MTIN"

Issuer: C=ES,L=MADRID,O=MINISTERIO DE TRABAJO E INMIGRACION,OU=SUBDIRECCION

GENERAL DE PROCESO DE DATOS,OU=PRESTADOR DE SERVICIOS DE CERTIFICACION

MTIN,2.5.4.5=S2819001E,CN=AC1 RAIZ MTIN

```
# Serial Number:05:0b:41:5e:82:7b
# Subject: C=ES,L=MADRID,O=MINISTERIO DE TRABAJO E INMIGRACION,OU=SUBDIRECCION
GENERAL DE PROCESO DE DATOS,OU=PRESTADOR DE SERVICIOS DE CERTIFICACION
MTIN,2.5.4.5=S2819001E,CN=AC1 RAIZ MTIN
# Not Valid Before: Thu Nov 05 16:17:45 2009
# Not Valid After: Sun Nov 03 16:17:45 2019
# Fingerprint (MD5): 27:13:d5:2c:70:06:3e:15:7b:d3:62:59:32:ea:01:05
# Fingerprint (SHA1): 6a:d2:3b:9d:c4:8e:37:5f:85:9a:d9:ca:b5:85:32:5c:23:89:40:71
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC1 RAIZ MTIN"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\152\322\073\235\304\216\067\137\205\232\331\312\265\205\062\134
\043\211\100\161
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\047\023\325\054\160\006\076\025\173\323\142\131\062\352\001\005
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\342\061\026\060\024\006\003\125\004\003\023\015\101\103
\061\040\122\101\111\132\040\115\124\111\116\061\022\060\020\006
\003\125\004\005\023\011\123\062\070\061\071\060\060\061\105\061
\065\060\063\006\003\125\004\013\023\054\120\122\105\123\124\101
\104\117\122\040\104\105\040\123\105\122\126\111\103\111\117\123
\040\104\105\040\103\105\122\124\111\106\111\103\101\103\111\117
\116\040\115\124\111\116\061\061\060\057\006\003\125\004\013\023
\050\123\125\102\104\111\122\105\103\103\111\117\116\040\107\105
\116\105\122\101\114\040\104\105\040\120\122\117\103\105\123\117
\040\104\105\040\104\101\124\117\123\061\054\060\052\006\003\125
\004\012\023\043\115\111\116\111\123\124\105\122\111\117\040\104
\105\040\124\122\101\102\101\112\117\040\105\040\111\116\115\111
\107\122\101\103\111\117\116\061\017\060\015\006\003\125\004\007
\023\006\115\101\104\122\111\104\061\013\060\011\006\003\125\004
\006\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\005\013\101\136\202\173
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Microsoft Root Certificate Authority 2011"
# Issuer: CN=Microsoft Root Certificate Authority 2011,O=Microsoft
```

```
Corporation,L=Redmond,ST=Washington,C=US
# Serial Number:3f:8b:c8:b5:fc:9f:b2:96:43:b5:69:d6:6c:42:e1:44
# Subject: CN=Microsoft Root Certificate Authority 2011,O=Microsoft
Corporation,L=Redmond,ST=Washington,C=US
# Not Valid Before: Tue Mar 22 22:05:28 2011
# Not Valid After: Sat Mar 22 22:13:04 2036
# Fingerprint (MD5): ce:04:90:d5:e5:6c:34:a5:ae:0b:e9:8b:e5:81:18:5d
# Fingerprint (SHA1): 8f:43:28:8a:d2:72:f3:10:3b:6f:b1:42:84:85:ea:30:14:c0:bc:fe
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft Root Certificate Authority 2011"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\062\060\060\006\003\125\004\003
\023\051\115\151\143\162\157\163\157\146\164\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\062\060\061\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\062\060\060\006\003\125\004\003
\023\051\115\151\143\162\157\163\157\146\164\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\062\060\061\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\077\213\310\265\374\237\262\226\103\265\151\326\154\102
\341\104
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\355\060\202\003\325\240\003\002\001\002\002\020\077
\213\310\265\374\237\262\226\103\265\151\326\154\102\341\104\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\210\061\013\060\011\006\003\125\004\006\023\002\125\123\061\023
\060\021\006\003\125\004\010\023\012\127\141\163\150\151\156\147
\164\157\156\061\020\060\016\006\003\125\004\007\023\007\122\145
```


\144\155\157\156\144\061\036\060\034\006\003\125\004\012\023\025
\115\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162
\141\164\151\157\156\061\062\060\060\006\003\125\004\003\023\051
\115\151\143\162\157\163\157\146\164\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\040\062\060\061\061\060\036\027\015\061\061\060
\063\062\062\062\062\060\065\062\070\132\027\015\063\066\060\063
\062\062\062\062\061\063\060\064\132\060\201\210\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125
\004\010\023\012\127\141\163\150\151\156\147\164\157\156\061\020
\060\016\006\003\125\004\007\023\007\122\145\144\155\157\156\144
\061\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157
\163\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156
\061\062\060\060\006\003\125\004\003\023\051\115\151\143\162\157
\163\157\146\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040
\062\060\061\061\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\262\200\101\252\065\070\115\023\162\062\150
\042\115\270\262\361\377\325\122\274\154\307\365\322\112\214\066
\356\321\302\134\176\214\212\256\257\023\050\157\300\163\343\072
\316\320\045\250\132\072\155\357\250\270\131\253\023\043\150\315
\014\051\207\321\157\200\134\217\104\177\135\220\001\122\130\254
\121\305\137\052\207\334\334\330\012\035\301\003\271\173\260\126
\350\243\336\144\141\302\236\370\363\174\271\354\015\265\124\376
\114\266\145\117\210\360\234\110\231\014\102\013\011\174\061\131
\027\171\006\170\050\215\211\072\114\003\045\276\161\152\134\013
\347\204\140\244\231\042\343\322\257\204\244\247\373\321\230\355
\014\251\336\224\211\341\016\240\334\300\316\231\075\352\010\122
\273\126\171\344\037\204\272\036\270\264\304\111\134\117\061\113
\207\335\335\005\147\046\231\200\340\161\021\243\270\245\101\342
\244\123\271\367\062\051\203\014\023\277\066\136\004\263\113\103
\107\057\153\342\221\036\323\230\117\335\102\007\310\350\035\022
\374\231\251\153\076\222\176\310\326\151\072\374\144\275\266\011
\235\312\375\014\013\242\233\167\140\113\003\224\244\060\151\022
\326\102\055\301\101\114\312\334\252\375\217\133\203\106\232\331
\374\261\321\343\263\311\177\110\172\315\044\360\101\217\134\164
\320\254\260\020\040\006\111\267\307\055\041\310\127\343\320\206
\363\003\150\373\320\316\161\301\211\231\112\144\001\154\375\354
\060\221\317\101\074\222\307\345\272\206\035\141\204\307\137\203
\071\142\256\264\222\057\107\363\013\370\125\353\240\037\131\320
\273\164\233\036\320\166\346\362\351\006\327\020\350\372\144\336
\151\306\065\226\210\002\360\106\270\077\047\231\157\313\161\211
\051\065\367\110\026\002\065\217\325\171\174\115\002\317\137\353
\212\203\117\105\161\210\371\251\015\116\162\351\302\234\007\317
\111\033\116\004\016\143\121\214\136\330\000\301\125\054\266\306
\340\302\145\116\311\064\071\365\234\263\304\176\350\141\156\023
\137\025\304\137\331\176\355\035\316\356\104\354\313\056\206\261

\354\070\366\160\355\253\134\023\301\331\017\015\307\200\262\125
\355\064\367\254\233\344\303\332\347\107\074\246\265\217\061\337
\305\113\257\353\361\002\003\001\000\001\243\121\060\117\060\013
\006\003\125\035\017\004\004\003\002\001\206\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\162\055\072\002\061\220\103\271\024
\005\116\341\352\247\307\061\321\043\211\064\060\020\006\011\053
\006\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001
\000\177\162\317\017\267\305\025\333\233\300\111\312\046\133\376
\236\023\346\323\360\322\333\227\137\362\113\077\115\263\256\031
\256\355\327\227\240\254\357\251\072\243\302\101\260\345\270\221
\236\023\201\044\003\346\011\375\077\127\100\071\041\044\126\321
\020\057\113\100\251\066\206\113\264\123\127\232\373\361\176\211
\217\021\376\030\154\121\252\350\355\011\225\265\345\161\311\241
\351\207\165\246\025\177\311\176\067\124\136\164\223\305\303\147
\314\015\117\153\250\027\014\155\010\222\176\213\335\201\252\055
\160\041\303\075\006\024\273\277\044\136\247\204\327\077\017\041
\042\275\113\000\006\333\227\034\330\136\324\305\013\134\207\156
\120\244\350\303\070\244\373\313\054\305\222\146\233\205\136\313
\172\154\223\174\200\051\130\133\127\265\100\151\272\010\171\246
\144\142\025\235\207\226\105\265\146\043\040\003\213\034\163\240
\323\242\171\063\340\120\131\206\333\057\345\002\045\352\163\052
\237\000\024\310\066\307\222\073\351\116\000\354\330\126\011\271
\063\111\022\322\124\013\001\253\254\107\266\221\051\175\114\264
\165\200\122\001\350\312\202\366\237\314\254\234\217\027\352\057
\046\260\253\162\254\013\376\236\121\036\307\103\125\147\117\121
\263\127\326\266\354\356\122\267\072\351\116\341\327\201\210\274
\117\216\165\273\113\250\360\065\252\046\324\147\147\111\262\160
\114\073\223\334\035\337\170\220\206\162\262\070\244\321\334\222
\115\311\130\353\053\022\134\324\073\256\214\153\260\203\345\001
\077\370\011\062\366\223\065\064\042\257\335\067\015\167\011\200
\053\315\110\000\361\214\231\031\107\005\001\351\321\277\321\116
\320\346\050\103\067\231\244\012\112\010\331\232\161\163\322\252
\315\061\023\143\166\241\067\157\222\070\036\175\022\074\146\062
\347\313\155\341\374\122\211\335\312\326\146\005\232\226\141\276
\242\050\307\034\243\247\066\120\074\072\244\337\112\156\346\207
\073\316\353\360\340\201\067\235\023\074\122\216\275\271\035\064
\306\035\325\012\152\075\230\051\160\214\211\052\321\253\202\020
\110\037\334\364\357\245\305\273\125\032\070\143\204\116\267\154
\255\225\124\354\145\042\020\111\027\270\300\036\307\017\254\124
\107

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

```

# Trust for "Microsoft Root Certificate Authority 2011"
# Issuer: CN=Microsoft Root Certificate Authority 2011,O=Microsoft
Corporation,L=Redmond,ST=Washington,C=US
# Serial Number:3f:8b:c8:b5:fc:9f:b2:96:43:b5:69:d6:6c:42:e1:44
# Subject: CN=Microsoft Root Certificate Authority 2011,O=Microsoft
Corporation,L=Redmond,ST=Washington,C=US
# Not Valid Before: Tue Mar 22 22:05:28 2011
# Not Valid After: Sat Mar 22 22:13:04 2036
# Fingerprint (MD5): ce:04:90:d5:e5:6c:34:a5:ae:0b:e9:8b:e5:81:18:5d
# Fingerprint (SHA1): 8f:43:28:8a:d2:72:f3:10:3b:6f:b1:42:84:85:ea:30:14:c0:bc:fe
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft Root Certificate Authority 2011"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\217\103\050\212\322\162\363\020\073\157\261\102\204\205\352\060
\024\300\274\376
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\316\004\220\325\345\154\064\245\256\013\351\213\345\201\030\135
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\062\060\060\006\003\125\004\003
\023\051\115\151\143\162\157\163\157\146\164\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\062\060\061\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\077\213\310\265\374\237\262\226\103\265\151\326\154\102
\341\104
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "CCA India 2011"
# Issuer: CN=CCA India 2011,O=India PKI,C=IN
# Serial Number: 10126 (0x278e)
# Subject: CN=CCA India 2011,O=India PKI,C=IN
# Not Valid Before: Fri Mar 11 06:48:52 2011

```

```
# Not Valid After: Fri Mar 11 06:48:52 2016
# Fingerprint (MD5): 6e:3e:bc:f1:11:03:dc:4f:58:d5:2c:b0:74:f4:18:c8
# Fingerprint (SHA1): be:d5:25:d1:ac:63:a7:fc:6a:66:0b:a7:a8:95:81:8d:5e:8d:d5:64
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CCA India 2011"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\072\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\027\060\025\006\003\125\004\003\023\016\103\103
\101\040\111\156\144\151\141\040\062\060\061\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\072\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\027\060\025\006\003\125\004\003\023\016\103\103
\101\040\111\156\144\151\141\040\062\060\061\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\047\216
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\043\060\202\002\013\240\003\002\001\002\002\002\047
\216\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\060\072\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\027\060\025\006\003\125\004\003\023\016\103\103
\101\040\111\156\144\151\141\040\062\060\061\061\060\036\027\015
\061\061\060\063\061\061\060\066\064\070\065\062\132\027\015\061
\066\060\063\061\061\060\066\064\070\065\062\132\060\072\061\013
\060\011\006\003\125\004\006\023\002\111\116\061\022\060\020\006
\003\125\004\012\023\011\111\156\144\151\141\040\120\113\111\061
\027\060\025\006\003\125\004\003\023\016\103\103\101\040\111\156
\144\151\141\040\062\060\061\061\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\207\012\036\016\271\240\250
\040\230\032\270\172\025\366\107\361\277\322\306\047\344\022\152
\226\004\147\165\315\214\306\343\364\335\312\325\304\034\065\356
\115\351\344\042\324\227\070\327\254\143\151\110\300\174\171\142
\277\307\042\111\133\106\301\361\030\024\116\030\035\054\245\132
\222\270\205\025\257\027\126\023\216\237\026\016\042\226\201\204
\171\043\102\354\117\336\257\366\277\211\117\000\136\346\327\010
\322\225\224\232\023\054\004\021\203\357\221\217\010\125\254\172
\126\104\233\305\364\324\027\353\344\167\115\224\341\101\130\021
```

\351\242\252\011\206\055\046\041\040\365\300\314\303\025\314\114
\011\273\335\334\365\122\003\171\140\217\074\171\072\045\064\043
\207\110\165\362\101\160\115\032\060\010\206\165\316\130\031\250
\327\025\176\043\362\347\111\276\377\376\127\122\170\102\363\046
\167\335\172\367\142\345\313\135\226\063\224\223\273\304\032\026
\257\010\127\353\234\345\367\043\164\215\351\035\013\261\212\224
\163\231\021\221\305\150\240\361\212\015\201\255\264\121\150\156
\111\206\000\006\122\116\051\103\347\002\003\001\000\001\243\063
\060\061\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\021\006\003\125\035\016\004\012\004\010\115\007
\250\143\362\333\034\337\060\013\006\003\125\035\017\004\004\003
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\156\024\332\040\362\110\153\144\377
\052\164\315\126\265\305\071\017\176\141\037\065\131\033\035\050
\155\043\164\235\170\277\253\255\211\000\271\160\205\365\350\024
\076\344\354\237\226\144\134\322\261\042\040\243\010\234\350\014
\113\150\050\216\125\005\277\076\340\116\332\330\234\320\156\040
\354\376\172\073\302\066\107\227\330\053\010\263\256\302\321\346
\010\077\112\350\072\077\126\365\340\345\077\362\151\266\171\022
\340\360\071\267\030\354\322\351\204\016\030\070\026\212\111\073
\157\127\325\071\073\277\023\360\300\247\315\362\075\036\154\221
\247\167\143\274\253\331\126\070\017\112\271\031\300\053\214\373
\227\037\306\247\354\206\316\323\215\343\321\373\165\321\361\367
\246\143\304\317\350\261\244\222\105\150\362\350\214\261\255\176
\055\040\373\270\245\124\355\312\015\217\062\035\150\246\061\156
\260\310\236\325\372\277\006\233\157\051\175\172\003\111\277\053
\173\131\223\024\305\352\313\361\114\051\202\016\051\356\212\124
\174\074\315\125\202\045\162\016\161\116\045\170\115\323\116\131
\100\312\316\363\231\321\242

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "CCA India 2011"
Issuer: CN=CCA India 2011,O=India PKI,C=IN
Serial Number: 10126 (0x278e)
Subject: CN=CCA India 2011,O=India PKI,C=IN
Not Valid Before: Fri Mar 11 06:48:52 2011
Not Valid After: Fri Mar 11 06:48:52 2016
Fingerprint (MD5): 6e:3e:bc:f1:11:03:dc:4f:58:d5:2c:b0:74:f4:18:c8
Fingerprint (SHA1): be:d5:25:d1:ac:63:a7:fc:6a:66:0b:a7:a8:95:81:8d:5e:8d:d5:64
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CCA India 2011"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\276\325\045\321\254\143\247\374\152\146\013\247\250\225\201\215
\136\215\325\144
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\156\076\274\361\021\003\334\117\130\325\054\260\164\364\030\310
END
CKA_ISSUER MULTILINE_OCTAL
\060\072\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\027\060\025\006\003\125\004\003\023\016\103\103
\101\040\111\156\144\151\141\040\062\060\061\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\047\216
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "ANCERT Certificados Notariales V2"
# Issuer: CN=ANCERT Certificados Notariales V2,O=Agencia Notarial de Certificacion S.L.U. - CIF
B83395988,C=ES
# Serial Number:09:bd:56:05:2a:13:16:f4:68:4f:74:0e:a9:7d:1c:48
# Subject: CN=ANCERT Certificados Notariales V2,O=Agencia Notarial de Certificacion S.L.U. - CIF
B83395988,C=ES
# Not Valid Before: Tue May 25 16:56:14 2010
# Not Valid After: Sat May 25 16:56:14 2030
# Fingerprint (MD5): 75:70:cb:6e:6b:d6:9b:7d:90:bb:69:5e:59:f0:62:b4
# Fingerprint (SHA1): 6f:62:de:b8:6c:85:58:5a:e4:2e:47:8d:b4:d7:6d:b3:67:58:5a:e6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANCERT Certificados Notariales V2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\101\060\077\006\003\125\004\012\023\070\101\147\145\156\143\151
\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114\056
\125\056\040\055\040\103\111\106\040\102\070\063\063\071\065\071
\070\070\061\052\060\050\006\003\125\004\003\023\041\101\116\103
\105\122\124\040\103\145\162\164\151\146\151\143\141\144\157\163
\040\116\157\164\141\162\151\141\154\145\163\040\126\062
END

```

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\101\060\077\006\003\125\004\012\023\070\101\147\145\156\143\151
\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114\056
\125\056\040\055\040\103\111\106\040\102\070\063\063\071\065\071
\070\070\061\052\060\050\006\003\125\004\003\023\041\101\116\103
\105\122\124\040\103\145\162\164\151\146\151\143\141\144\157\163
\040\116\157\164\141\162\151\141\154\145\163\040\126\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\011\275\126\005\052\023\026\364\150\117\164\016\251\175
\034\110

END

CKA_VALUE MULTILINE_OCTAL

\060\202\007\022\060\202\004\372\240\003\002\001\002\002\020\011
\275\126\005\052\023\026\364\150\117\164\016\251\175\034\110\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\174
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\101\060
\077\006\003\125\004\012\023\070\101\147\145\156\143\151\141\040
\116\157\164\141\162\151\141\154\040\144\145\040\103\145\162\164
\151\146\151\143\141\143\151\157\156\040\123\056\114\056\125\056
\040\055\040\103\111\106\040\102\070\063\063\071\065\071\070\070
\061\052\060\050\006\003\125\004\003\023\041\101\116\103\105\122
\124\040\103\145\162\164\151\146\151\143\141\144\157\163\040\116
\157\164\141\162\151\141\154\145\163\040\126\062\060\036\027\015
\061\060\060\065\062\065\061\066\065\066\061\064\132\027\015\063
\060\060\065\062\065\061\066\065\066\061\064\132\060\174\061\013
\060\011\006\003\125\004\006\023\002\105\123\061\101\060\077\006
\003\125\004\012\023\070\101\147\145\156\143\151\141\040\116\157
\164\141\162\151\141\154\040\144\145\040\103\145\162\164\151\146
\151\143\141\143\151\157\156\040\123\056\114\056\125\056\040\055
\040\103\111\106\040\102\070\063\063\071\065\071\070\070\061\052
\060\050\006\003\125\004\003\023\041\101\116\103\105\122\124\040
\103\145\162\164\151\146\151\143\141\144\157\163\040\116\157\164
\141\162\151\141\154\145\163\040\126\062\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\262\346\271\306\035
\152\052\055\111\305\374\374\324\144\100\320\340\024\056\367\240
\302\377\222\363\101\246\264\077\332\276\031\024\221\224\166\323
\025\314\136\177\170\120\172\333\332\305\105\252\313\034\043\171
\163\220\250\273\147\001\163\216\316\100\371\032\251\252\207\344
\223\222\017\134\150\134\136\360\006\140\053\130\334\074\155\074
\307\172\060\153\005\252\222\206\163\052\322\362\032\210\304\333
\345\132\146\216\165\311\102\077\233\210\050\100\036\365\251\134
\036\372\310\101\241\060\253\013\234\356\026\242\301\055\245\205
\372\355\240\014\350\177\226\112\173\275\217\232\242\030\166\322

\257\335\267\075\020\253\122\020\210\256\035\353\270\062\164\226
\364\267\252\047\367\245\007\015\343\224\127\152\124\040\167\315
\035\274\171\055\344\234\264\336\121\210\376\126\326\075\213\241
\317\372\122\036\214\005\163\167\326\005\317\143\000\121\207\141
\343\120\276\231\227\341\374\036\021\171\153\116\152\317\234\205
\012\034\226\052\300\040\066\024\305\011\027\142\073\364\255\352
\325\327\375\320\071\052\170\323\320\242\317\310\163\060\011\107
\305\116\031\375\270\060\324\017\200\230\210\206\301\114\101\172
\043\305\103\375\136\022\270\076\017\261\267\201\142\014\176\157
\343\173\232\302\302\107\021\041\037\317\236\321\060\316\203\301
\020\115\100\167\327\265\302\113\062\100\102\372\233\260\254\317
\353\041\330\031\353\144\305\153\335\125\055\200\207\104\174\114
\074\253\015\330\022\277\064\202\214\261\252\304\270\153\350\016
\106\167\322\213\006\035\102\373\254\275\311\347\063\263\042\157
\176\325\056\003\305\137\005\026\206\174\355\343\236\321\026\167
\032\106\330\311\320\214\344\134\134\041\005\221\361\144\344\254
\305\067\256\265\275\147\023\256\051\345\263\102\304\160\011\243
\135\114\353\067\040\343\360\365\163\063\073\302\374\216\121\205
\066\052\313\201\333\016\211\043\331\342\341\150\272\054\104\167
\076\034\100\272\360\147\216\030\207\360\075\327\351\077\107\133
\065\102\315\247\004\316\110\162\051\005\032\264\321\242\347\015
\171\212\226\155\147\122\055\073\043\346\371\202\234\326\263\171
\136\024\336\145\110\063\374\035\102\350\055\002\003\001\000\001
\243\202\001\216\060\202\001\212\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\202\001\045\006\003\125
\035\040\004\202\001\034\060\202\001\030\060\202\001\024\006\011
\053\006\001\004\001\201\223\150\001\060\202\001\005\060\045\006
\010\053\006\001\005\005\007\002\001\026\031\150\164\164\160\072
\057\057\167\167\167\056\141\156\143\145\162\164\056\143\157\155
\057\143\160\163\060\201\333\006\010\053\006\001\005\005\007\002
\002\060\201\316\060\015\026\006\101\116\103\105\122\124\060\003
\002\001\001\036\201\274\000\101\000\147\000\145\000\156\000\143
\000\151\000\141\000\040\000\116\000\157\000\164\000\141\000\162
\000\151\000\141\000\154\000\040\000\144\000\145\000\040\000\103
\000\145\000\162\000\164\000\151\000\146\000\151\000\143\000\141
\000\143\000\151\000\157\000\156\000\056\000\040\000\120\000\141
\000\163\000\145\000\157\000\040\000\144\000\145\000\154\000\240
\000\107\000\145\000\156\000\145\000\162\000\141\000\154\000\040
\000\115\000\141\000\162\000\164\000\151\000\156\000\145\000\172
\000\040\000\103\000\141\000\155\000\160\000\157\000\163\000\040
\000\064\000\066\000\040\000\066\000\141\000\040\000\160\000\154
\000\141\000\156\000\164\000\141\000\040\000\062\000\070\000\060
\000\061\000\060\000\040\000\115\000\141\000\144\000\162\000\151
\000\144\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\206\060\035\006\003\125\035\016\004\026\004\024\366\022\072
\253\173\130\301\215\103\157\166\201\322\362\270\323\357\027\352
\013\060\037\006\003\125\035\043\004\030\060\026\200\024\366\022
\072\253\173\130\301\215\103\157\166\201\322\362\270\323\357\027

\352\013\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\003\202\002\001\000\124\065\323\242\145\311\331\066\305\123
\321\264\215\162\064\211\272\247\010\237\351\065\020\271\270\014
\006\371\144\252\225\226\050\250\310\243\200\334\126\300\277\162
\115\126\277\177\135\004\325\255\050\133\115\275\363\303\017\025
\260\161\332\126\215\100\125\127\246\175\142\242\255\023\151\121
\252\224\120\272\275\000\060\120\365\335\244\116\011\172\224\061
\153\333\163\003\275\363\332\032\017\214\057\262\311\067\274\124
\325\013\043\067\365\344\133\067\146\211\117\264\307\005\244\145
\334\131\060\246\023\053\176\025\355\354\020\027\211\122\311\235
\337\242\114\355\366\017\036\246\111\260\015\121\263\061\261\121
\231\313\264\321\043\170\322\113\250\264\035\026\246\240\320\076
\007\176\145\077\045\316\144\116\033\056\113\115\202\205\032\145
\333\356\342\003\360\131\044\005\217\231\357\171\202\337\356\052
\067\150\303\152\120\001\131\137\237\150\334\054\121\140\053\135
\340\122\074\073\160\270\000\323\067\250\076\133\036\166\010\132
\324\273\166\060\256\371\310\362\216\244\217\012\165\175\032\230
\341\277\320\066\224\057\074\301\122\323\151\352\032\140\067\214
\200\333\115\155\306\232\135\215\240\141\121\273\075\015\346\022
\240\237\157\131\126\164\062\147\012\374\067\006\301\072\344\053
\216\204\037\332\041\014\111\210\103\323\245\365\202\015\166\206
\303\054\314\220\273\263\270\253\306\313\256\300\027\121\236\323
\200\367\044\332\034\354\316\022\203\316\116\066\060\071\165\370
\164\166\220\202\236\076\100\114\014\024\271\032\036\110\152\260
\061\352\210\177\200\101\100\123\173\070\113\207\220\140\172\113
\316\147\106\150\165\167\216\000\135\040\260\344\223\067\155\003
\337\130\071\350\232\305\244\353\354\141\063\010\205\044\153\117
\006\351\255\220\245\066\142\154\343\335\175\011\037\063\277\267
\273\367\311\165\005\367\133\253\372\207\131\257\032\147\020\176
\204\334\214\160\326\104\351\020\301\330\233\056\321\306\100\152
\352\346\132\017\020\175\154\373\125\207\272\115\265\161\003\236
\027\217\170\332\125\075\127\136\042\012\152\230\360\215\010\315
\335\226\102\132\033\315\272\157\047\270\164\047\250\077\345\240
\326\163\307\136\057\041

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "ANCERT Certificados Notariales V2"

Issuer: CN=ANCERT Certificados Notariales V2,O=Agencia Notarial de Certificacion S.L.U. - CIF
B83395988,C=ES

Serial Number:09:bd:56:05:2a:13:16:f4:68:4f:74:0e:a9:7d:1c:48

Subject: CN=ANCERT Certificados Notariales V2,O=Agencia Notarial de Certificacion S.L.U. - CIF
B83395988,C=ES

Not Valid Before: Tue May 25 16:56:14 2010

Not Valid After: Sat May 25 16:56:14 2030

```

# Fingerprint (MD5): 75:70:cb:6e:6b:d6:9b:7d:90:bb:69:5e:59:f0:62:b4
# Fingerprint (SHA1): 6f:62:de:b8:6c:85:58:5a:e4:2e:47:8d:b4:d7:6d:b3:67:58:5a:e6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANCERT Certificados Notariales V2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\157\142\336\270\154\205\130\132\344\056\107\215\264\327\155\263
\147\130\132\346
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\165\160\313\156\153\326\233\175\220\273\151\136\131\360\142\264
END
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\101\060\077\006\003\125\004\012\023\070\101\147\145\156\143\151
\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114\056
\125\056\040\055\040\103\111\106\040\102\070\063\063\071\065\071
\070\070\061\052\060\050\006\003\125\004\003\023\041\101\116\103
\105\122\124\040\103\145\162\164\151\146\151\143\141\144\157\163
\040\116\157\164\141\162\151\141\154\145\163\040\126\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\011\275\126\005\052\023\026\364\150\117\164\016\251\175
\034\110
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "ANCERT Certificados CGN V2"
# Issuer: CN=ANCERT Certificados CGN V2,O=Agencia Notarial de Certificacion S.L.U. - CIF B83395988,C=ES
# Serial Number:0f:38:8c:70:fe:a6:95:5d:e9:5d:9c:87:af:79:04:99
# Subject: CN=ANCERT Certificados CGN V2,O=Agencia Notarial de Certificacion S.L.U. - CIF
B83395988,C=ES
# Not Valid Before: Tue May 25 16:31:22 2010
# Not Valid After: Sat May 25 16:31:23 2030
# Fingerprint (MD5): 92:45:af:c3:89:71:e6:87:1d:8e:5a:20:a6:33:0e:93
# Fingerprint (SHA1): 7e:b1:a0:42:9b:e5:f4:28:ac:2b:93:97:1d:7c:84:48:a5:36:07:0c
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANCERT Certificados CGN V2"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\165\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\101\060\077\006\003\125\004\012\023\070\101\147\145\156\143\151
\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114\056
\125\056\040\055\040\103\111\106\040\102\070\063\063\071\065\071
\070\070\061\043\060\041\006\003\125\004\003\023\032\101\116\103
\105\122\124\040\103\145\162\164\151\146\151\143\141\144\157\163
\040\103\107\116\040\126\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\165\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\101\060\077\006\003\125\004\012\023\070\101\147\145\156\143\151
\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114\056
\125\056\040\055\040\103\111\106\040\102\070\063\063\071\065\071
\070\070\061\043\060\041\006\003\125\004\003\023\032\101\116\103
\105\122\124\040\103\145\162\164\151\146\151\143\141\144\157\163
\040\103\107\116\040\126\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\017\070\214\160\376\246\225\135\351\135\234\207\257\171
\004\231

END

CKA_VALUE MULTILINE_OCTAL

\060\202\007\004\060\202\004\354\240\003\002\001\002\002\020\017
\070\214\160\376\246\225\135\351\135\234\207\257\171\004\231\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\165
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\101\060
\077\006\003\125\004\012\023\070\101\147\145\156\143\151\141\040
\116\157\164\141\162\151\141\154\040\144\145\040\103\145\162\164
\151\146\151\143\141\143\151\157\156\040\123\056\114\056\125\056
\040\055\040\103\111\106\040\102\070\063\063\071\065\071\070\070
\061\043\060\041\006\003\125\004\003\023\032\101\116\103\105\122
\124\040\103\145\162\164\151\146\151\143\141\144\157\163\040\103
\107\116\040\126\062\060\036\027\015\061\060\060\065\062\065\061
\066\063\061\062\062\132\027\015\063\060\060\065\062\065\061\066
\063\061\062\063\132\060\165\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\101\060\077\006\003\125\004\012\023\070\101
\147\145\156\143\151\141\040\116\157\164\141\162\151\141\154\040
\144\145\040\103\145\162\164\151\146\151\143\141\143\151\157\156
\040\123\056\114\056\125\056\040\055\040\103\111\106\040\102\070
\063\063\071\065\071\070\070\061\043\060\041\006\003\125\004\003
\023\032\101\116\103\105\122\124\040\103\145\162\164\151\146\151
\143\141\144\157\163\040\103\107\116\040\126\062\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003

\202\002\017\000\060\202\002\012\002\202\002\001\000\235\122\160
\351\047\030\203\312\352\304\231\330\246\341\056\024\257\156\036
\016\144\312\201\067\125\047\034\027\167\130\147\037\214\311\371
\302\212\142\145\050\164\233\342\321\276\125\007\166\166\356\174
\155\116\143\133\036\112\045\165\340\007\241\320\322\202\247\316
\017\063\353\272\024\300\145\262\112\056\345\145\274\042\322\257
\032\016\312\313\363\144\145\053\054\231\243\227\213\213\165\060
\376\146\372\301\117\113\067\120\214\077\363\336\231\172\116\207
\234\040\106\162\227\376\126\033\146\116\240\202\123\243\134\330
\050\106\014\005\027\157\070\326\134\237\016\045\042\301\206\343
\134\032\124\333\256\235\145\175\000\222\337\250\041\041\305\133
\020\046\164\341\261\163\127\144\174\175\027\003\014\352\367\024
\227\017\371\305\356\135\165\260\305\306\012\013\264\076\111\343
\031\306\233\104\223\374\132\025\144\012\262\203\377\200\136\210
\011\320\312\040\243\133\373\333\315\341\032\167\043\030\160\032
\213\355\104\077\326\032\250\066\070\341\235\057\247\167\304\172
\263\300\162\262\162\315\036\077\020\136\032\210\164\215\360\022
\305\367\257\111\334\225\257\053\115\264\220\312\371\356\357\014
\343\277\026\067\043\123\343\051\372\364\164\151\150\075\127\155
\024\140\212\144\151\050\144\115\372\066\107\375\270\022\316\303
\206\252\134\334\146\071\007\117\073\343\343\305\150\256\316\340
\071\134\040\203\077\022\012\070\263\000\301\134\023\227\042\136
\072\113\065\231\370\304\036\336\371\210\021\216\204\311\213\062
\362\322\327\277\042\007\077\140\170\056\165\034\242\272\043\022
\323\360\117\120\071\354\311\167\047\307\132\052\216\323\271\265
\164\004\231\025\057\056\206\137\217\006\301\312\352\342\250\037
\115\175\063\204\221\244\222\303\320\246\110\135\146\032\167\204
\040\120\234\352\004\013\014\043\226\317\261\234\374\271\272\037
\227\250\323\253\003\145\057\175\256\124\307\171\342\034\066\335
\155\322\006\230\001\375\316\374\077\113\303\322\256\377\211\330
\071\061\003\330\261\144\167\003\306\370\243\215\374\052\171\347
\020\275\271\155\221\034\076\235\313\274\125\177\042\376\141\204
\370\330\324\247\041\172\071\136\162\062\353\114\165\002\003\001
\000\001\243\202\001\216\060\202\001\212\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\202\001\045\006
\003\125\035\040\004\202\001\034\060\202\001\030\060\202\001\024
\006\011\053\006\001\004\001\201\223\150\004\060\202\001\005\060
\045\006\010\053\006\001\005\005\007\002\001\026\031\150\164\164
\160\072\057\057\167\167\167\056\141\156\143\145\162\164\056\143
\157\155\057\143\160\163\060\201\333\006\010\053\006\001\005\005
\007\002\002\060\201\316\060\015\026\006\101\116\103\105\122\124
\060\003\002\001\001\036\201\274\000\101\000\147\000\145\000\156
\000\143\000\151\000\141\000\040\000\116\000\157\000\164\000\141
\000\162\000\151\000\141\000\154\000\040\000\144\000\145\000\040
\000\103\000\145\000\162\000\164\000\151\000\146\000\151\000\143
\000\141\000\143\000\151\000\157\000\156\000\056\000\040\000\120
\000\141\000\163\000\145\000\157\000\040\000\144\000\145\000\154
\000\240\000\107\000\145\000\156\000\145\000\162\000\141\000\154

\000\040\000\115\000\141\000\162\000\164\000\151\000\156\000\145
\000\172\000\040\000\103\000\141\000\155\000\160\000\157\000\163
\000\040\000\064\000\066\000\040\000\066\000\141\000\040\000\160
\000\154\000\141\000\156\000\164\000\141\000\040\000\062\000\070
\000\060\000\061\000\060\000\040\000\115\000\141\000\144\000\162
\000\151\000\144\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\035\006\003\125\035\016\004\026\004\024\005
\156\341\241\232\356\007\257\316\365\264\323\145\075\004\120\342
\320\233\104\060\037\006\003\125\035\043\004\030\060\026\200\024
\005\156\341\241\232\356\007\257\316\365\264\323\145\075\004\120
\342\320\233\104\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\177\124\100\031\044\312\114\023
\366\023\371\134\142\225\060\325\270\340\223\200\154\324\025\106
\324\047\076\222\122\252\334\201\143\206\100\333\325\045\257\237
\223\154\012\365\115\241\376\124\226\135\207\257\021\223\017\213
\362\343\360\037\112\237\374\251\321\311\120\167\137\230\010\010
\055\172\213\201\020\314\073\002\124\130\345\306\247\364\367\312
\350\366\067\006\176\347\021\327\154\205\143\367\250\243\016\342
\045\142\004\244\362\142\123\234\107\264\247\144\273\201\345\326
\136\126\021\276\105\021\141\302\146\351\364\015\164\250\253\371
\133\277\202\262\221\246\120\373\207\176\157\273\310\353\005\242
\271\020\327\033\102\007\125\317\211\346\277\373\271\360\152\071
\127\123\160\214\275\113\243\151\277\037\213\246\134\115\145\212
\271\000\011\350\150\277\011\047\007\115\136\332\122\011\214\345
\161\223\212\314\205\216\322\067\136\123\334\202\155\013\126\112
\204\171\012\364\020\045\104\365\157\135\032\146\265\315\325\020
\113\207\132\116\324\177\344\161\254\356\150\237\274\372\056\130
\301\304\236\177\244\131\205\340\122\016\362\307\107\165\025\055
\054\166\214\017\105\005\065\140\370\173\073\167\062\177\050\200
\011\332\061\274\161\175\341\254\221\315\140\012\171\040\354\156
\073\267\204\340\162\363\251\112\320\057\344\133\343\322\032\324
\112\274\365\166\371\177\052\031\110\353\335\016\317\231\126\105
\270\175\326\011\216\016\316\263\204\150\111\204\124\065\113\344
\231\033\257\363\250\024\363\124\230\012\200\176\117\274\362\146
\055\046\377\060\215\247\366\275\333\232\217\345\341\337\273\267
\062\016\371\222\157\151\343\344\166\323\000\066\361\055\136\307
\023\137\325\331\152\055\350\321\033\153\166\313\030\156\016\005
\020\365\132\362\111\033\131\264\205\352\312\031\164\314\273\122
\342\067\214\302\152\002\045\302\322\161\244\222\333\216\311\326
\251\156\320\205\050\155\134\155\010\170\002\260\171\014\127\157
\013\132\001\343\204\204\002\366\317\362\253\143\353\002\152\271
\313\112\030\325\071\042\074\126\112\252\225\210\346\060\000\037
\215\041\041\311\127\356\271\267\104\051\210\117\266\053\247\024
\356\216\356\157\276\026\320\023

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
# Trust for "ANCERT Certificados CGN V2"
# Issuer: CN=ANCERT Certificados CGN V2,O=Agencia Notarial de Certificacion S.L.U. - CIF B83395988,C=ES
# Serial Number:0f:38:8c:70:fe:a6:95:5d:e9:5d:9c:87:af:79:04:99
# Subject: CN=ANCERT Certificados CGN V2,O=Agencia Notarial de Certificacion S.L.U. - CIF
B83395988,C=ES
# Not Valid Before: Tue May 25 16:31:22 2010
# Not Valid After: Sat May 25 16:31:23 2030
# Fingerprint (MD5): 92:45:af:c3:89:71:e6:87:1d:8e:5a:20:a6:33:0e:93
# Fingerprint (SHA1): 7e:b1:a0:42:9b:e5:f4:28:ac:2b:93:97:1d:7c:84:48:a5:36:07:0c
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANCERT Certificados CGN V2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\176\261\240\102\233\345\364\050\254\053\223\227\035\174\204\110
\245\066\007\014
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\222\105\257\303\211\161\346\207\035\216\132\040\246\063\016\223
END
CKA_ISSUER MULTILINE_OCTAL
\060\165\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\101\060\077\006\003\125\004\012\023\070\101\147\145\156\143\151
\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114\056
\125\056\040\055\040\103\111\106\040\102\070\063\063\071\065\071
\070\070\061\043\060\041\006\003\125\004\003\023\032\101\116\103
\105\122\124\040\103\145\162\164\151\146\151\143\141\144\157\163
\040\103\107\116\040\126\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\070\214\160\376\246\225\135\351\135\234\207\257\171
\004\231
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "EE Certification Centre Root CA"
# Issuer: 1.2.840.113549.1.9.1=pki@sk.ee,CN=EE Certification Centre Root CA,O=AS
Sertifitseerimiskeskus,C=EE
# Serial Number:54:80:f9:a0:73:ed:3f:00:4c:ca:89:d8:e3:71:e6:4a
# Subject: 1.2.840.113549.1.9.1=pki@sk.ee,CN=EE Certification Centre Root CA,O=AS
```

```
Sertifitseerimiskeskus,C=EE
# Not Valid Before: Sat Oct 30 10:10:30 2010
# Not Valid After: Tue Dec 17 23:59:59 2030
# Fingerprint (MD5): 43:5e:88:d4:7d:1a:4a:7e:fd:84:2e:52:eb:01:d4:6f
# Fingerprint (SHA1): c9:a8:b9:e7:55:80:5e:58:e3:53:77:a7:25:eb:af:c3:7b:27:cc:d7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "EE Certification Centre Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\165\061\013\060\011\006\003\125\004\006\023\002\105\105\061
\042\060\040\006\003\125\004\012\014\031\101\123\040\123\145\162
\164\151\146\151\164\163\145\145\162\151\155\151\163\153\145\163
\153\165\163\061\050\060\046\006\003\125\004\003\014\037\105\105
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\103
\145\156\164\162\145\040\122\157\157\164\040\103\101\061\030\060
\026\006\011\052\206\110\206\367\015\001\011\001\026\011\160\153
\151\100\163\153\056\145\145
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\165\061\013\060\011\006\003\125\004\006\023\002\105\105\061
\042\060\040\006\003\125\004\012\014\031\101\123\040\123\145\162
\164\151\146\151\164\163\145\145\162\151\155\151\163\153\145\163
\153\165\163\061\050\060\046\006\003\125\004\003\014\037\105\105
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\103
\145\156\164\162\145\040\122\157\157\164\040\103\101\061\030\060
\026\006\011\052\206\110\206\367\015\001\011\001\026\011\160\153
\151\100\163\153\056\145\145
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\124\200\371\240\163\355\077\000\114\312\211\330\343\161
\346\112
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\003\060\202\002\353\240\003\002\001\002\002\020\124
\200\371\240\163\355\077\000\114\312\211\330\343\161\346\112\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\165
\061\013\060\011\006\003\125\004\006\023\002\105\105\061\042\060
\040\006\003\125\004\012\014\031\101\123\040\123\145\162\164\151
\146\151\164\163\145\145\162\151\155\151\163\153\145\163\153\165
\163\061\050\060\046\006\003\125\004\003\014\037\105\105\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\103\145\156
\164\162\145\040\122\157\157\164\040\103\101\061\030\060\026\006
\011\052\206\110\206\367\015\001\011\001\026\011\160\153\151\100
\163\153\056\145\145\060\042\030\017\062\060\061\060\061\060\063
```

\060\061\060\061\060\063\060\132\030\017\062\060\063\060\061\062
\061\067\062\063\065\071\065\071\132\060\165\061\013\060\011\006
\003\125\004\006\023\002\105\105\061\042\060\040\006\003\125\004
\012\014\031\101\123\040\123\145\162\164\151\146\151\164\163\145
\145\162\151\155\151\163\153\145\163\153\165\163\061\050\060\046
\006\003\125\004\003\014\037\105\105\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\103\145\156\164\162\145\040\122
\157\157\164\040\103\101\061\030\060\026\006\011\052\206\110\206
\367\015\001\011\001\026\011\160\153\151\100\163\153\056\145\145
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\310\040\300\354\340\305\113\253\007\170\225\363\104\356\373
\013\014\377\164\216\141\273\261\142\352\043\330\253\241\145\062
\172\353\216\027\117\226\330\012\173\221\242\143\154\307\214\114
\056\171\277\251\005\374\151\134\225\215\142\371\271\160\355\303
\121\175\320\223\346\154\353\060\113\341\274\175\277\122\233\316
\156\173\145\362\070\261\300\242\062\357\142\262\150\340\141\123
\301\066\225\377\354\224\272\066\256\234\034\247\062\017\345\174
\264\306\157\164\375\173\030\350\254\127\355\006\040\113\062\060
\130\133\375\315\250\346\241\374\160\274\216\222\163\333\227\247
\174\041\256\075\301\365\110\207\154\047\275\237\045\164\201\125
\260\367\165\366\075\244\144\153\326\117\347\316\100\255\017\335
\062\323\274\212\022\123\230\311\211\373\020\035\115\176\315\176
\037\126\015\041\160\205\366\040\203\037\366\272\037\004\217\352
\167\210\065\304\377\352\116\241\213\115\077\143\033\104\303\104
\324\045\166\312\267\215\327\036\112\146\144\315\134\305\234\203
\341\302\010\210\232\354\116\243\361\076\034\054\331\154\035\241
\113\002\003\001\000\001\243\201\212\060\201\207\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006
\003\125\035\016\004\026\004\024\022\362\132\076\352\126\034\277
\315\006\254\361\361\045\311\251\113\324\024\231\060\105\006\003
\125\035\045\004\076\060\074\006\010\053\006\001\005\005\007\003
\002\006\010\053\006\001\005\005\007\003\001\006\010\053\006\001
\005\005\007\003\003\006\010\053\006\001\005\005\007\003\004\006
\010\053\006\001\005\005\007\003\010\006\010\053\006\001\005\005
\007\003\011\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\003\202\001\001\000\173\366\344\300\015\252\031\107\267
\115\127\243\376\255\273\261\152\325\017\236\333\344\143\305\216
\241\120\126\223\226\270\070\300\044\042\146\274\123\024\141\225
\277\320\307\052\226\071\077\175\050\263\020\100\041\152\304\257
\260\122\167\030\341\226\330\126\135\343\335\066\136\035\247\120
\124\240\305\052\344\252\214\224\212\117\235\065\377\166\244\006
\023\221\242\242\175\000\104\077\125\323\202\074\032\325\133\274
\126\114\042\056\106\103\212\044\100\055\363\022\270\073\160\032
\244\226\271\032\257\207\101\032\152\030\015\006\117\307\076\156
\271\051\115\015\111\211\021\207\062\133\346\113\004\310\344\134
\346\164\163\224\135\026\230\023\225\376\373\333\261\104\345\072


```
\160\254\067\153\346\263\063\162\050\311\263\127\240\366\002\026
\210\006\013\266\246\113\040\050\324\336\075\213\255\067\005\123
\164\376\156\314\274\103\027\161\136\371\305\314\032\251\141\356
\367\166\014\363\162\364\162\255\317\162\002\066\007\107\317\357
\031\120\211\140\314\351\044\225\017\302\313\035\362\157\166\220
\307\314\165\301\226\305\235
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "EE Certification Centre Root CA"
# Issuer: 1.2.840.113549.1.9.1=pki@sk.ee,CN=EE Certification Centre Root CA,O=AS
Sertifitseerimiskeskus,C=EE
# Serial Number:54:80:f9:a0:73:ed:3f:00:4c:ca:89:d8:e3:71:e6:4a
# Subject: 1.2.840.113549.1.9.1=pki@sk.ee,CN=EE Certification Centre Root CA,O=AS
Sertifitseerimiskeskus,C=EE
# Not Valid Before: Sat Oct 30 10:10:30 2010
# Not Valid After: Tue Dec 17 23:59:59 2030
# Fingerprint (MD5): 43:5e:88:d4:7d:1a:4a:7e:fd:84:2e:52:eb:01:d4:6f
# Fingerprint (SHA1): c9:a8:b9:e7:55:80:5e:58:e3:53:77:a7:25:eb:af:c3:7b:27:cc:d7
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "EE Certification Centre Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\311\250\271\347\125\200\136\130\343\123\167\247\045\353\257\303
\173\047\314\327
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\103\136\210\324\175\032\112\176\375\204\056\122\353\001\324\157
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\165\061\013\060\011\006\003\125\004\006\023\002\105\105\061
\042\060\040\006\003\125\004\012\014\031\101\123\040\123\145\162
\164\151\146\151\164\163\145\145\162\151\155\151\163\153\145\163
\153\165\163\061\050\060\046\006\003\125\004\003\014\037\105\105
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\103
\145\156\164\162\145\040\122\157\157\164\040\103\101\061\030\060
\026\006\011\052\206\110\206\367\015\001\011\001\026\011\160\153
\151\100\163\153\056\145\145
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\124\200\371\240\163\355\077\000\114\312\211\330\343\161
\346\112
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Certificate "DigiNotar Root CA G2"
Issuer: 1.2.840.113549.1.9.1=info@diginotar.nl,CN=DigiNotar Root CA G2,O=DigiNotar,C=NL
Serial Number:0a:82:bd:1e:14:4e:88:14:d7:5b:1a:55:27:be:bf:3e
Subject: 1.2.840.113549.1.9.1=info@diginotar.nl,CN=DigiNotar Root CA G2,O=DigiNotar,C=NL
Not Valid Before: Fri Jul 03 13:59:02 2009
Not Valid After: Tue Jul 03 13:59:02 2029
Fingerprint (MD5): c2:96:e0:e4:97:2c:aa:61:c4:9b:9b:77:18:38:5c:9e
Fingerprint (SHA1): 43:d9:bc:b5:68:e0:39:d0:73:a7:4a:71:d8:51:1f:74:76:08:9c:c3

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiNotar Root CA G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\035\060\033\006\003\125\004\003\023\024\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\040
\107\062\061\040\060\036\006\011\052\206\110\206\367\015\001\011
\001\026\021\151\156\146\157\100\144\151\147\151\156\157\164\141
\162\056\156\154

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\035\060\033\006\003\125\004\003\023\024\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\040
\107\062\061\040\060\036\006\011\052\206\110\206\367\015\001\011
\001\026\021\151\156\146\157\100\144\151\147\151\156\157\164\141
\162\056\156\154

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\012\202\275\036\024\116\210\024\327\133\032\125\047\276
\277\076

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\220\060\202\003\170\240\003\002\001\002\002\020\012
\202\275\036\024\116\210\024\327\133\032\125\047\276\277\076\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\142
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022\060

\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164\141
\162\061\035\060\033\006\003\125\004\003\023\024\104\151\147\151
\116\157\164\141\162\040\122\157\157\164\040\103\101\040\107\062
\061\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026
\021\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056
\156\154\060\036\027\015\060\071\060\067\060\063\061\063\065\071
\060\062\132\027\015\062\071\060\067\060\063\061\063\065\071\060
\062\132\060\142\061\013\060\011\006\003\125\004\006\023\002\116
\114\061\022\060\020\006\003\125\004\012\023\011\104\151\147\151
\116\157\164\141\162\061\035\060\033\006\003\125\004\003\023\024
\104\151\147\151\116\157\164\141\162\040\122\157\157\164\040\103
\101\040\107\062\061\040\060\036\006\011\052\206\110\206\367\015
\001\011\001\026\021\151\156\146\157\100\144\151\147\151\156\157
\164\141\162\056\156\154\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\277\256\020\001\373\114\076\266\254
\003\365\230\317\043\222\050\244\023\075\032\332\240\117\213\145
\345\056\344\340\246\216\070\165\073\345\263\130\025\334\062\145
\376\176\166\030\005\331\202\251\266\241\366\375\304\273\153\154
\173\044\264\201\365\054\075\207\251\300\103\327\334\070\054\340
\115\022\204\027\274\015\114\323\161\113\063\270\102\004\061\161
\307\044\036\105\027\320\374\151\052\132\041\225\215\004\207\214
\300\167\023\142\215\275\344\310\217\212\020\025\175\165\305\240
\166\145\260\216\001\066\016\210\011\174\240\243\071\045\253\150
\222\255\346\064\171\357\224\027\322\153\057\040\060\005\251\221
\071\254\014\134\001\307\245\162\260\217\017\030\215\242\071\332
\334\064\224\104\245\220\100\105\270\356\347\344\153\364\151\067
\330\325\242\200\057\325\371\366\115\046\353\123\240\241\205\137
\320\275\312\055\034\046\256\160\230\075\032\274\161\143\043\231
\103\211\256\074\073\131\147\123\066\066\102\015\341\145\020\010
\232\123\271\350\176\341\260\272\043\332\233\042\107\055\263\133
\175\304\177\002\372\062\116\026\376\372\212\253\131\032\266\142
\072\275\310\240\133\257\343\223\271\134\206\264\215\347\040\013
\156\004\004\375\322\245\246\356\375\264\051\031\041\357\102\221
\043\204\112\053\372\016\112\064\315\260\260\225\172\004\015\250
\060\136\075\040\173\077\152\003\105\333\005\005\224\220\307\326
\116\146\204\002\073\200\314\337\342\207\154\144\322\160\137\117
\160\273\154\103\030\032\351\154\340\200\126\305\305\346\000\255
\337\115\355\121\215\306\352\011\361\011\012\242\332\123\107\117
\233\230\323\340\311\276\330\207\134\245\123\243\215\253\323\274
\056\013\172\277\106\021\143\244\130\025\252\034\156\376\111\006
\123\002\112\363\323\362\101\315\127\137\225\045\270\341\207\363
\140\227\177\354\041\211\312\323\166\154\335\121\221\106\063\100
\330\110\224\055\352\005\162\273\264\034\241\124\267\307\346\351
\112\176\053\262\327\041\031\137\000\344\232\134\215\241\070\257
\071\052\354\140\065\110\130\057\171\242\312\114\052\344\176\250
\021\210\121\355\277\017\073\156\005\261\200\107\071\344\147\342
\207\141\304\216\254\207\311\002\003\001\000\001\243\102\060\100

\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\035\006\003\125\035\016\004\026\004\024\051\015\333\077
\007\122\345\013\324\041\150\056\044\112\336\133\132\226\362\041
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\042\357\356\300\123\343\244\145\343\317\040\256
\023\342\242\336\327\067\053\124\017\016\233\215\137\230\347\151
\052\036\073\245\265\131\274\254\176\152\346\226\060\336\227\001
\375\164\366\137\045\000\367\243\143\212\264\261\015\302\031\030
\003\316\345\060\041\022\221\060\161\342\221\213\363\334\153\303
\005\255\314\055\142\230\066\047\135\243\340\025\233\202\075\032
\150\165\225\335\172\150\052\017\042\151\066\063\267\153\242\050
\206\120\221\125\021\132\022\000\214\235\121\334\340\262\126\275
\120\105\164\377\224\173\321\327\360\073\344\115\341\104\351\337
\153\204\342\042\114\225\170\264\224\314\127\011\236\041\207\254
\226\241\023\033\013\305\231\147\134\035\361\025\265\064\334\274
\370\036\354\253\077\224\047\262\211\231\374\325\130\076\245\244
\006\323\103\371\034\066\015\217\002\020\134\365\005\000\167\372
\247\354\231\126\316\230\005\370\162\246\271\005\033\043\016\016
\100\147\265\171\112\144\073\201\265\241\212\021\133\237\207\031
\174\360\224\116\063\243\121\020\325\273\275\121\213\150\030\007
\256\032\127\377\104\033\307\337\133\323\263\315\371\260\157\115
\302\313\202\345\213\156\051\320\131\201\234\154\116\375\173\020
\327\166\020\237\054\105\201\376\135\160\254\274\200\313\362\041
\302\303\142\042\333\030\116\020\217\105\260\033\232\042\043\244
\324\034\367\152\242\063\337\371\314\005\250\125\350\275\227\205
\250\336\263\145\335\116\004\022\170\235\351\312\223\066\052\001
\112\174\315\340\020\303\224\110\220\241\235\207\350\165\324\040
\317\207\021\065\352\360\300\167\047\302\122\366\055\157\207\231
\047\265\371\200\376\356\106\252\377\366\075\305\277\140\252\064
\141\065\053\363\002\001\212\112\234\012\042\141\376\231\013\005
\131\362\204\205\252\254\220\067\037\367\237\024\350\323\176\275
\004\106\077\155\366\340\334\102\116\201\374\135\340\232\126\161
\230\142\117\343\136\374\171\371\313\314\305\270\134\005\061\310
\142\366\251\157\377\153\343\360\166\323\352\276\347\101\001\367
\014\247\104\123\051\340\335\357\331\153\054\130\310\327\230\342
\035\344\051\263\213\345\154\166\311\143\203\155\032\171\156\163
\114\340\300\313

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "DigiNotar Root CA G2"

Issuer: 1.2.840.113549.1.9.1=info@diginotar.nl,CN=DigiNotar Root CA G2,O=DigiNotar,C=NL

Serial Number:0a:82:bd:1e:14:4e:88:14:d7:5b:1a:55:27:be:bf:3e

Subject: 1.2.840.113549.1.9.1=info@diginotar.nl,CN=DigiNotar Root CA G2,O=DigiNotar,C=NL

```

# Not Valid Before: Fri Jul 03 13:59:02 2009
# Not Valid After: Tue Jul 03 13:59:02 2029
# Fingerprint (MD5): c2:96:e0:e4:97:2c:aa:61:c4:9b:9b:77:18:38:5c:9e
# Fingerprint (SHA1): 43:d9:bc:b5:68:e0:39:d0:73:a7:4a:71:d8:51:1f:74:76:08:9c:c3
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiNotar Root CA G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\103\331\274\265\150\340\071\320\163\247\112\161\330\121\037\164
\166\010\234\303
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\302\226\340\344\227\054\252\141\304\233\233\167\030\070\134\236
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\035\060\033\006\003\125\004\003\023\024\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\040
\107\062\061\040\060\036\006\011\052\206\110\206\367\015\001\011
\001\026\021\151\156\146\157\100\144\151\147\151\156\157\164\141
\162\056\156\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\202\275\036\024\116\210\024\327\133\032\125\047\276
\277\076
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "Federal Common Policy CA"
# Issuer: CN=Federal Common Policy CA,OU=FPKI,O=U.S. Government,C=US
# Serial Number: 304 (0x130)
# Subject: CN=Federal Common Policy CA,OU=FPKI,O=U.S. Government,C=US
# Not Valid Before: Wed Dec 01 16:45:27 2010
# Not Valid After: Sun Dec 01 16:45:27 2030
# Fingerprint (MD5): 8c:42:b6:36:0d:d0:24:ce:4c:b1:ba:06:d2:6a:6b:c9
# Fingerprint (SHA1): 90:5f:94:2f:d9:f2:8f:67:9b:37:81:80:fd:4f:84:63:47:f6:45:c1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Federal Common Policy CA"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\131\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\030\060\026\006\003\125\004\012\023\017\125\056\123\056\040\107
\157\166\145\162\156\155\145\156\164\061\015\060\013\006\003\125
\004\013\023\004\106\120\113\111\061\041\060\037\006\003\125\004
\003\023\030\106\145\144\145\162\141\154\040\103\157\155\155\157
\156\040\120\157\154\151\143\171\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\131\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\030\060\026\006\003\125\004\012\023\017\125\056\123\056\040\107
\157\166\145\162\156\155\145\156\164\061\015\060\013\006\003\125
\004\013\023\004\106\120\113\111\061\041\060\037\006\003\125\004
\003\023\030\106\145\144\145\162\141\154\040\103\157\155\155\157
\156\040\120\157\154\151\143\171\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\002\001\060

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\140\060\202\003\110\240\003\002\001\002\002\002\001
\060\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\060\131\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\030\060\026\006\003\125\004\012\023\017\125\056\123\056\040\107
\157\166\145\162\156\155\145\156\164\061\015\060\013\006\003\125
\004\013\023\004\106\120\113\111\061\041\060\037\006\003\125\004
\003\023\030\106\145\144\145\162\141\154\040\103\157\155\155\157
\156\040\120\157\154\151\143\171\040\103\101\060\036\027\015\061
\060\061\062\060\061\061\066\064\065\062\067\132\027\015\063\060
\061\062\060\061\061\066\064\065\062\067\132\060\131\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\030\060\026\006\003
\125\004\012\023\017\125\056\123\056\040\107\157\166\145\162\156
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CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Federal Common Policy CA"
Issuer: CN=Federal Common Policy CA,OU=FPKI,O=U.S. Government,C=US
Serial Number: 304 (0x130)
Subject: CN=Federal Common Policy CA,OU=FPKI,O=U.S. Government,C=US
Not Valid Before: Wed Dec 01 16:45:27 2010
Not Valid After: Sun Dec 01 16:45:27 2030
Fingerprint (MD5): 8c:42:b6:36:0d:d0:24:ce:4c:b1:ba:06:d2:6a:6b:c9
Fingerprint (SHA1): 90:5f:94:2f:d9:f2:8f:67:9b:37:81:80:fd:4f:84:63:47:f6:45:c1

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Federal Common Policy CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

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\107\366\105\301

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

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END

CKA_ISSUER MULTILINE_OCTAL

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CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\002\001\060

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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Autoridad de Certificacion Raiz del Estado Venezolano"

Issuer: 1.2.840.113549.1.9.1=acraiz@suscerte.gob.ve,OU=Superintendencia de Servicios de Certificacion Electronica,O=Sistema Nacional de Certificacion Electronica,ST=Distrito Capital,L=Caracas,C=VE,CN=Autoridad de Certificacion Raiz del Estado Venezolano

Serial Number: 10 (0xa)

Subject: 1.2.840.113549.1.9.1=acraiz@suscerte.gob.ve,OU=Superintendencia de Servicios de Certificacion Electronica,O=Sistema Nacional de Certificacion Electronica,ST=Distrito Capital,L=Caracas,C=VE,CN=Autoridad de Certificacion Raiz del Estado Venezolano


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# Not Valid Before: Tue Dec 28 16:41:36 2010
# Not Valid After: Mon Dec 23 23:59:59 2030
# Fingerprint (MD5): 96:14:69:08:a8:36:59:d7:a0:35:14:89:58:50:5b:ab
# Fingerprint (SHA1): 39:8e:be:9c:0f:46:c0:79:c3:c7:af:e0:7a:2f:dd:9f:ae:5f:8a:5c
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CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Raiz del Estado Venezolano"
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CKA_SUBJECT MULTILINE_OCTAL
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CKA_SERIAL_NUMBER MULTILINE_OCTAL

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CKA_VALUE MULTILINE_OCTAL

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\164\162\157\156\151\143\141\061\045\060\043\006\011\052\206\110
\206\367\015\001\011\001\026\026\141\143\162\141\151\172\100\163
\165\163\143\145\162\164\145\056\147\157\142\056\166\145\202\001
\012\060\013\006\003\125\035\017\004\004\003\002\001\006\060\067
\006\003\125\035\021\004\060\060\056\202\017\163\165\163\143\145
\162\164\145\056\147\157\142\056\166\145\240\033\006\005\140\206
\136\002\002\240\022\014\020\122\111\106\055\107\055\062\060\060
\060\064\060\063\066\055\060\060\124\006\003\125\035\037\004\115
\060\113\060\044\240\042\240\040\206\036\150\164\164\160\072\057
\057\167\167\167\056\163\165\163\143\145\162\164\145\056\147\157
\142\056\166\145\057\154\143\162\060\043\240\041\240\037\206\035
\154\144\141\160\072\057\057\141\143\162\141\151\172\056\163\165
\163\143\145\162\164\145\056\147\157\142\056\166\145\060\067\006
\010\053\006\001\005\005\007\001\001\004\053\060\051\060\047\006
\010\053\006\001\005\005\007\060\001\206\033\150\164\164\160\072
\057\057\157\143\163\160\056\163\165\163\143\145\162\164\145\056
\147\157\142\056\166\145\060\100\006\003\125\035\040\004\071\060
\067\060\065\006\005\140\206\136\001\002\060\054\060\052\006\010
\053\006\001\005\005\007\002\001\026\036\150\164\164\160\072\057
\057\167\167\167\056\163\165\163\143\145\162\164\145\056\147\157
\142\056\166\145\057\144\160\143\060\015\006\011\052\206\110\206
\367\015\001\001\014\005\000\003\202\002\001\000\034\131\020\345
\136\244\121\301\107\273\145\262\013\125\342\057\251\243\047\274
\341\074\212\307\154\003\126\243\251\051\242\233\212\225\330\037
\367\266\022\140\026\276\172\364\375\003\201\117\375\201\201\252
\117\201\160\036\056\357\300\222\022\173\273\017\205\210\304\371
\035\101\265\272\044\052\303\050\046\023\312\371\000\373\327\303
\134\371\150\351\033\301\030\042\311\242\154\144\303\370\071\303
\116\041\335\326\302\336\345\266\054\311\134\070\360\336\136\152
\344\047\364\270\063\304\313\141\222\063\123\250\314\374\235\315
\123\373\050\013\357\355\177\260\217\164\042\266\065\127\200\250
\256\005\256\051\012\073\262\244\375\075\343\324\301\220\366\077
\316\274\344\104\376\321\301\176\050\057\375\000\044\062\040\210
\304\157\030\173\221\016\110\220\274\226\142\140\201\155\024\000
\032\121\272\265\135\151\215\141\107\034\054\254\116\105\040\251

```
\110\105\243\207\111\243\170\220\335\066\102\177\330\166\157\375
\155\203\001\306\371\177\230\040\177\226\056\042\140\253\242\047
\300\260\065\044\320\311\277\063\231\042\123\016\156\037\142\114
\046\374\044\063\312\301\003\314\251\027\141\143\063\044\314\150
\100\357\257\242\342\205\303\210\060\323\105\033\356\126\352\126
\012\017\012\107\233\060\131\330\111\321\060\220\014\047\052\046
\010\050\134\062\037\047\327\255\013\111\345\027\121\143\317\346
\015\073\140\121\032\275\103\011\120\346\221\265\143\346\144\227
\252\013\227\023\001\006\206\134\245\037\225\276\120\216\013\262
\322\144\177\333\253\114\346\103\306\344\205\215\152\376\215\376
\273\224\125\036\221\123\047\010\323\272\147\075\072\241\311\301
\305\024\272\371\103\134\305\216\041\214\202\242\375\052\062\045
\325\026\214\025\126\300\230\374\056\262\216\031\244\026\161\303
\113\335\161\376\161\354\042\035\360\301\214\230\201\207\264\277
\002\270\304\060\061\107\302\300\260\257\173\063\143\012\335\254
\105\233\301\314\200\207\364\331\230\136\234\206\376\232\004\377
\146\112\374\173\141\124\276\127\143\005\007\306\247\001\165\131
\344\156\071\073\000\364\252\235\363\237\210\277\317\321\045\053
\337\177\163\355\026\206\251\220\145\017\160\051
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "Autoridad de Certificacion Raiz del Estado Venezolano"
```

```
# Issuer: 1.2.840.113549.1.9.1=acraiz@suscerte.gob.ve,OU=Superintendencia de Servicios de Certificacion
Electronica,O=Sistema Nacional de Certificacion Electronica,ST=Distrito Capital,L=Caracas,C=VE,CN=Autoridad
de Certificacion Raiz del Estado Venezolano
```

```
# Serial Number: 10 (0xa)
```

```
# Subject: 1.2.840.113549.1.9.1=acraiz@suscerte.gob.ve,OU=Superintendencia de Servicios de Certificacion
Electronica,O=Sistema Nacional de Certificacion Electronica,ST=Distrito Capital,L=Caracas,C=VE,CN=Autoridad
de Certificacion Raiz del Estado Venezolano
```

```
# Not Valid Before: Tue Dec 28 16:41:36 2010
```

```
# Not Valid After: Mon Dec 23 23:59:59 2030
```

```
# Fingerprint (MD5): 96:14:69:08:a8:36:59:d7:a0:35:14:89:58:50:5b:ab
```

```
# Fingerprint (SHA1): 39:8e:be:9c:0f:46:c0:79:c3:c7:af:e0:7a:2f:dd:9f:ae:5f:8a:5c
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Autoridad de Certificacion Raiz del Estado Venezolano"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\071\216\276\234\017\106\300\171\303\307\257\340\172\057\335\237
\256\137\212\134
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\226\024\151\010\250\066\131\327\240\065\024\211\130\120\133\253
```

END

CKA_ISSUER MULTILINE_OCTAL

\060\202\001\036\061\076\060\074\006\003\125\004\003\023\065\101
\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162\164
\151\146\151\143\141\143\151\157\156\040\122\141\151\172\040\144
\145\154\040\105\163\164\141\144\157\040\126\145\156\145\172\157
\154\141\156\157\061\013\060\011\006\003\125\004\006\023\002\126
\105\061\020\060\016\006\003\125\004\007\023\007\103\141\162\141
\143\141\163\061\031\060\027\006\003\125\004\010\023\020\104\151
\163\164\162\151\164\157\040\103\141\160\151\164\141\154\061\066
\060\064\006\003\125\004\012\023\055\123\151\163\164\145\155\141
\040\116\141\143\151\157\156\141\154\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\040\105\154\145\143\164
\162\157\156\151\143\141\061\103\060\101\006\003\125\004\013\023
\072\123\165\160\145\162\151\156\164\145\156\144\145\156\143\151
\141\040\144\145\040\123\145\162\166\151\143\151\157\163\040\144
\145\040\103\145\162\164\151\146\151\143\141\143\151\157\156\040
\105\154\145\143\164\162\157\156\151\143\141\061\045\060\043\006
\011\052\206\110\206\367\015\001\011\001\026\026\141\143\162\141
\151\172\100\163\165\163\143\145\162\164\145\056\147\157\142\056
\166\145

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\012

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "China Internet Network Information Center EV Certificates Root"

Issuer: CN=China Internet Network Information Center EV Certificates Root,O=China Internet Network
Information Center,C=CN

Serial Number:48:9f:00:01

Subject: CN=China Internet Network Information Center EV Certificates Root,O=China Internet Network
Information Center,C=CN

Not Valid Before: Tue Aug 31 07:11:25 2010

Not Valid After: Sat Aug 31 07:11:25 2030

Fingerprint (MD5): 55:5d:63:00:97:bd:6a:97:f5:67:ab:4b:fb:6e:63:15

Fingerprint (SHA1): 4f:99:aa:93:fb:2b:d1:37:26:a1:99:4a:ce:7f:f0:05:f2:93:5d:1e

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "China Internet Network Information Center EV Certificates Root"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\116
\061\062\060\060\006\003\125\004\012\014\051\103\150\151\156\141
\040\111\156\164\145\162\156\145\164\040\116\145\164\167\157\162
\153\040\111\156\146\157\162\155\141\164\151\157\156\040\103\145
\156\164\145\162\061\107\060\105\006\003\125\004\003\014\076\103
\150\151\156\141\040\111\156\164\145\162\156\145\164\040\116\145
\164\167\157\162\153\040\111\156\146\157\162\155\141\164\151\157
\156\040\103\145\156\164\145\162\040\105\126\040\103\145\162\164
\151\146\151\143\141\164\145\163\040\122\157\157\164

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\116
\061\062\060\060\006\003\125\004\012\014\051\103\150\151\156\141
\040\111\156\164\145\162\156\145\164\040\116\145\164\167\157\162
\153\040\111\156\146\157\162\155\141\164\151\157\156\040\103\145
\156\164\145\162\061\107\060\105\006\003\125\004\003\014\076\103
\150\151\156\141\040\111\156\164\145\162\156\145\164\040\116\145
\164\167\157\162\153\040\111\156\146\157\162\155\141\164\151\157
\156\040\103\145\156\164\145\162\040\105\126\040\103\145\162\164
\151\146\151\143\141\164\145\163\040\122\157\157\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\110\237\000\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\367\060\202\002\337\240\003\002\001\002\002\004\110
\237\000\001\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\212\061\013\060\011\006\003\125\004\006\023\002
\103\116\061\062\060\060\006\003\125\004\012\014\051\103\150\151
\156\141\040\111\156\164\145\162\156\145\164\040\116\145\164\167
\157\162\153\040\111\156\146\157\162\155\141\164\151\157\156\040
\103\145\156\164\145\162\061\107\060\105\006\003\125\004\003\014
\076\103\150\151\156\141\040\111\156\164\145\162\156\145\164\040
\116\145\164\167\157\162\153\040\111\156\146\157\162\155\141\164
\151\157\156\040\103\145\156\164\145\162\040\105\126\040\103\145
\162\164\151\146\151\143\141\164\145\163\040\122\157\157\164\060
\036\027\015\061\060\060\070\063\061\060\067\061\061\062\065\132\060
\027\015\063\060\060\070\063\061\060\067\061\061\062\065\132\060
\201\212\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\103\150\151\156\141\040
\111\156\164\145\162\156\145\164\040\116\145\164\167\157\162\153
\040\111\156\146\157\162\155\141\164\151\157\156\040\103\145\156
\164\145\162\061\107\060\105\006\003\125\004\003\014\076\103\150
\151\156\141\040\111\156\164\145\162\156\145\164\040\116\145\164
\167\157\162\153\040\111\156\146\157\162\155\141\164\151\157\156
\040\103\145\156\164\145\162\040\105\126\040\103\145\162\164\151
\146\151\143\141\164\145\163\040\122\157\157\164\060\202\001\042

\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\233\176\163
\356\275\073\170\252\144\103\101\365\120\337\224\362\056\262\215
\112\216\106\124\322\041\022\310\071\062\102\006\351\203\325\237
\122\355\345\147\003\073\124\301\214\231\231\314\351\300\017\377
\015\331\204\021\262\270\321\313\133\334\036\371\150\061\144\341
\233\372\164\353\150\271\040\225\367\306\017\215\107\254\132\006
\335\141\253\342\354\330\237\027\055\234\312\074\065\227\125\161
\315\103\205\261\107\026\365\054\123\200\166\317\323\000\144\275
\100\231\335\314\330\333\304\237\326\023\137\101\203\213\371\015
\207\222\126\064\154\032\020\013\027\325\132\034\227\130\204\074
\204\032\056\134\221\064\156\031\137\177\027\151\305\145\357\153
\041\306\325\120\072\277\141\271\005\215\357\157\064\072\262\157
\024\143\277\026\073\233\251\052\375\267\053\070\146\006\305\054
\342\252\147\036\105\247\215\004\146\102\366\217\053\357\210\040
\151\217\062\214\024\163\332\053\206\221\143\042\232\362\247\333
\316\211\213\253\135\307\024\301\133\060\152\037\261\267\236\056
\201\001\002\355\317\226\136\143\333\250\346\070\267\002\003\001
\000\001\243\143\060\141\060\037\006\003\125\035\043\004\030\060
\026\200\024\174\162\113\071\307\300\333\142\245\117\233\252\030
\064\222\242\312\203\202\131\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004
\026\004\024\174\162\113\071\307\300\333\142\245\117\233\252\030
\064\222\242\312\203\202\131\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\052\303\307\103\067
\217\335\255\244\262\014\356\334\024\155\217\050\244\230\111\313
\014\200\352\363\355\043\146\165\175\305\323\041\147\171\321\163
\305\265\003\267\130\254\014\124\057\306\126\023\017\061\332\006
\347\145\073\035\157\066\333\310\035\371\375\200\006\312\243\075
\146\026\250\235\114\026\175\300\225\106\265\121\344\342\037\327
\352\006\115\143\215\226\214\357\347\063\127\102\072\353\214\301
\171\310\115\166\175\336\366\261\267\201\340\240\371\241\170\106
\027\032\126\230\360\116\075\253\034\355\354\071\334\007\110\367
\143\376\006\256\302\244\134\152\133\062\210\305\307\063\205\254
\146\102\107\302\130\044\231\341\345\076\345\165\054\216\103\326
\135\074\170\036\250\225\202\051\120\321\321\026\272\357\301\276
\172\331\264\330\314\036\114\106\341\167\261\061\253\275\052\310
\316\217\156\241\135\177\003\165\064\344\255\211\105\124\136\276
\256\050\245\273\077\170\171\353\163\263\012\015\375\276\311\367
\126\254\366\267\355\057\233\041\051\307\070\266\225\304\004\362
\303\055\375\024\052\220\231\271\007\314\237

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate


```
# Trust for "China Internet Network Information Center EV Certificates Root"
# Issuer: CN=China Internet Network Information Center EV Certificates Root,O=China Internet Network
Information Center,C=CN
# Serial Number:48:9f:00:01
# Subject: CN=China Internet Network Information Center EV Certificates Root,O=China Internet Network
Information Center,C=CN
# Not Valid Before: Tue Aug 31 07:11:25 2010
# Not Valid After: Sat Aug 31 07:11:25 2030
# Fingerprint (MD5): 55:5d:63:00:97:bd:6a:97:f5:67:ab:4b:fb:6e:63:15
# Fingerprint (SHA1): 4f:99:aa:93:fb:2b:d1:37:26:a1:99:4a:ce:7f:f0:05:f2:93:5d:1e
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "China Internet Network Information Center EV Certificates Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\117\231\252\223\373\053\321\067\046\241\231\112\316\177\360\005
\362\223\135\036
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\125\135\143\000\227\275\152\227\365\147\253\113\373\156\143\025
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\116
\061\062\060\060\006\003\125\004\012\014\051\103\150\151\156\141
\040\111\156\164\145\162\156\145\164\040\116\145\164\167\157\162
\153\040\111\156\146\157\162\155\141\164\151\157\156\040\103\145
\156\164\145\162\061\107\060\105\006\003\125\004\003\014\076\103
\150\151\156\141\040\111\156\164\145\162\156\145\164\040\116\145
\164\167\157\162\153\040\111\156\146\157\162\155\141\164\151\157
\156\040\103\145\156\164\145\162\040\105\126\040\103\145\162\164
\151\146\151\143\141\164\145\163\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\110\237\000\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Verizon Global Root CA"
# Issuer: CN=Verizon Global Root CA,OU=OmniRoot,O=Verizon Business,C=US
# Serial Number: 1 (0x1)
# Subject: CN=Verizon Global Root CA,OU=OmniRoot,O=Verizon Business,C=US
# Not Valid Before: Thu Jul 30 14:27:04 2009
# Not Valid After: Sun Jul 30 14:27:04 2034
```

```
# Fingerprint (MD5): f4:c3:f3:e9:53:c2:94:65:27:3d:52:89:f1:8e:5b:1c
# Fingerprint (SHA1): 91:21:98:ee:f2:3d:ca:c4:09:39:31:2f:ee:97:dd:56:0b:ae:49:b1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verizon Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\134\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\031\060\027\006\003\125\004\012\014\020\126\145\162\151\172\157
\156\040\102\165\163\151\156\145\163\163\061\021\060\017\006\003
\125\004\013\014\010\117\155\156\151\122\157\157\164\061\037\060
\035\006\003\125\004\003\014\026\126\145\162\151\172\157\156\040
\107\154\157\142\141\154\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\134\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\031\060\027\006\003\125\004\012\014\020\126\145\162\151\172\157
\156\040\102\165\163\151\156\145\163\163\061\021\060\017\006\003
\125\004\013\014\010\117\155\156\151\122\157\157\164\061\037\060
\035\006\003\125\004\003\014\026\126\145\162\151\172\157\156\040
\107\154\157\142\141\154\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\165\060\202\002\135\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\001\013\005\000\060
\134\061\013\060\011\006\003\125\004\006\023\002\125\123\061\031
\060\027\006\003\125\004\012\014\020\126\145\162\151\172\157\156
\040\102\165\163\151\156\145\163\163\061\021\060\017\006\003\125
\004\013\014\010\117\155\156\151\122\157\157\164\061\037\060\035
\006\003\125\004\003\014\026\126\145\162\151\172\157\156\040\107
\154\157\142\141\154\040\122\157\157\164\040\103\101\060\036\027
\015\060\071\060\067\063\060\061\064\062\067\060\064\132\027\015
\063\064\060\067\063\060\061\064\062\067\060\064\132\060\134\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\031\060\027
\006\003\125\004\012\014\020\126\145\162\151\172\157\156\040\102
\165\163\151\156\145\163\163\061\021\060\017\006\003\125\004\013
\014\010\117\155\156\151\122\157\157\164\061\037\060\035\006\003
\125\004\003\014\026\126\145\162\151\172\157\156\040\107\154\157
\142\141\154\040\122\157\157\164\040\103\101\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\212\000\014\160
\035\277\353\064\206\303\231\105\065\036\177\103\367\253\157\044
```

\055\315\031\302\020\273\260\312\051\133\251\040\253\253\162\054
\304\342\002\071\155\202\270\305\021\352\370\373\263\236\142\370
\063\036\260\037\311\343\366\067\333\004\310\073\143\117\066\342
\205\244\045\035\307\151\037\004\275\150\105\023\226\007\037\224
\120\365\076\305\047\124\236\300\111\127\104\216\007\143\324\246
\256\355\042\231\314\115\226\151\004\023\156\166\211\237\164\026
\224\371\035\124\275\242\271\322\203\001\042\014\115\104\200\252
\376\065\211\047\045\247\206\211\306\325\032\222\343\217\305\225
\240\024\162\232\350\126\305\002\125\034\227\371\040\056\320\365
\074\023\031\132\366\341\371\013\003\202\151\247\214\267\326\157
\234\126\076\235\350\052\011\140\155\113\346\373\213\231\024\367
\064\117\145\131\200\215\271\127\310\242\065\041\330\210\161\126
\135\356\202\127\055\046\220\030\237\232\234\234\217\357\324\305
\143\247\124\175\107\221\207\175\032\022\250\033\030\157\251\157
\261\047\272\344\004\164\316\067\036\177\146\305\002\003\001\000
\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\114\070\021\270\230\000\133\132\053\160\076\252\170\344\325
\147\147\147\247\176\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\003\202\001\001\000\001\137\240\261\006\001\364
\171\327\145\030\140\076\317\171\240\272\302\043\117\043\337\207
\226\137\201\016\070\025\056\134\310\002\150\051\040\374\213\356
\245\212\030\201\144\134\230\065\176\071\060\202\244\202\212\120
\265\272\303\350\132\326\250\236\342\303\027\333\333\304\353\260
\012\040\015\351\236\343\377\140\124\107\361\073\235\324\050\074
\242\256\243\373\252\213\202\042\052\065\207\220\270\034\131\107
\220\325\235\056\372\111\343\145\250\066\353\307\344\034\150\334
\263\061\154\253\116\316\044\200\025\310\020\131\020\021\162\115
\172\234\230\234\304\374\141\340\263\262\235\116\240\306\302\131
\253\030\326\242\125\105\354\051\252\045\067\326\116\112\075\013
\100\301\344\223\344\374\315\221\013\370\346\253\314\263\166\304
\142\277\031\355\206\266\171\303\051\124\124\274\231\175\106\127
\317\246\317\364\124\052\232\003\145\107\001\241\102\052\313\045
\107\156\174\136\000\113\221\331\371\033\020\006\160\371\102\025
\246\137\252\327\100\036\375\311\110\235\227\201\352\134\150\302
\240\347\211\241\123\115\277\307\343

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Verizon Global Root CA"
Issuer: CN=Verizon Global Root CA,OU=OmniRoot,O=Verizon Business,C=US
Serial Number: 1 (0x1)
Subject: CN=Verizon Global Root CA,OU=OmniRoot,O=Verizon Business,C=US
Not Valid Before: Thu Jul 30 14:27:04 2009

```
# Not Valid After: Sun Jul 30 14:27:04 2034
# Fingerprint (MD5): f4:c3:f3:e9:53:c2:94:65:27:3d:52:89:f1:8e:5b:1c
# Fingerprint (SHA1): 91:21:98:ee:f2:3d:ca:c4:09:39:31:2f:ee:97:dd:56:0b:ae:49:b1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verizon Global Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\221\041\230\356\362\075\312\304\011\071\061\057\356\227\335\126
\013\256\111\261
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\364\303\363\351\123\302\224\145\047\075\122\211\361\216\133\034
END
CKA_ISSUER MULTILINE_OCTAL
\060\134\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\031\060\027\006\003\125\004\012\014\020\126\145\162\151\172\157
\156\040\102\165\163\151\156\145\163\163\061\021\060\017\006\003
\125\004\013\014\010\117\155\156\151\122\157\157\164\061\037\060
\035\006\003\125\004\003\014\026\126\145\162\151\172\157\156\040
\107\154\157\142\141\154\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "SwissSign Silver Root CA - G3"
# Issuer: CN=SwissSign Silver Root CA - G3,O=SwissSign AG,C=CH
# Serial Number:aa:88:b0:5a:0b:b1:76:9b
# Subject: CN=SwissSign Silver Root CA - G3,O=SwissSign AG,C=CH
# Not Valid Before: Tue Aug 04 13:19:14 2009
# Not Valid After: Tue Aug 04 13:19:14 2037
# Fingerprint (MD5): 40:e4:e0:25:6e:96:e0:01:a1:c8:4c:43:4c:f9:dc:33
# Fingerprint (SHA1): 8d:08:fc:43:c0:77:0c:a8:4f:4d:cc:b2:d4:1a:5d:95:6d:78:6d:c4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\114\061\013\060\011\006\003\125\004\006\023\002\103\110\061
```

\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\046\060\044\006\003\125\004\003\023
\035\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\114\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\046\060\044\006\003\125\004\003\023
\035\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\252\210\260\132\013\261\166\233

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\176\060\202\003\146\240\003\002\001\002\002\011\000
\252\210\260\132\013\261\166\233\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\114\061\013\060\011\006\003\125
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023
\014\123\167\151\163\163\123\151\147\156\040\101\107\061\046\060
\044\006\003\125\004\003\023\035\123\167\151\163\163\123\151\147
\156\040\123\151\154\166\145\162\040\122\157\157\164\040\103\101
\040\055\040\107\063\060\036\027\015\060\071\060\070\060\064\061
\063\061\071\061\064\132\027\015\063\067\060\070\060\064\061\063
\061\071\061\064\132\060\114\061\013\060\011\006\003\125\004\006
\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014\123
\167\151\163\163\123\151\147\156\040\101\107\061\046\060\044\006
\003\125\004\003\023\035\123\167\151\163\163\123\151\147\156\040
\123\151\154\166\145\162\040\122\157\157\164\040\103\101\040\055
\040\107\063\060\202\002\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002
\202\002\001\000\276\207\233\005\346\161\174\122\157\155\354\067
\251\351\263\334\314\137\177\323\120\352\041\233\004\360\075\277
\276\216\311\245\024\026\062\020\317\231\374\354\160\255\110\066
\147\044\014\027\062\326\051\345\112\071\261\067\353\246\170\014
\154\157\031\312\116\367\121\332\032\350\372\041\070\154\225\234
\057\326\213\314\073\002\233\277\046\233\021\105\266\270\064\132
\035\246\124\110\122\310\235\170\161\316\110\112\314\247\170\203
\334\150\253\146\036\167\007\323\066\030\010\327\324\155\140\370
\360\171\323\063\066\011\222\143\267\004\232\365\247\226\332\105
\257\164\032\374\202\343\250\133\016\072\077\122\127\230\176\274
\234\214\301\300\262\132\337\304\176\376\014\246\124\166\203\176
\272\335\347\052\364\112\066\117\207\145\056\245\272\071\215\131
\141\051\363\323\216\044\160\214\123\233\021\245\107\007\262\165
\005\134\015\204\331\104\331\315\311\046\104\127\156\002\175\225
\001\324\253\044\206\356\075\160\373\127\372\260\051\024\320\235

\362\305\227\313\011\312\361\362\075\347\330\113\226\351\210\057
\236\107\121\212\124\145\230\110\322\022\344\124\167\014\007\346
\276\133\234\361\335\003\176\215\204\374\276\311\142\325\374\311
\072\350\211\265\137\302\005\122\141\360\234\076\354\056\115\214
\162\221\216\310\103\301\242\050\136\365\200\044\334\342\057\207
\073\123\000\345\313\360\262\174\215\171\031\240\210\315\170\370
\305\212\132\167\345\006\254\335\112\336\346\160\156\276\257\276
\365\261\253\016\010\260\333\240\077\224\305\276\022\271\274\173
\047\171\265\062\051\135\256\305\040\043\222\003\173\124\071\260
\211\042\124\155\022\343\303\170\352\072\100\375\244\223\254\351
\055\210\074\333\246\107\146\114\337\330\027\355\026\336\032\326
\327\101\146\277\035\200\361\244\340\144\021\051\136\014\047\005
\142\353\345\304\004\142\321\304\237\014\152\125\326\130\070\234
\146\017\235\373\253\124\200\231\234\354\111\326\202\237\332\105
\326\077\123\006\003\267\375\037\354\206\175\164\340\244\264\350
\062\266\252\007\043\370\357\044\101\236\143\060\170\364\124\335
\216\360\132\070\216\022\177\170\307\157\002\126\041\063\316\270
\270\255\151\125\002\003\001\000\001\243\143\060\141\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035
\006\003\125\035\016\004\026\004\024\241\214\105\223\012\022\143
\013\247\127\137\062\112\175\341\041\347\267\076\146\060\037\006
\003\125\035\043\004\030\060\026\200\024\241\214\105\223\012\022
\143\013\247\127\137\062\112\175\341\041\347\267\076\146\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002
\001\000\207\256\141\155\110\070\052\306\034\334\112\056\204\170
\111\300\043\052\105\270\065\115\321\005\372\271\005\063\304\144
\275\333\255\124\026\052\260\076\015\132\050\332\246\032\200\163
\014\304\101\157\257\270\064\266\167\324\133\216\035\013\213\106
\220\104\265\263\356\111\030\211\301\113\064\263\207\065\164\242
\236\105\147\355\105\161\146\266\271\241\045\163\327\302\254\210
\373\322\035\247\153\332\300\132\346\330\131\144\064\227\145\040
\061\063\003\117\316\255\011\236\256\351\302\076\030\165\264\063
\045\022\273\005\354\120\272\161\100\342\275\336\210\106\005\041
\204\213\243\053\036\353\060\060\211\277\021\365\134\104\370\221
\213\113\131\105\013\060\015\312\014\117\157\143\276\004\376\301
\355\340\207\376\310\315\126\277\345\334\216\172\324\326\051\116
\200\333\253\233\077\216\145\007\042\367\104\315\226\037\055\307
\365\011\266\230\160\377\070\334\120\025\021\204\073\177\251\360
\330\044\124\310\027\214\053\023\111\326\231\177\105\321\017\216
\277\151\162\067\123\007\364\346\256\375\133\076\171\271\006\315
\270\201\170\264\115\240\320\065\272\344\256\377\323\111\274\065
\355\143\306\263\374\343\253\141\132\005\266\013\344\377\251\052
\276\337\124\116\302\113\134\150\332\243\062\242\311\115\127\030
\123\064\131\074\146\231\327\074\002\170\247\114\161\320\277\333
\361\304\074\347\001\346\004\362\104\366\110\046\060\063\311\261
\001\031\353\002\361\314\041\372\072\002\060\027\235\310\137\200
\077\335\045\254\002\233\343\027\336\275\312\222\024\322\122\201

```
\123\346\352\374\060\147\062\251\142\366\223\027\025\007\061\136
\017\033\151\365\364\251\267\174\055\263\355\204\104\062\107\050
\007\073\206\151\105\251\307\066\226\220\162\164\330\022\246\163
\043\321\116\271\266\172\072\304\051\241\120\006\021\271\331\364
\046\156\142\010\022\040\026\360\001\127\027\324\005\066\147\227
\353\121\371\377\063\044\014\005\017\126\277\357\075\034\122\216
\212\336\151\017\132\037\360\325\003\061\104\263\222\306\352\165
\250\256\273\307\140\003\210\230\377\307\004\204\122\220\206\341
\264\223\251\120\057\350\353\322\066\254\060\140\247\320\003\023
\265\012
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "SwissSign Silver Root CA - G3"
# Issuer: CN=SwissSign Silver Root CA - G3,O=SwissSign AG,C=CH
# Serial Number:aa:88:b0:5a:0b:b1:76:9b
# Subject: CN=SwissSign Silver Root CA - G3,O=SwissSign AG,C=CH
# Not Valid Before: Tue Aug 04 13:19:14 2009
# Not Valid After: Tue Aug 04 13:19:14 2037
# Fingerprint (MD5): 40:e4:e0:25:6e:96:e0:01:a1:c8:4c:43:4c:f9:dc:33
# Fingerprint (SHA1): 8d:08:fc:43:c0:77:0c:a8:4f:4d:cc:b2:d4:1a:5d:95:6d:78:6d:c4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver Root CA - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\215\010\374\103\300\167\014\250\117\115\314\262\324\032\135\225
\155\170\155\304
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\100\344\340\045\156\226\340\001\241\310\114\103\114\371\334\063
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\046\060\044\006\003\125\004\003\023
\035\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\122\157\157\164\040\103\101\040\055\040\107\063
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\252\210\260\132\013\261\166\233
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Certificate "SwissSign Platinum Root CA - G3"
Issuer: CN=SwissSign Platinum Root CA - G3,O=SwissSign AG,C=CH
Serial Number:22:3f:a9:17:20:de:81:94
Subject: CN=SwissSign Platinum Root CA - G3,O=SwissSign AG,C=CH
Not Valid Before: Tue Aug 04 13:34:04 2009
Not Valid After: Tue Aug 04 13:34:04 2037
Fingerprint (MD5): 20:de:12:0b:a8:6e:d9:34:a8:4e:b2:0d:1e:a6:43:39
Fingerprint (SHA1): a1:e7:c6:00:aa:41:70:e5:b7:4b:c9:4f:9b:97:03:ed:c2:61:b4:b9

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Platinum Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\050\060\046\006\003\125\004\003\023
\037\123\167\151\163\163\123\151\147\156\040\120\154\141\164\151
\156\165\155\040\122\157\157\164\040\103\101\040\055\040\107\063
END

CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\050\060\046\006\003\125\004\003\023
\037\123\167\151\163\163\123\151\147\156\040\120\154\141\164\151
\156\165\155\040\122\157\157\164\040\103\101\040\055\040\107\063
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\042\077\251\027\040\336\201\224
END

CKA_VALUE MULTILINE_OCTAL
\060\202\005\201\060\202\003\151\240\003\002\001\002\002\010\042
\077\251\027\040\336\201\224\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\116\061\013\060\011\006\003\125\004
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014
\123\167\151\163\163\123\151\147\156\040\101\107\061\050\060\046
\006\003\125\004\003\023\037\123\167\151\163\163\123\151\147\156
\040\120\154\141\164\151\156\165\155\040\122\157\157\164\040\103
\101\040\055\040\107\063\060\036\027\015\060\071\060\070\060\064
\061\063\063\064\060\064\132\027\015\063\067\060\070\060\064\061
\063\063\064\060\064\132\060\116\061\013\060\011\006\003\125\004
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014

\123\167\151\163\163\123\151\147\156\040\101\107\061\050\060\046
\006\003\125\004\003\023\037\123\167\151\163\163\123\151\147\156
\040\120\154\141\164\151\156\165\155\040\122\157\157\164\040\103
\101\040\055\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\224\240\357\023\033\237\104\040\033
\315\305\252\042\273\331\362\122\076\172\132\130\167\346\215\241
\053\311\334\244\363\344\263\023\224\000\142\233\034\362\103\120
\103\201\176\257\060\066\111\254\030\211\014\030\105\270\076\307
\124\155\343\330\232\131\153\212\032\045\251\266\265\015\267\175
\043\360\137\175\250\007\251\367\076\206\056\310\001\115\334\346
\066\355\035\345\067\007\151\022\113\343\203\321\004\034\044\360
\037\160\161\347\031\355\163\110\156\225\053\025\266\126\346\002
\337\126\351\233\372\352\246\356\340\302\303\272\340\314\306\310
\173\327\157\072\225\233\072\217\276\133\054\322\251\240\070\076
\326\210\341\261\142\023\216\334\253\060\147\315\250\152\246\143
\053\202\260\313\307\075\116\355\162\366\175\253\062\116\145\002
\353\017\231\164\370\034\032\050\214\016\105\000\223\054\024\237
\155\307\033\236\366\212\334\173\170\343\264\224\107\035\115\005
\155\204\172\220\124\262\236\213\165\302\200\337\207\071\077\237
\373\110\124\007\215\240\051\365\371\140\137\132\162\350\273\233
\240\102\340\010\000\064\243\025\074\023\343\326\032\153\002\262
\224\041\243\235\101\274\052\153\116\063\073\246\224\070\374\075
\307\053\063\263\056\053\006\164\254\233\020\157\305\116\105\367
\135\241\126\003\054\015\137\172\275\036\336\035\167\220\153\332
\245\055\212\114\351\337\101\364\347\113\354\175\225\102\237\114
\251\011\017\103\210\077\075\223\347\053\364\172\110\332\150\304
\335\022\200\061\032\135\044\124\046\246\044\041\263\114\255\332
\027\010\066\002\127\306\234\206\160\311\165\311\236\174\141\330
\170\346\271\350\024\151\371\034\020\050\022\135\113\165\120\272
\074\320\147\160\125\125\126\113\373\075\034\330\333\171\115\227
\337\270\236\333\027\054\325\065\007\270\120\251\367\216\367\126
\377\172\147\103\117\040\331\312\146\326\070\140\113\356\224\061
\326\015\242\110\233\377\064\151\224\306\065\365\226\210\357\252
\146\314\201\246\353\114\123\377\062\164\247\266\235\230\127\264
\272\046\251\361\063\063\142\176\072\260\003\021\127\377\334\157
\021\043\255\076\306\012\320\314\124\267\055\302\223\035\345\302
\246\214\307\330\357\123\367\002\003\001\000\001\243\143\060\141
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\126\052\077\220
\130\364\027\132\024\262\327\010\033\205\133\124\152\124\032\050
\060\037\006\003\125\035\043\004\030\060\026\200\024\126\052\077
\220\130\364\027\132\024\262\327\010\033\205\133\124\152\124\032
\050\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\002\001\000\154\355\212\347\103\250\171\047\233\270\317
\207\076\144\070\030\214\021\102\222\206\067\340\130\303\033\356
\004\056\367\204\354\203\020\150\014\177\170\055\234\302\227\216

\066\116\026\330\016\352\153\110\255\117\236\135\015\314\015\251
\076\030\205\176\314\150\231\071\065\326\330\237\206\301\062\373
\115\145\263\042\024\113\310\205\146\332\027\377\161\221\254\234
\126\127\336\161\054\126\102\277\370\315\016\360\242\323\377\322
\042\025\373\320\170\012\176\341\260\132\316\216\067\333\251\236
\347\225\317\143\362\054\015\322\372\157\363\310\325\373\000\267
\367\065\147\020\323\173\122\354\020\062\370\277\335\136\311\246
\202\244\361\260\277\035\056\335\045\344\275\115\360\065\251\221
\001\107\370\020\002\224\133\353\076\353\015\272\325\035\143\054
\245\056\253\347\343\036\243\356\113\252\137\261\146\001\264\202
\132\371\106\113\307\361\370\337\054\276\375\165\335\226\070\232
\067\072\156\245\346\062\025\156\263\220\300\071\212\164\245\225
\240\276\015\056\211\171\315\051\126\216\303\136\127\121\304\005
\157\004\125\217\201\351\114\275\131\106\313\052\274\115\311\035
\362\306\117\005\344\310\004\015\367\156\117\332\303\072\234\322
\302\365\351\306\044\172\024\076\034\102\060\250\002\105\061\251
\374\120\251\334\334\206\070\017\133\223\077\177\010\116\152\015
\047\072\020\171\126\303\025\270\076\006\206\366\331\160\147\257
\165\172\213\342\130\314\306\165\117\062\125\305\154\024\011\050
\073\362\225\344\152\336\054\050\007\255\240\175\007\050\335\324
\132\243\351\246\174\023\214\231\013\122\170\333\331\321\337\076
\132\103\166\177\106\140\123\302\315\347\166\107\174\125\315\264
\071\144\020\133\225\113\065\135\104\203\044\325\340\056\044\014
\301\200\156\151\000\200\006\167\012\146\202\020\014\121\157\067
\211\127\333\363\114\345\270\271\356\043\146\227\140\267\122\335
\331\226\373\272\212\073\240\115\316\136\360\104\114\220\314\041
\117\033\072\230\153\216\061\203\371\203\010\122\313\031\301\065
\153\356\241\025\133\210\077\155\254\362\064\222\123\246\060\052
\023\327\346\206\250\135\331\102\322\307\235\251\172\213\313\337
\356\242\061\302\345

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "SwissSign Platinum Root CA - G3"

Issuer: CN=SwissSign Platinum Root CA - G3,O=SwissSign AG,C=CH

Serial Number:22:3f:a9:17:20:de:81:94

Subject: CN=SwissSign Platinum Root CA - G3,O=SwissSign AG,C=CH

Not Valid Before: Tue Aug 04 13:34:04 2009

Not Valid After: Tue Aug 04 13:34:04 2037

Fingerprint (MD5): 20:de:12:0b:a8:6e:d9:34:a8:4e:b2:0d:1e:a6:43:39

Fingerprint (SHA1): a1:e7:c6:00:aa:41:70:e5:b7:4b:c9:4f:9b:97:03:ed:c2:61:b4:b9

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

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CKA_LABEL UTF8 "SwissSign Platinum Root CA - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\241\347\306\000\252\101\160\345\267\113\311\117\233\227\003\355
\302\141\264\271
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\040\336\022\013\250\156\331\064\250\116\262\015\036\246\103\071
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\050\060\046\006\003\125\004\003\023
\037\123\167\151\163\163\123\151\147\156\040\120\154\141\164\151
\156\165\155\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\042\077\251\027\040\336\201\224
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "SwissSign Gold Root CA - G3"
# Issuer: CN=SwissSign Gold Root CA - G3,O=SwissSign AG,C=CH
# Serial Number:de:c4:f2:44:f3:1d:a6:fc
# Subject: CN=SwissSign Gold Root CA - G3,O=SwissSign AG,C=CH
# Not Valid Before: Tue Aug 04 13:31:47 2009
# Not Valid After: Tue Aug 04 13:31:47 2037
# Fingerprint (MD5): c2:64:4c:e2:7d:eb:6c:7b:ec:36:e0:39:df:68:9c:67
# Fingerprint (SHA1): 0b:71:99:a1:c7:f3:ad:df:7b:a7:ea:b8:eb:57:4a:e8:0d:60:dd:de
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\044\060\042\006\003\125\004\003\023
\033\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\103\110\061

```

\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\044\060\042\006\003\125\004\003\023
\033\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\336\304\362\104\363\035\246\374

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\172\060\202\003\142\240\003\002\001\002\002\011\000
\336\304\362\104\363\035\246\374\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\112\061\013\060\011\006\003\125
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023
\014\123\167\151\163\163\123\151\147\156\040\101\107\061\044\060
\042\006\003\125\004\003\023\033\123\167\151\163\163\123\151\147
\156\040\107\157\154\144\040\122\157\157\164\040\103\101\040\055
\040\107\063\060\036\027\015\060\071\060\070\060\064\061\063\063
\061\064\067\132\027\015\063\067\060\070\060\064\061\063\063\061
\064\067\132\060\112\061\013\060\011\006\003\125\004\006\023\002
\103\110\061\025\060\023\006\003\125\004\012\023\014\123\167\151
\163\163\123\151\147\156\040\101\107\061\044\060\042\006\003\125
\004\003\023\033\123\167\151\163\163\123\151\147\156\040\107\157
\154\144\040\122\157\157\164\040\103\101\040\055\040\107\063\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\303\350\237\310\145\132\235\147\033\301\105\227\264\264\207\103
\133\141\140\200\236\362\177\136\371\147\104\335\104\372\253\265
\253\167\377\052\031\114\316\157\304\217\101\237\340\342\315\162
\340\321\324\122\141\101\011\012\277\012\160\373\340\203\151\141
\051\312\333\042\232\133\245\346\335\027\225\260\157\204\216\072
\076\144\132\101\373\033\130\374\375\053\076\262\244\346\254\311
\202\274\316\366\225\370\227\167\355\046\366\130\256\236\047\342
\017\203\354\305\066\130\310\173\317\325\207\241\251\207\032\023
\147\141\001\155\246\151\234\342\220\361\053\150\145\363\350\260
\174\374\202\075\336\255\330\012\000\011\104\171\023\234\360\376
\156\165\173\302\274\263\131\001\013\174\305\325\055\360\277\377
\155\127\322\111\201\353\264\263\120\254\133\371\013\025\025\214
\151\377\243\071\001\355\374\334\334\047\227\216\173\213\325\152
\246\326\340\035\137\315\001\221\346\365\042\230\272\056\011\030
\070\157\023\250\201\322\373\041\067\347\055\264\142\347\201\220
\260\306\171\131\267\147\165\376\276\217\073\372\066\354\257\255
\322\117\164\066\001\345\127\253\043\004\314\112\136\227\317\176
\306\357\214\314\225\043\151\215\313\070\307\031\366\326\212\000
\024\036\064\075\157\332\014\013\303\272\227\374\021\113\122\141
\076\277\063\147\123\020\277\170\033\011\302\107\272\036\257\130
\365\165\201\177\275\126\361\353\126\327\331\151\014\007\351\067
\061\260\022\034\062\357\126\331\276\172\053\174\275\323\075\274
\152\063\115\072\074\120\020\207\047\307\172\012\147\123\333\177

\200\233\350\236\043\372\371\010\072\213\241\216\064\132\110\063
\137\144\323\227\206\007\031\175\210\224\316\052\174\305\152\337
\257\274\251\237\315\072\246\272\273\124\371\177\217\337\317\016
\132\304\255\232\274\263\072\167\163\203\114\223\074\220\150\265
\174\120\225\021\310\202\136\224\161\320\101\030\373\311\306\145
\354\316\211\266\316\042\263\021\133\077\340\235\076\033\030\150
\015\252\003\241\147\131\277\153\235\274\370\362\145\057\232\101
\072\105\330\136\320\066\154\157\073\036\143\264\216\230\114\023
\333\041\016\237\173\355\352\240\252\161\303\353\243\240\322\045
\002\003\001\000\001\243\143\060\141\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\134\227\006\106\064\253\337\060\305\174\305
\015\125\161\146\060\265\140\217\236\060\037\006\003\125\035\043
\004\030\060\026\200\024\134\227\006\106\064\253\337\060\305\174
\305\015\125\161\146\060\265\140\217\236\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\167\113
\115\336\352\205\112\253\054\047\326\105\307\361\137\040\301\133
\140\355\007\313\242\063\334\066\317\307\224\361\006\307\325\332
\317\315\255\204\076\377\022\110\177\101\350\245\146\127\060\304
\035\344\247\032\057\055\102\301\357\106\163\262\325\365\132\375
\016\172\153\322\310\061\243\015\110\226\127\145\143\125\030\300
\374\344\212\314\230\206\133\253\014\212\047\067\372\043\150\131
\134\046\327\241\301\302\271\116\054\377\051\136\346\224\013\276
\315\162\117\225\350\217\366\367\270\076\136\316\317\236\021\311
\254\003\051\110\212\251\266\246\064\271\254\100\377\304\266\163
\067\261\307\177\251\121\333\113\052\107\137\100\044\007\210\006
\267\044\263\373\177\367\260\213\063\372\277\043\165\243\134\376
\252\145\032\302\276\361\175\201\167\003\201\261\215\327\225\015
\172\074\102\230\267\217\251\175\120\341\337\122\006\232\240\122
\124\170\203\007\141\122\011\067\136\212\234\247\306\121\321\134
\143\321\204\334\302\333\322\372\133\030\066\175\146\274\324\050
\227\057\165\226\034\204\007\254\213\216\123\021\276\044\041\252
\147\362\301\255\210\234\323\260\170\147\170\365\323\130\003\040
\012\135\040\361\265\347\145\314\016\040\343\325\337\346\057\031
\053\205\150\301\004\046\317\217\355\005\123\241\335\007\016\353
\101\046\307\264\251\054\133\343\151\075\146\300\142\033\300\252
\206\300\067\303\061\004\206\160\071\276\153\137\041\100\101\240
\177\345\331\017\070\113\160\137\111\370\205\270\053\056\252\037
\223\101\103\370\373\262\164\074\037\113\127\133\267\324\121\241
\222\112\316\276\020\242\356\330\024\042\173\271\101\275\215\351
\210\251\321\217\003\032\140\377\077\207\211\240\231\047\042\146
\260\076\150\236\162\210\121\070\235\023\076\105\155\005\345\106
\265\163\355\103\206\261\024\012\036\274\332\015\277\036\044\134
\146\217\016\276\241\375\306\353\151\274\103\171\327\003\166\371
\334\207\231\270\230\304\315\177\155\020\371\020\276\054\102\376
\234\051\115\203\153\012\275\265\216\304\110\212\375\041\007\246
\200\175\037\233\351\253\275\202\141\104\012\161\047\137\155\233

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\220\236\256\377\066\044\263\150\003\326\225\214\153\163
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Trust for "SwissSign Gold Root CA - G3"
# Issuer: CN=SwissSign Gold Root CA - G3,O=SwissSign AG,C=CH
# Serial Number:de:c4:f2:44:f3:1d:a6:fc
# Subject: CN=SwissSign Gold Root CA - G3,O=SwissSign AG,C=CH
# Not Valid Before: Tue Aug 04 13:31:47 2009
# Not Valid After: Tue Aug 04 13:31:47 2037
# Fingerprint (MD5): c2:64:4c:e2:7d:eb:6c:7b:ec:36:e0:39:df:68:9c:67
# Fingerprint (SHA1): 0b:71:99:a1:c7:f3:ad:df:7b:a7:ea:b8:eb:57:4a:e8:0d:60:dd:de
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold Root CA - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\013\161\231\241\307\363\255\337\173\247\352\270\353\127\112\350
\015\140\335\336
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\302\144\114\342\175\353\154\173\354\066\340\071\337\150\234\147
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\044\060\042\006\003\125\004\003\023
\033\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\336\304\362\104\363\035\246\374
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "SITHS CA v3"
# Issuer: CN=SITHS CA v3,O=Carelink,C=SE
# Serial Number:1b:d4:0e:d4:34:d1:da:15:a6:00:30:15:02:4d:a4:6c
# Subject: CN=SITHS CA v3,O=Carelink,C=SE
# Not Valid Before: Mon Nov 28 10:27:50 2005
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# Not Valid After: Sat Nov 28 06:02:38 2015
# Fingerprint (MD5): 51:c6:bb:37:df:2c:7b:55:0f:84:d4:f3:68:5a:be:eb
# Fingerprint (SHA1): 16:d8:66:35:af:13:41:cd:34:79:94:45:eb:60:3e:27:37:02:96:5d
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SITHS CA v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\066\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\021\060\017\006\003\125\004\012\014\010\103\141\162\145\154\151
\156\153\061\024\060\022\006\003\125\004\003\014\013\123\111\124
\110\123\040\103\101\040\166\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\066\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\021\060\017\006\003\125\004\012\014\010\103\141\162\145\154\151
\156\153\061\024\060\022\006\003\125\004\003\014\013\123\111\124
\110\123\040\103\101\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\033\324\016\324\064\321\332\025\246\000\060\025\002\115
\244\154
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\141\060\202\002\111\240\003\002\001\002\002\020\033
\324\016\324\064\321\332\025\246\000\060\025\002\115\244\154\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\066
\061\013\060\011\006\003\125\004\006\023\002\123\105\061\021\060
\017\006\003\125\004\012\014\010\103\141\162\145\154\151\156\153
\061\024\060\022\006\003\125\004\003\014\013\123\111\124\110\123
\040\103\101\040\166\063\060\036\027\015\060\065\061\061\062\070
\061\060\062\067\065\060\132\027\015\061\065\061\061\062\070\060
\066\060\062\063\070\132\060\066\061\013\060\011\006\003\125\004
\006\023\002\123\105\061\021\060\017\006\003\125\004\012\014\010
\103\141\162\145\154\151\156\153\061\024\060\022\006\003\125\004
\003\014\013\123\111\124\110\123\040\103\101\040\166\063\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\305
\331\133\321\324\053\177\100\147\356\241\133\135\321\332\152\271
\031\061\362\360\046\111\001\145\374\101\124\361\226\221\354\052
\356\004\104\044\036\100\234\347\027\120\077\352\034\174\356\270
\067\071\374\307\323\257\233\156\135\337\076\276\005\374\352\312
\331\371\105\126\341\225\234\261\320\132\217\376\310\052\246\327
\152\154\340\155\135\354\134\166\376\341\231\107\232\251\173\247
\352\346\157\124\002\047\115\121\116\050\075\254\006\072\201\202
```

\246\034\275\113\244\355\122\022\334\212\052\353\047\364\301\042
\112\020\204\132\165\265\200\042\126\145\353\314\200\362\245\341
\144\276\174\336\017\275\047\007\114\051\133\252\261\357\264\173
\377\207\064\350\243\223\102\313\075\140\273\167\323\302\057\136
\024\370\163\157\244\177\240\234\001\325\325\251\273\014\127\217
\314\300\073\221\170\236\222\071\171\062\114\104\177\307\013\175
\336\372\314\176\332\314\336\015\324\146\266\142\246\063\277\154
\371\325\335\107\122\160\224\313\145\340\105\267\015\327\257\225
\110\327\101\243\073\040\120\015\074\024\125\223\314\352\015\002
\003\001\000\001\243\153\060\151\060\022\006\003\125\035\023\001
\001\377\004\010\060\006\001\001\377\002\001\000\060\021\006\011
\140\206\110\001\206\370\102\001\001\004\004\003\002\002\004\060
\024\006\003\125\035\040\004\015\060\013\060\011\006\007\052\205
\160\112\001\001\003\060\013\006\003\125\035\017\004\004\003\002
\001\006\060\035\006\003\125\035\016\004\026\004\024\174\056\071
\043\062\104\350\017\116\146\362\015\050\376\100\276\302\266\342
\240\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\010\123\132\210\051\015\365\124\330\253\261
\203\271\047\151\132\252\137\053\130\111\324\271\337\157\353\307
\006\353\375\207\232\277\312\022\337\172\236\001\042\045\143\122
\205\157\247\057\016\227\164\140\214\340\110\200\163\335\102\215
\041\355\017\162\177\164\006\156\120\126\073\055\207\354\201\130
\213\066\307\312\000\373\244\004\266\057\070\130\216\167\361\006
\304\055\054\047\055\030\202\013\212\137\042\224\024\025\143\070
\306\245\261\272\340\254\276\076\046\077\221\273\034\203\374\016
\312\311\067\276\067\327\360\173\363\214\330\274\220\013\364\000
\277\124\274\152\112\130\347\312\133\014\031\123\102\007\225\127
\065\270\117\226\123\232\250\230\335\116\175\125\264\234\343\272
\300\066\271\267\334\002\230\370\366\345\060\276\054\167\262\363
\311\342\002\243\346\367\104\174\326\152\177\320\170\276\071\163
\370\013\302\037\122\000\016\115\173\306\012\356\142\313\011\325
\017\012\060\207\202\223\274\312\021\244\037\011\372\372\067\120
\354\073\342\074\044\240\200\050\314\373\246\335\357\067\232\251
\061\335\337\352\121

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "SITHS CA v3"
Issuer: CN=SITHS CA v3,O=Carelink,C=SE
Serial Number:1b:d4:0e:d4:34:d1:da:15:a6:00:30:15:02:4d:a4:6c
Subject: CN=SITHS CA v3,O=Carelink,C=SE
Not Valid Before: Mon Nov 28 10:27:50 2005
Not Valid After: Sat Nov 28 06:02:38 2015
Fingerprint (MD5): 51:c6:bb:37:df:2c:7b:55:0f:84:d4:f3:68:5a:be:eb
Fingerprint (SHA1): 16:d8:66:35:af:13:41:cd:34:79:94:45:eb:60:3e:27:37:02:96:5d


```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SITHS CA v3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\026\330\146\065\257\023\101\315\064\171\224\105\353\140\076\047
\067\002\226\135
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\121\306\273\067\337\054\173\125\017\204\324\363\150\132\276\353
END
CKA_ISSUER MULTILINE_OCTAL
\060\066\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\021\060\017\006\003\125\004\012\014\010\103\141\162\145\154\151
\156\153\061\024\060\022\006\003\125\004\003\014\013\123\111\124
\110\123\040\103\101\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\033\324\016\324\064\321\332\025\246\000\060\025\002\115
\244\154
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Certinomis - Autorité Racine"
# Issuer: CN=Certinomis - Autorité Racine,OU=0002 433998903,O=Certinomis,C=FR
# Serial Number: 1 (0x1)
# Subject: CN=Certinomis - Autorité Racine,OU=0002 433998903,O=Certinomis,C=FR
# Not Valid Before: Wed Sep 17 08:28:59 2008
# Not Valid After: Sun Sep 17 08:28:59 2028
# Fingerprint (MD5): 7f:30:78:8c:03:e3:ca:c9:0a:e2:c9:ea:1e:aa:55:1a
# Fingerprint (SHA1): 2e:14:da:ec:28:f0:fa:1e:8e:38:9a:4e:ab:eb:26:c0:0a:d3:83:c3
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certinomis - Autorité Racine"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\023\060\021\006\003\125\004\012\023\012\103\145\162\164\151\156
\157\155\151\163\061\027\060\025\006\003\125\004\013\023\016\060
\060\060\062\040\064\063\063\071\071\070\071\060\063\061\046\060
\044\006\003\125\004\003\014\035\103\145\162\164\151\156\157\155
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```
\151\163\040\055\040\101\165\164\157\162\151\164\303\251\040\122
\141\143\151\156\145
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\023\060\021\006\003\125\004\012\023\012\103\145\162\164\151\156
\157\155\151\163\061\027\060\025\006\003\125\004\013\023\016\060
\060\060\062\040\064\063\063\071\071\070\071\060\063\061\046\060
\044\006\003\125\004\003\014\035\103\145\162\164\151\156\157\155
\151\163\040\055\040\101\165\164\157\162\151\164\303\251\040\122
\141\143\151\156\145
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\234\060\202\003\204\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\143\061\013\060\011\006\003\125\004\006\023\002\106\122\061\023
\060\021\006\003\125\004\012\023\012\103\145\162\164\151\156\157
\155\151\163\061\027\060\025\006\003\125\004\013\023\016\060\060
\060\062\040\064\063\063\071\071\070\071\060\063\061\046\060\044
\006\003\125\004\003\014\035\103\145\162\164\151\156\157\155\151
\163\040\055\040\101\165\164\157\162\151\164\303\251\040\122\141
\143\151\156\145\060\036\027\015\060\070\060\071\061\067\060\070
\062\070\065\071\132\027\015\062\070\060\071\061\067\060\070\062
\070\065\071\132\060\143\061\013\060\011\006\003\125\004\006\023
\002\106\122\061\023\060\021\006\003\125\004\012\023\012\103\145
\162\164\151\156\157\155\151\163\061\027\060\025\006\003\125\004
\013\023\016\060\060\060\062\040\064\063\063\071\071\070\071\060
\063\061\046\060\044\006\003\125\004\003\014\035\103\145\162\164
\151\156\157\155\151\163\040\055\040\101\165\164\157\162\151\164
\303\251\040\122\141\143\151\156\145\060\202\002\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017
\000\060\202\002\012\002\202\002\001\000\235\205\237\206\323\343
\257\307\262\153\156\063\340\236\267\102\064\125\235\371\201\276
\143\330\043\166\016\227\124\315\231\114\032\361\071\307\210\330
\027\120\014\236\141\332\300\116\125\336\347\132\270\172\116\167
\207\015\345\270\353\372\236\136\173\036\304\317\050\164\307\223
\365\024\306\042\050\004\371\221\303\253\047\163\152\016\056\115
\363\056\050\037\160\337\125\057\116\355\307\161\157\011\162\056
\355\325\062\227\320\361\130\167\321\140\274\116\136\333\232\204
\366\107\141\105\053\366\120\246\177\152\161\047\110\204\065\236
\254\376\151\251\236\172\136\065\045\372\264\247\111\065\167\226
\247\066\133\341\315\337\043\160\330\135\114\245\010\203\361\246
\044\070\023\250\354\057\250\241\147\307\246\055\206\107\356\212
\374\354\233\016\164\364\053\111\002\173\220\165\214\374\231\071
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\001\071\326\112\211\345\236\166\253\076\226\050\070\046\213\335
\215\214\300\366\001\036\157\245\061\022\070\175\225\302\161\356
\355\164\256\344\066\242\103\165\325\361\000\233\342\344\327\314
\102\003\113\170\172\345\175\273\270\256\056\040\223\323\344\141
\337\161\341\166\147\227\077\266\337\152\163\132\144\042\345\102
\333\317\201\003\223\330\364\343\020\340\162\366\000\160\254\360
\301\172\017\005\177\317\064\151\105\265\223\344\031\333\122\026
\043\005\211\016\215\110\344\045\157\263\170\277\142\365\007\372
\225\044\302\226\262\350\243\043\302\135\003\374\303\323\345\174
\311\165\043\327\364\365\274\336\344\337\315\200\277\221\210\175
\247\023\264\071\272\054\272\275\321\153\314\363\245\050\355\104
\236\175\122\243\157\226\056\031\176\034\363\133\307\026\216\273
\140\175\167\146\107\124\202\000\021\140\154\062\301\250\070\033
\353\156\230\023\326\356\070\365\360\237\016\357\376\061\201\301
\322\044\225\057\123\172\151\242\360\017\206\105\216\130\202\053
\114\042\324\136\240\347\175\046\047\110\337\045\106\215\112\050
\174\206\236\371\233\032\131\271\145\277\005\335\266\102\135\075
\346\000\110\202\136\040\367\021\202\336\312\330\237\346\067\107
\046\036\353\170\367\141\303\101\144\130\002\101\371\332\340\321
\370\371\350\375\122\070\266\365\211\337\002\003\001\000\001\243
\133\060\131\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\015
\214\266\141\332\104\270\321\024\175\303\276\175\136\110\360\316
\312\152\260\060\027\006\003\125\035\040\004\020\060\016\060\014
\006\012\052\201\172\001\126\002\002\000\001\001\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001\000
\044\076\140\006\176\035\357\072\076\333\352\257\034\232\054\001
\013\364\305\265\331\111\061\364\135\101\215\211\014\116\377\154
\242\375\377\342\006\310\071\237\361\132\251\335\042\130\025\250
\212\323\261\346\062\011\202\003\154\327\077\010\307\370\271\272
\000\155\271\326\374\122\062\135\244\177\244\061\224\273\266\114
\070\177\050\060\065\377\237\043\123\267\266\356\024\160\000\100
\053\332\107\253\064\176\136\247\126\060\141\053\213\103\254\375
\266\210\050\365\153\266\076\140\112\272\102\220\064\147\215\352
\353\137\105\124\073\027\254\213\344\306\145\017\356\320\214\135
\146\071\316\062\247\330\020\227\300\176\064\234\237\224\363\366
\206\037\317\033\163\255\224\171\207\150\160\303\063\245\160\347
\330\325\070\224\157\143\171\353\277\012\016\010\347\305\057\017
\102\240\053\024\100\377\041\340\005\305\047\341\204\021\023\272
\326\206\035\101\013\023\043\211\323\311\013\350\212\272\172\243
\243\163\067\065\200\175\022\270\063\167\100\070\300\372\136\060
\322\362\266\243\261\326\242\225\227\201\233\122\355\151\114\377
\200\344\123\333\124\133\003\155\124\137\261\270\357\044\275\157
\237\021\303\307\144\302\017\050\142\205\146\136\032\173\262\267
\357\256\065\311\031\063\250\270\047\333\063\125\277\150\341\165
\110\104\126\373\315\323\110\273\107\211\072\254\151\365\200\306
\344\104\120\057\124\304\252\103\305\061\061\130\275\226\305\352

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\165\154\232\165\261\115\370\367\227\377\226\026\362\227\115\350
\366\363\021\371\072\175\212\070\156\004\313\341\323\105\025\252
\245\321\035\235\135\143\350\044\346\066\024\342\207\255\033\131
\365\104\233\373\327\167\174\037\001\160\142\241\040\032\242\305
\032\050\364\041\003\356\056\331\301\200\352\271\331\202\326\133
\166\302\313\073\265\322\000\360\243\016\341\255\156\100\367\333
\240\264\320\106\256\025\327\104\302\115\065\371\322\013\362\027
\366\254\146\325\044\262\117\321\034\231\300\156\365\175\353\164
\004\270\371\115\167\011\327\264\317\007\060\011\361\270\000\126
\331\027\026\026\012\053\206\337\217\001\031\032\345\273\202\143
\377\276\013\166\026\136\067\067\346\330\164\227\242\231\105\171
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "Certinomis - Autorité Racine"
# Issuer: CN=Certinomis - Autorité Racine,OU=0002 433998903,O=Certinomis,C=FR
# Serial Number: 1 (0x1)
# Subject: CN=Certinomis - Autorité Racine,OU=0002 433998903,O=Certinomis,C=FR
# Not Valid Before: Wed Sep 17 08:28:59 2008
# Not Valid After: Sun Sep 17 08:28:59 2028
# Fingerprint (MD5): 7f:30:78:8c:03:e3:ca:c9:0a:e2:c9:ea:1e:aa:55:1a
# Fingerprint (SHA1): 2e:14:da:ec:28:f0:fa:1e:8e:38:9a:4e:ab:eb:26:c0:0a:d3:83:c3
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certinomis - Autorité Racine"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\056\024\332\354\050\360\372\036\216\070\232\116\253\353\046\300
\012\323\203\303
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\177\060\170\214\003\343\312\311\012\342\311\352\036\252\125\032
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\023\060\021\006\003\125\004\012\023\012\103\145\162\164\151\156
\157\155\151\163\061\027\060\025\006\003\125\004\013\023\016\060
\060\060\062\040\064\063\063\071\071\070\071\060\063\061\046\060
\044\006\003\125\004\003\014\035\103\145\162\164\151\156\157\155
\151\163\040\055\040\101\165\164\157\162\151\164\303\251\040\122
\141\143\151\156\145
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "ANF Server CA"
# Issuer: CN=ANF Server CA,2.5.4.5=G63287510,OU=ANF Clase 1 CA,O=ANF Autoridad de
Certificación,L=Barcelona (see current address at https://www.anf.es/address/),ST=Barcelona,C=ES
# Serial Number: 78923 (0x1344b)
# Subject: CN=ANF Server CA,2.5.4.5=G63287510,OU=ANF Clase 1 CA,O=ANF Autoridad de
Certificación,L=Barcelona (see current address at https://www.anf.es/address/),ST=Barcelona,C=ES
# Not Valid Before: Mon Nov 30 23:00:00 2009
# Not Valid After: Tue Nov 30 23:00:00 2021
# Fingerprint (MD5): 8c:18:ed:28:bf:45:19:e6:49:98:e1:35:22:2f:54:c6
# Fingerprint (SHA1): ce:a9:89:0d:85:d8:07:53:a6:26:28:6c:da:d7:8c:b5:66:d7:0c:f2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Server CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\331\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\022\060\020\006\003\125\004\010\014\011\102\141\162\143\145
\154\157\156\141\061\107\060\105\006\003\125\004\007\014\076\102
\141\162\143\145\154\157\156\141\040\050\163\145\145\040\143\165
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164
\040\150\164\164\160\163\072\057\057\167\167\167\056\141\156\146
\056\145\163\057\141\144\144\162\145\163\163\057\051\061\050\060
\046\006\003\125\004\012\014\037\101\116\106\040\101\165\164\157
\162\151\144\141\144\040\144\145\040\103\145\162\164\151\146\151
\143\141\143\151\303\263\156\061\027\060\025\006\003\125\004\013
\014\016\101\116\106\040\103\154\141\163\145\040\061\040\103\101
\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062\070
\067\065\061\060\061\026\060\024\006\003\125\004\003\014\015\101
\116\106\040\123\145\162\166\145\162\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\331\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\022\060\020\006\003\125\004\010\014\011\102\141\162\143\145
\154\157\156\141\061\107\060\105\006\003\125\004\007\014\076\102
\141\162\143\145\154\157\156\141\040\050\163\145\145\040\143\165
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164
\040\150\164\164\160\163\072\057\057\167\167\167\056\141\156\146
\056\145\163\057\141\144\144\162\145\163\163\057\051\061\050\060

```

\046\006\003\125\004\012\014\037\101\116\106\040\101\165\164\157
\162\151\144\141\144\040\144\145\040\103\145\162\164\151\146\151
\143\141\143\151\303\263\156\061\027\060\025\006\003\125\004\013
\014\016\101\116\106\040\103\154\141\163\145\040\061\040\103\101
\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062\070
\067\065\061\060\061\026\060\024\006\003\125\004\003\014\015\101
\116\106\040\123\145\162\166\145\162\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\001\064\113

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\235\060\202\005\205\240\003\002\001\002\002\003\001
\064\113\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\201\331\061\013\060\011\006\003\125\004\006\023\002\105
\123\061\022\060\020\006\003\125\004\010\014\011\102\141\162\143
\145\154\157\156\141\061\107\060\105\006\003\125\004\007\014\076
\102\141\162\143\145\154\157\156\141\040\050\163\145\145\040\143
\165\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141
\164\040\150\164\164\160\163\072\057\057\167\167\167\056\141\156
\146\056\145\163\057\141\144\144\162\145\163\163\057\051\061\050
\060\046\006\003\125\004\012\014\037\101\116\106\040\101\165\164
\157\162\151\144\141\144\040\144\145\040\103\145\162\164\151\146
\151\143\141\143\151\303\263\156\061\027\060\025\006\003\125\004
\013\014\016\101\116\106\040\103\154\141\163\145\040\061\040\103
\101\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062
\070\067\065\061\060\061\026\060\024\006\003\125\004\003\014\015
\101\116\106\040\123\145\162\166\145\162\040\103\101\060\036\027
\015\060\071\061\061\063\060\062\063\060\060\060\060\132\027\015
\062\061\061\061\063\060\062\063\060\060\060\060\132\060\201\331
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\022\060
\020\006\003\125\004\010\014\011\102\141\162\143\145\154\157\156
\141\061\107\060\105\006\003\125\004\007\014\076\102\141\162\143
\145\154\157\156\141\040\050\163\145\145\040\143\165\162\162\145
\156\164\040\141\144\144\162\145\163\163\040\141\164\040\150\164
\164\160\163\072\057\057\167\167\167\056\141\156\146\056\145\163
\057\141\144\144\162\145\163\163\057\051\061\050\060\046\006\003
\125\004\012\014\037\101\116\106\040\101\165\164\157\162\151\144
\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141\143
\151\303\263\156\061\027\060\025\006\003\125\004\013\014\016\101
\116\106\040\103\154\141\163\145\040\061\040\103\101\061\022\060
\020\006\003\125\004\005\023\011\107\066\063\062\070\067\065\061
\060\061\026\060\024\006\003\125\004\003\014\015\101\116\106\040
\123\145\162\166\145\162\040\103\101\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\277\352\110\247\232\210
\071\153\054\110\100\007\004\223\174\367\270\055\176\245\067\342
\141\326\041\374\220\067\313\151\076\136\213\067\337\133\157\073

\330\266\303\210\100\220\364\235\014\134\020\122\261\263\345\137
\221\020\346\375\250\200\024\137\323\213\275\134\275\017\043\222
\011\067\343\162\322\146\224\013\134\164\224\057\136\362\116\330
\003\306\263\316\126\245\034\331\173\375\117\007\114\324\267\332
\137\051\115\165\362\037\125\317\062\043\034\106\011\047\035\105
\354\361\214\064\211\336\173\026\247\103\136\212\053\351\224\103
\036\327\076\223\155\157\211\075\274\356\261\310\267\377\311\175
\343\137\015\157\167\170\365\052\056\215\304\213\230\227\060\261
\106\132\013\143\160\324\170\307\206\263\177\377\047\102\252\237
\212\156\155\241\224\312\354\207\002\034\326\124\113\375\274\211
\233\246\143\070\146\214\026\211\211\227\303\120\350\366\102\001
\247\167\175\020\031\222\003\350\135\105\310\025\305\207\033\015
\221\362\306\071\234\173\363\300\012\231\370\356\203\157\176\102
\167\021\216\303\037\034\162\057\075\033\002\003\001\000\001\243
\202\002\152\060\202\002\146\060\035\006\003\125\035\016\004\026
\004\024\276\073\366\264\061\267\163\044\110\071\305\127\023\224
\165\252\237\201\077\054\060\202\001\011\006\003\125\035\043\004
\202\001\000\060\201\375\200\024\276\073\366\264\061\267\163\044
\110\071\305\127\023\224\165\252\237\201\077\054\241\201\337\244
\201\334\060\201\331\061\013\060\011\006\003\125\004\006\023\002
\105\123\061\022\060\020\006\003\125\004\010\014\011\102\141\162
\143\145\154\157\156\141\061\107\060\105\006\003\125\004\007\014
\076\102\141\162\143\145\154\157\156\141\040\050\163\145\145\040
\143\165\162\162\145\156\164\040\141\144\144\162\145\163\163\040
\141\164\040\150\164\164\160\163\072\057\057\167\167\167\056\141
\156\146\056\145\163\057\141\144\144\162\145\163\163\057\051\061
\050\060\046\006\003\125\004\012\014\037\101\116\106\040\101\165
\164\157\162\151\144\141\144\040\144\145\040\103\145\162\164\151
\146\151\143\141\143\151\303\263\156\061\027\060\025\006\003\125
\004\013\014\016\101\116\106\040\103\154\141\163\145\040\061\040
\103\101\061\022\060\020\006\003\125\004\005\023\011\107\066\063
\062\070\067\065\061\060\061\026\060\024\006\003\125\004\003\014
\015\101\116\106\040\123\145\162\166\145\162\040\103\101\202\003
\001\064\113\060\014\006\003\125\035\023\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\061\006\012\053\006\001\004\001\201\217\034\052\006\004
\043\033\041\150\164\164\160\163\072\057\057\167\167\167\056\141
\156\146\056\145\163\057\101\103\057\101\103\124\101\123\057\067
\070\071\062\063\060\030\006\012\053\006\001\004\001\201\217\034
\023\001\004\012\033\010\070\060\061\055\063\064\060\060\060\070
\006\010\053\006\001\005\005\007\001\001\004\054\060\052\060\050
\006\010\053\006\001\005\005\007\060\001\206\034\150\164\164\160
\072\057\057\167\167\167\056\141\156\146\056\145\163\057\101\103
\057\122\103\057\157\143\163\160\060\143\006\003\125\035\037\004
\134\060\132\060\053\240\051\240\047\206\045\150\164\164\160\163
\072\057\057\167\167\167\056\141\156\146\056\145\163\057\101\103
\057\101\116\106\123\145\162\166\145\162\103\101\056\143\162\154
\060\053\240\051\240\047\206\045\150\164\164\160\163\072\057\057

\143\162\154\056\141\156\146\056\145\163\057\101\103\057\101\116
\106\123\145\162\166\145\162\103\101\056\143\162\154\060\026\006
\003\125\035\022\004\017\060\015\201\013\151\156\146\157\100\141
\156\146\056\145\163\060\026\006\003\125\035\021\004\017\060\015
\201\013\151\156\146\157\100\141\156\146\056\145\163\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\265\306\307\274\106\372\102\134\023\301\224\165\063\126\277
\057\247\007\163\354\067\343\103\164\352\371\146\117\136\215\177
\360\346\171\303\115\365\331\070\245\314\312\103\364\123\200\206
\277\274\320\021\135\220\304\302\100\107\353\305\207\223\301\266
\170\136\232\256\207\365\142\020\131\114\114\155\006\276\231\023
\025\263\263\372\034\162\176\340\042\041\001\130\065\070\150\242
\344\370\341\360\360\066\120\221\340\264\167\334\143\204\063\222
\140\270\313\026\362\322\143\073\114\134\065\072\347\254\002\123
\305\034\201\001\167\307\034\021\037\124\060\357\124\217\045\372
\211\047\224\064\243\017\024\117\157\351\163\331\030\142\347\356
\010\350\311\203\173\310\063\233\174\104\232\174\032\220\265\322
\161\211\337\075\364\034\117\116\121\340\311\153\266\252\013\036
\331\060\017\323\143\325\355\160\364\301\203\355\006\105\232\250
\352\264\211\067\375\132\067\107\357\221\171\247\065\377\360\334
\060\355\015\024\147\333\174\132\340\217\155\063\376\074\236\025
\063\303\303\055\016\135\252\174\015\216\061\226\115\213\377\005
\325

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "ANF Server CA"

Issuer: CN=ANF Server CA,2.5.4.5=G63287510,OU=ANF Clase 1 CA,O=ANF Autoridad de
Certificación,L=Barcelona (see current address at <https://www.anf.es/address/>),ST=Barcelona,C=ES

Serial Number: 78923 (0x1344b)

Subject: CN=ANF Server CA,2.5.4.5=G63287510,OU=ANF Clase 1 CA,O=ANF Autoridad de
Certificación,L=Barcelona (see current address at <https://www.anf.es/address/>),ST=Barcelona,C=ES

Not Valid Before: Mon Nov 30 23:00:00 2009

Not Valid After: Tue Nov 30 23:00:00 2021

Fingerprint (MD5): 8c:18:ed:28:bf:45:19:e6:49:98:e1:35:22:2f:54:c6

Fingerprint (SHA1): ce:a9:89:0d:85:d8:07:53:a6:26:28:6c:da:d7:8c:b5:66:d7:0c:f2

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ANF Server CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\316\251\211\015\205\330\007\123\246\046\050\154\332\327\214\265
\146\327\014\362

END


```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\214\030\355\050\277\105\031\346\111\230\341\065\042\057\124\306
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\331\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\022\060\020\006\003\125\004\010\014\011\102\141\162\143\145
\154\157\156\141\061\107\060\105\006\003\125\004\007\014\076\102
\141\162\143\145\154\157\156\141\040\050\163\145\145\040\143\165
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164
\040\150\164\164\160\163\072\057\057\167\167\167\056\141\156\146
\056\145\163\057\141\144\144\162\145\163\163\057\051\061\050\060
\046\006\003\125\004\012\014\037\101\116\106\040\101\165\164\157
\162\151\144\141\144\040\144\145\040\103\145\162\164\151\146\151
\143\141\143\151\303\263\156\061\027\060\025\006\003\125\004\013
\014\016\101\116\106\040\103\154\141\163\145\040\061\040\103\101
\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062\070
\067\065\061\060\061\026\060\024\006\003\125\004\003\014\015\101
\116\106\040\123\145\162\166\145\162\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\064\113
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Thawte Premium Server CA"
# Issuer: 1.2.840.113549.1.9.1=premium-server@thawte.com,CN=Thawte Premium Server CA,OU=Certification
Services Division,O=Thawte Consulting cc,L=Cape Town,ST=Western Cape,C=ZA
# Serial Number:36:12:22:96:c5:e3:38:a5:20:a1:d2:5f:4c:d7:09:54
# Subject: 1.2.840.113549.1.9.1=premium-server@thawte.com,CN=Thawte Premium Server CA,OU=Certification
Services Division,O=Thawte Consulting cc,L=Cape Town,ST=Western Cape,C=ZA
# Not Valid Before: Thu Aug 01 00:00:00 1996
# Not Valid After: Fri Jan 01 23:59:59 2021
# Fingerprint (MD5): a6:6b:60:90:23:9b:3f:2d:bb:98:6f:d6:a7:19:0d:46
# Fingerprint (SHA1): e0:ab:05:94:20:72:54:93:05:60:62:02:36:70:f7:cd:2e:fc:66:66
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Thawte Premium Server CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007

```

\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151
\163\151\157\156\061\041\060\037\006\003\125\004\003\023\030\124
\150\141\167\164\145\040\120\162\145\155\151\165\155\040\123\145
\162\166\145\162\040\103\101\061\050\060\046\006\011\052\206\110
\206\367\015\001\011\001\026\031\160\162\145\155\151\165\155\055
\163\145\162\166\145\162\100\164\150\141\167\164\145\056\143\157
\155

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151
\163\151\157\156\061\041\060\037\006\003\125\004\003\023\030\124
\150\141\167\164\145\040\120\162\145\155\151\165\155\040\123\145
\162\166\145\162\040\103\101\061\050\060\046\006\011\052\206\110
\206\367\015\001\011\001\026\031\160\162\145\155\151\165\155\055
\163\145\162\166\145\162\100\164\150\141\167\164\145\056\143\157
\155

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\066\022\042\226\305\343\070\245\040\241\322\137\114\327
\011\124

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\066\060\202\002\237\240\003\002\001\002\002\020\066
\022\042\226\305\343\070\245\040\241\322\137\114\327\011\124\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\316\061\013\060\011\006\003\125\004\006\023\002\132\101\061\025
\060\023\006\003\125\004\010\023\014\127\145\163\164\145\162\156
\040\103\141\160\145\061\022\060\020\006\003\125\004\007\023\011
\103\141\160\145\040\124\157\167\156\061\035\060\033\006\003\125
\004\012\023\024\124\150\141\167\164\145\040\103\157\156\163\165
\154\164\151\156\147\040\143\143\061\050\060\046\006\003\125\004
\013\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151
\157\156\061\041\060\037\006\003\125\004\003\023\030\124\150\141
\167\164\145\040\120\162\145\155\151\165\155\040\123\145\162\166
\145\162\040\103\101\061\050\060\046\006\011\052\206\110\206\367

\015\001\011\001\026\031\160\162\145\155\151\165\155\055\163\145
\162\166\145\162\100\164\150\141\167\164\145\056\143\157\155\060
\036\027\015\071\066\060\070\060\061\060\060\060\060\060\132
\027\015\062\061\060\061\060\061\062\063\065\071\065\071\132\060
\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101\061
\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145\162
\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007\023
\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006\003
\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156\163
\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003\125
\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151\163
\151\157\156\061\041\060\037\006\003\125\004\003\023\030\124\150
\141\167\164\145\040\120\162\145\155\151\165\155\040\123\145\162
\166\145\162\040\103\101\061\050\060\046\006\011\052\206\110\206
\367\015\001\011\001\026\031\160\162\145\155\151\165\155\055\163
\145\162\166\145\162\100\164\150\141\167\164\145\056\143\157\155
\060\201\237\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\201\215\000\060\201\211\002\201\201\000\322\066\066
\152\213\327\302\133\236\332\201\101\142\217\070\356\111\004\125
\326\320\357\034\033\225\026\107\357\030\110\065\072\122\364\053
\152\006\217\073\057\352\126\343\257\206\215\236\027\367\236\264
\145\165\002\115\357\313\011\242\041\121\330\233\320\147\320\272
\015\222\006\024\163\324\223\313\227\052\000\234\134\116\014\274
\372\025\122\374\362\104\156\332\021\112\156\010\237\057\055\343
\371\252\072\206\163\266\106\123\130\310\211\005\275\203\021\270
\163\077\252\007\215\364\102\115\347\100\235\034\067\002\003\001
\000\001\243\023\060\021\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\201\201\000\145\220\254\210\017\126
\331\346\060\064\324\046\307\320\120\361\222\336\153\324\071\210
\011\042\306\246\143\203\003\367\231\167\330\262\345\030\270\135
\143\363\324\163\373\154\234\231\170\361\113\170\175\031\044\303
\053\002\204\370\274\042\331\212\042\327\240\374\161\354\221\207
\040\361\270\354\261\345\125\200\254\075\122\310\071\016\302\360
\300\005\117\326\202\165\214\275\137\322\334\166\232\005\022\311
\257\162\303\334\045\176\244\115\216\027\245\340\207\177\341\232
\132\341\140\334\144\043\074\102\056\115

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "Thawte Premium Server CA"

Issuer: 1.2.840.113549.1.9.1=premium-server@thawte.com,CN=Thawte Premium Server CA,OU=Certification
Services Division,O=Thawte Consulting cc,L=Cape Town,ST=Western Cape,C=ZA

Serial Number:36:12:22:96:c5:e3:38:a5:20:a1:d2:5f:4c:d7:09:54

```
# Subject: 1.2.840.113549.1.9.1=premium-server@thawte.com,CN=Thawte Premium Server CA,OU=Certification
Services Division,O=Thawte Consulting cc,L=Cape Town,ST=Western Cape,C=ZA
# Not Valid Before: Thu Aug 01 00:00:00 1996
# Not Valid After: Fri Jan 01 23:59:59 2021
# Fingerprint (MD5): a6:6b:60:90:23:9b:3f:2d:bb:98:6f:d6:a7:19:0d:46
# Fingerprint (SHA1): e0:ab:05:94:20:72:54:93:05:60:62:02:36:70:f7:cd:2e:fc:66:66
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Thawte Premium Server CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\340\253\005\224\040\162\124\223\005\140\142\002\066\160\367\315
\056\374\146\146
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\246\153\140\220\043\233\077\055\273\230\157\326\247\031\015\106
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151
\163\151\157\156\061\041\060\037\006\003\125\004\003\023\030\124
\150\141\167\164\145\040\120\162\145\155\151\165\155\040\123\145
\162\166\145\162\040\103\101\061\050\060\046\006\011\052\206\110
\206\367\015\001\011\001\026\031\160\162\145\155\151\165\155\055
\163\145\162\166\145\162\100\164\150\141\167\164\145\056\143\157
\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\066\022\042\226\305\343\070\245\040\241\322\137\114\327
\011\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Thawte Server CA"
# Issuer: 1.2.840.113549.1.9.1=server-certs@thawte.com,CN=Thawte Server CA,OU=Certification Services
Division,O=Thawte Consulting cc,L=Cape Town,ST=Western Cape,C=ZA
# Serial Number:34:a4:ff:f6:30:af:4c:a5:3c:33:17:42:a1:94:66:75
```

```
# Subject: 1.2.840.113549.1.9.1=server-certs@thawte.com,CN=Thawte Server CA,OU=Certification Services
Division,O=Thawte Consulting cc,L=Cape Town,ST=Western Cape,C=ZA
# Not Valid Before: Thu Aug 01 00:00:00 1996
# Not Valid After: Fri Jan 01 23:59:59 2021
# Fingerprint (MD5): ee:fe:61:69:65:6e:f8:9c:c6:2a:f4:d7:2b:63:ef:a2
# Fingerprint (SHA1): 9f:ad:91:a6:ce:6a:c6:c5:00:47:c4:4e:c9:d4:a5:0d:92:d8:49:79
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Thawte Server CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\304\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151
\163\151\157\156\061\031\060\027\006\003\125\004\003\023\020\124
\150\141\167\164\145\040\123\145\162\166\145\162\040\103\101\061
\046\060\044\006\011\052\206\110\206\367\015\001\011\001\026\027
\163\145\162\166\145\162\055\143\145\162\164\163\100\164\150\141
\167\164\145\056\143\157\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\304\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151
\163\151\157\156\061\031\060\027\006\003\125\004\003\023\020\124
\150\141\167\164\145\040\123\145\162\166\145\162\040\103\101\061
\046\060\044\006\011\052\206\110\206\367\015\001\011\001\026\027
\163\145\162\166\145\162\055\143\145\162\164\163\100\164\150\141
\167\164\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\064\244\377\366\060\257\114\245\074\063\027\102\241\224
\146\165
END
CKA_VALUE MULTILINE_OCTAL
```

\060\202\003\042\060\202\002\213\240\003\002\001\002\002\020\064
\244\377\366\060\257\114\245\074\063\027\102\241\224\146\165\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\304\061\013\060\011\006\003\125\004\006\023\002\132\101\061\025
\060\023\006\003\125\004\010\023\014\127\145\163\164\145\162\156
\040\103\141\160\145\061\022\060\020\006\003\125\004\007\023\011
\103\141\160\145\040\124\157\167\156\061\035\060\033\006\003\125
\004\012\023\024\124\150\141\167\164\145\040\103\157\156\163\165
\154\164\151\156\147\040\143\143\061\050\060\046\006\003\125\004
\013\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151
\157\156\061\031\060\027\006\003\125\004\003\023\020\124\150\141
\167\164\145\040\123\145\162\166\145\162\040\103\101\061\046\060
\044\006\011\052\206\110\206\367\015\001\011\001\026\027\163\145
\162\166\145\162\055\143\145\162\164\163\100\164\150\141\167\164
\145\056\143\157\155\060\036\027\015\071\066\060\070\060\061\060
\060\060\060\060\060\132\027\015\062\061\060\061\060\061\062\063
\065\071\065\071\132\060\201\304\061\013\060\011\006\003\125\004
\006\023\002\132\101\061\025\060\023\006\003\125\004\010\023\014
\127\145\163\164\145\162\156\040\103\141\160\145\061\022\060\020
\006\003\125\004\007\023\011\103\141\160\145\040\124\157\167\156
\061\035\060\033\006\003\125\004\012\023\024\124\150\141\167\164
\145\040\103\157\156\163\165\154\164\151\156\147\040\143\143\061
\050\060\046\006\003\125\004\013\023\037\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163
\040\104\151\166\151\163\151\157\156\061\031\060\027\006\003\125
\004\003\023\020\124\150\141\167\164\145\040\123\145\162\166\145
\162\040\103\101\061\046\060\044\006\011\052\206\110\206\367\015
\001\011\001\026\027\163\145\162\166\145\162\055\143\145\162\164
\163\100\164\150\141\167\164\145\056\143\157\155\060\201\237\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\201
\215\000\060\201\211\002\201\201\000\323\244\120\156\310\377\126
\153\346\317\135\266\352\014\150\165\107\242\252\302\332\204\045
\374\250\364\107\121\332\205\265\040\164\224\206\036\017\165\311
\351\010\141\365\006\155\060\156\025\031\002\351\122\300\142\333
\115\231\236\342\152\014\104\070\315\376\276\343\144\011\160\305
\376\261\153\051\266\057\111\310\073\324\047\004\045\020\227\057
\347\220\155\300\050\102\231\327\114\103\336\303\365\041\155\124
\237\135\303\130\341\300\344\331\133\260\270\334\264\173\337\066
\072\302\265\146\042\022\326\207\015\002\003\001\000\001\243\023
\060\021\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\003\201\201\000\276\100\151\101\157\306\333\301\247\277
\007\300\105\344\320\265\103\036\114\225\063\065\351\136\302\076
\050\366\250\015\120\325\377\342\014\017\374\120\002\216\256\221
\271\255\064\212\215\237\047\161\252\031\314\113\350\004\312\324
\027\153\022\032\326\306\137\326\315\136\377\211\166\277\330\110
\330\131\275\010\212\211\035\127\315\105\036\122\272\022\232\204

```
\372\030\211\137\350\371\060\065\152\001\140\271\231\200\203\205
\012\156\332\364\311\217\136\163\055\061\112\143\240\164\362\037
\213\042\322\051\076\353
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "Thawte Server CA"

Issuer: 1.2.840.113549.1.9.1=server-certs@thawte.com,CN=Thawte Server CA,OU=Certification Services
Division,O=Thawte Consulting cc,L=Cape Town,ST=Western Cape,C=ZA

Serial Number:34:a4:ff:f6:30:af:4c:a5:3c:33:17:42:a1:94:66:75

Subject: 1.2.840.113549.1.9.1=server-certs@thawte.com,CN=Thawte Server CA,OU=Certification Services
Division,O=Thawte Consulting cc,L=Cape Town,ST=Western Cape,C=ZA

Not Valid Before: Thu Aug 01 00:00:00 1996

Not Valid After: Fri Jan 01 23:59:59 2021

Fingerprint (MD5): ee:fe:61:69:65:6e:f8:9c:c6:2a:f4:d7:2b:63:ef:a2

Fingerprint (SHA1): 9f:ad:91:a6:ce:6a:c6:c5:00:47:c4:4e:c9:d4:a5:0d:92:d8:49:79

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Thawte Server CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\237\255\221\246\316\152\306\305\000\107\304\116\311\324\245\015
\222\330\111\171
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\356\376\141\151\145\156\370\234\306\052\364\327\053\143\357\242
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\304\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151
\163\151\157\156\061\031\060\027\006\003\125\004\003\023\020\124
\150\141\167\164\145\040\123\145\162\166\145\162\040\103\101\061
\046\060\044\006\011\052\206\110\206\367\015\001\011\001\026\027
\163\145\162\166\145\162\055\143\145\162\164\163\100\164\150\141
\167\164\145\056\143\157\155
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\064\244\377\366\060\257\114\245\074\063\027\102\241\224
```

```

\146\165
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "TC TrustCenter Universal CA III"
# Issuer: CN=TC TrustCenter Universal CA III,OU=TC TrustCenter Universal CA,O=TC TrustCenter
GmbH,C=DE
# Serial Number:63:25:00:01:00:02:14:8d:33:15:02:e4:6c:f4
# Subject: CN=TC TrustCenter Universal CA III,OU=TC TrustCenter Universal CA,O=TC TrustCenter
GmbH,C=DE
# Not Valid Before: Wed Sep 09 08:15:27 2009
# Not Valid After: Mon Dec 31 23:59:59 2029
# Fingerprint (MD5): 9f:dd:db:ab:ff:8e:ff:45:21:5f:f0:6c:9d:8f:fe:2b
# Fingerprint (SHA1): 96:56:cd:7b:57:96:98:95:d0:e1:41:46:68:06:fb:b8:c6:11:06:87
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TC TrustCenter Universal CA III"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\044\060
\042\006\003\125\004\013\023\033\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\125\156\151\166\145\162\163\141\154
\040\103\101\061\050\060\046\006\003\125\004\003\023\037\124\103
\040\124\162\165\163\164\103\145\156\164\145\162\040\125\156\151
\166\145\162\163\141\154\040\103\101\040\111\111\111
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\044\060
\042\006\003\125\004\013\023\033\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\125\156\151\166\145\162\163\141\154
\040\103\101\061\050\060\046\006\003\125\004\003\023\037\124\103
\040\124\162\165\163\164\103\145\156\164\145\162\040\125\156\151
\166\145\162\163\141\154\040\103\101\040\111\111\111
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\143\045\000\001\000\002\024\215\063\025\002\344\154\364
END

```


CKA_VALUE MULTILINE_OCTAL

\060\202\003\341\060\202\002\311\240\003\002\001\002\002\016\143
\045\000\001\000\002\024\215\063\025\002\344\154\364\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\060\173\061\013
\060\011\006\003\125\004\006\023\002\104\105\061\034\060\032\006
\003\125\004\012\023\023\124\103\040\124\162\165\163\164\103\145
\156\164\145\162\040\107\155\142\110\061\044\060\042\006\003\125
\004\013\023\033\124\103\040\124\162\165\163\164\103\145\156\164
\145\162\040\125\156\151\166\145\162\163\141\154\040\103\101\061
\050\060\046\006\003\125\004\003\023\037\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\125\156\151\166\145\162\163
\141\154\040\103\101\040\111\111\111\060\036\027\015\060\071\060
\071\060\071\060\070\061\065\062\067\132\027\015\062\071\061\062
\063\061\062\063\065\071\065\071\132\060\173\061\013\060\011\006
\003\125\004\006\023\002\104\105\061\034\060\032\006\003\125\004
\012\023\023\124\103\040\124\162\165\163\164\103\145\156\164\145
\162\040\107\155\142\110\061\044\060\042\006\003\125\004\013\023
\033\124\103\040\124\162\165\163\164\103\145\156\164\145\162\040
\125\156\151\166\145\162\163\141\154\040\103\101\061\050\060\046
\006\003\125\004\003\023\037\124\103\040\124\162\165\163\164\103
\145\156\164\145\162\040\125\156\151\166\145\162\163\141\154\040
\103\101\040\111\111\111\060\202\001\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\302\332\234\142\260\271\161\022\260
\013\310\032\127\262\256\203\024\231\263\064\113\233\220\242\305
\347\347\057\002\240\115\055\244\372\205\332\233\045\205\055\100
\050\040\155\352\340\275\261\110\203\042\051\104\237\116\203\356
\065\121\023\163\164\325\274\362\060\146\224\123\300\100\066\057
\014\204\145\316\017\156\302\130\223\350\054\013\072\351\301\216
\373\362\153\312\074\342\234\116\216\344\371\175\323\047\237\033
\325\147\170\207\055\177\013\107\263\307\350\311\110\174\257\057
\314\012\331\101\357\237\376\232\341\262\256\371\123\265\345\351
\106\237\140\343\337\215\323\177\373\226\176\263\265\162\370\113
\255\010\171\315\151\211\100\047\365\052\301\255\103\354\244\123
\310\141\266\367\322\171\052\147\030\166\110\155\133\045\001\321
\046\305\267\127\151\043\025\133\141\212\255\360\033\055\331\257
\134\361\046\220\151\251\325\014\100\365\063\200\103\217\234\243
\166\052\105\264\257\277\177\076\207\077\166\305\315\052\336\040
\305\026\130\313\371\033\365\017\313\015\021\122\144\270\322\166
\142\167\203\361\130\237\377\002\003\001\000\001\243\143\060\141
\060\037\006\003\125\035\043\004\030\060\026\200\024\126\347\341
\133\045\103\200\340\366\214\341\161\274\216\345\200\057\304\110
\342\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\035\006\003\125\035\016\004\026\004\024\126\347\341
\133\045\103\200\340\366\214\341\161\274\216\345\200\057\304\110
\342\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\203\307\257\352\177\115\012\074\071\261\150

```
\276\173\155\211\056\351\263\011\347\030\127\215\205\232\027\363
\166\102\120\023\017\307\220\157\063\255\305\111\140\053\154\111
\130\031\324\342\276\267\277\253\111\274\224\310\253\276\050\154
\026\150\340\310\227\106\040\240\150\147\140\210\071\040\121\330
\150\001\021\316\247\366\021\007\366\354\354\254\032\037\262\146
\156\126\147\140\172\164\136\300\155\227\066\256\265\015\135\146
\163\300\045\062\105\330\112\006\007\217\304\267\007\261\115\006
\015\341\245\353\364\165\312\272\234\320\275\263\323\062\044\114
\356\176\342\166\004\113\111\123\330\362\351\124\063\374\345\161
\037\075\024\134\226\113\361\072\362\000\273\154\264\372\226\125
\010\210\011\301\314\221\031\051\260\040\055\377\313\070\244\100
\341\027\276\171\141\200\377\007\003\206\114\116\173\006\237\021
\206\215\211\356\047\304\333\342\274\031\216\013\303\303\023\307
\055\003\143\073\323\350\344\242\052\302\202\010\224\026\124\360
\357\037\047\220\045\270\015\016\050\033\107\167\107\275\034\250
\045\361\224\264\146
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "TC TrustCenter Universal CA III"
```

```
# Issuer: CN=TC TrustCenter Universal CA III,OU=TC TrustCenter Universal CA,O=TC TrustCenter
GmbH,C=DE
```

```
# Serial Number:63:25:00:01:00:02:14:8d:33:15:02:e4:6c:f4
```

```
# Subject: CN=TC TrustCenter Universal CA III,OU=TC TrustCenter Universal CA,O=TC TrustCenter
GmbH,C=DE
```

```
# Not Valid Before: Wed Sep 09 08:15:27 2009
```

```
# Not Valid After: Mon Dec 31 23:59:59 2029
```

```
# Fingerprint (MD5): 9f:dd:db:ab:ff:8e:ff:45:21:5f:f0:6c:9d:8f:fe:2b
```

```
# Fingerprint (SHA1): 96:56:cd:7b:57:96:98:95:d0:e1:41:46:68:06:fb:b8:c6:11:06:87
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TC TrustCenter Universal CA III"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\226\126\315\173\127\226\230\225\320\341\101\106\150\006\373\270
\306\021\006\207
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\237\335\333\253\377\216\377\105\041\137\360\154\235\217\376\053
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\173\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\044\060
```

```
\042\006\003\125\004\013\023\033\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\125\156\151\166\145\162\163\141\154
\040\103\101\061\050\060\046\006\003\125\004\003\023\037\124\103
\040\124\162\165\163\164\103\145\156\164\145\162\040\125\156\151
\166\145\162\163\141\154\040\103\101\040\111\111\111
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\016\143\045\000\001\000\002\024\215\063\025\002\344\154\364
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "KEYNECTIS ROOT CA"

Issuer: CN=KEYNECTIS ROOT CA,OU=ROOT,O=KEYNECTIS,C=FR

Serial Number:11:21:bc:27:6c:55:47:af:58:4e:ef:d4:ce:d6:29:b2:a2:85

Subject: CN=KEYNECTIS ROOT CA,OU=ROOT,O=KEYNECTIS,C=FR

Not Valid Before: Tue May 26 00:00:00 2009

Not Valid After: Tue May 26 00:00:00 2020

Fingerprint (MD5): cc:4d:ae:fb:30:6b:d8:38:fe:50:eb:86:61:4b:d2:26

Fingerprint (SHA1): 9c:61:5c:4d:4d:85:10:3a:53:26:c2:4d:ba:ea:e4:a2:d2:d5:cc:97

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "KEYNECTIS ROOT CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\114\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\023\011\113\105\131\116\105\103
\124\111\123\061\015\060\013\006\003\125\004\013\023\004\122\117
\117\124\061\032\060\030\006\003\125\004\003\023\021\113\105\131
\116\105\103\124\111\123\040\122\117\117\124\040\103\101
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\114\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\023\011\113\105\131\116\105\103
\124\111\123\061\015\060\013\006\003\125\004\013\023\004\122\117
\117\124\061\032\060\030\006\003\125\004\003\023\021\113\105\131
\116\105\103\124\111\123\040\122\117\117\124\040\103\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\022\021\041\274\047\154\125\107\257\130\116\357\324\316\326
\051\262\242\205
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\345\060\202\002\315\240\003\002\001\002\002\022\021
\041\274\047\154\125\107\257\130\116\357\324\316\326\051\262\242
\205\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\060\114\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\023\011\113\105\131\116\105\103
\124\111\123\061\015\060\013\006\003\125\004\013\023\004\122\117
\117\124\061\032\060\030\006\003\125\004\003\023\021\113\105\131
\116\105\103\124\111\123\040\122\117\117\124\040\103\101\060\036
\027\015\060\071\060\065\062\066\060\060\060\060\060\060\132\027
\015\062\060\060\065\062\066\060\060\060\060\060\060\132\060\114
\061\013\060\011\006\003\125\004\006\023\002\106\122\061\022\060
\020\006\003\125\004\012\023\011\113\105\131\116\105\103\124\111
\123\061\015\060\013\006\003\125\004\013\023\004\122\117\117\124
\061\032\060\030\006\003\125\004\003\023\021\113\105\131\116\105
\103\124\111\123\040\122\117\117\124\040\103\101\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\306\375\263
\027\205\241\255\046\033\225\151\065\041\075\244\210\372\336\333
\140\066\100\027\151\302\024\143\373\270\331\302\164\025\067\056
\234\320\040\315\151\215\204\062\242\205\114\024\264\233\362\045
\263\124\052\203\077\055\276\017\363\073\144\321\377\240\120\357
\167\117\073\116\341\077\013\144\205\232\272\130\176\322\303\142
\323\144\045\242\324\262\227\074\167\135\143\052\063\222\374\315
\202\015\233\124\225\207\365\265\353\214\315\133\321\312\060\057
\311\210\106\265\315\015\021\264\030\217\356\321\241\076\135\025
\350\050\317\337\303\220\233\154\314\321\014\105\167\263\072\353
\212\220\035\351\257\144\152\211\173\251\075\103\164\372\344\147
\042\241\373\334\115\304\365\142\311\312\045\264\311\200\140\063
\251\335\173\240\002\277\226\045\012\136\311\137\051\173\264\027
\201\213\155\201\031\320\331\203\134\005\217\101\151\032\151\103
\200\237\250\257\340\351\214\221\213\047\053\242\046\140\315\017
\362\244\243\002\203\216\030\201\302\027\212\103\025\371\155\363
\035\020\244\132\234\104\141\043\041\172\330\373\321\002\003\001
\000\001\243\201\300\060\201\275\060\022\006\003\125\035\023\001
\001\377\004\010\060\006\001\001\377\002\001\004\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\127\006\003
\125\035\037\004\120\060\116\060\114\240\112\240\110\206\106\150
\164\164\160\072\057\057\164\162\165\163\164\143\145\156\164\145
\162\055\143\162\154\056\143\145\162\164\151\146\151\143\141\164
\062\056\143\157\155\057\113\145\171\156\145\143\164\151\163\057
\113\105\131\116\105\103\124\111\123\137\122\117\117\124\137\103
\101\056\143\162\154\060\035\006\003\125\035\016\004\026\004\024
\357\267\043\227\320\250\221\177\246\317\246\041\300\064\237\314
\167\101\341\320\060\037\006\003\125\035\043\004\030\060\026\200
\024\357\267\043\227\320\250\221\177\246\317\246\041\300\064\237
\314\167\101\341\320\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\003\202\001\001\000\032\061\151\231\102\302\345

```
\100\205\242\237\222\303\143\324\217\041\071\250\031\041\376\172
\374\303\115\100\363\053\350\113\254\133\114\131\223\306\334\176
\013\257\174\137\225\205\153\275\307\157\272\301\276\370\306\072
\147\113\223\306\005\151\076\044\055\360\033\221\306\076\077\354
\102\030\223\154\003\044\212\156\371\040\147\053\174\155\253\064
\311\052\042\063\015\327\175\217\356\322\066\144\102\310\065\232
\156\031\141\313\215\147\360\150\247\320\044\005\346\303\027\272
\105\256\174\103\265\200\170\003\115\040\163\005\374\103\020\235
\065\151\102\165\224\045\202\053\246\073\220\030\336\301\251\257
\363\055\225\277\225\247\317\030\227\341\131\342\242\257\032\026
\141\015\367\023\161\123\223\067\375\074\257\000\035\154\213\024
\257\106\226\214\266\122\174\314\055\116\315\341\351\113\012\356
\232\376\172\230\347\051\272\033\332\034\272\334\153\315\004\016
\046\100\251\353\163\074\376\120\250\021\047\125\275\333\216\113
\357\117\030\355\025\377\275\206\230\146\356\232\045\161\064\154
\120\361\262\121\313\146\235\115\051
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "KEYNECTIS ROOT CA"
# Issuer: CN=KEYNECTIS ROOT CA,OU=ROOT,O=KEYNECTIS,C=FR
# Serial Number:11:21:bc:27:6c:55:47:af:58:4e:ef:d4:ce:d6:29:b2:a2:85
# Subject: CN=KEYNECTIS ROOT CA,OU=ROOT,O=KEYNECTIS,C=FR
# Not Valid Before: Tue May 26 00:00:00 2009
# Not Valid After: Tue May 26 00:00:00 2020
# Fingerprint (MD5): cc:4d:ae:fb:30:6b:d8:38:fe:50:eb:86:61:4b:d2:26
# Fingerprint (SHA1): 9c:61:5c:4d:4d:85:10:3a:53:26:c2:4d:ba:ea:e4:a2:d2:d5:cc:97
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "KEYNECTIS ROOT CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\234\141\134\115\115\205\020\072\123\046\302\115\272\352\344\242
\322\325\314\227
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\314\115\256\373\060\153\330\070\376\120\353\206\141\113\322\046
```

```
END
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\023\011\113\105\131\116\105\103
\124\111\123\061\015\060\013\006\003\125\004\013\023\004\122\117
\117\124\061\032\060\030\006\003\125\004\003\023\021\113\105\131
\116\105\103\124\111\123\040\122\117\117\124\040\103\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\022\021\041\274\047\154\125\107\257\130\116\357\324\316\326
\051\262\242\205

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "I.CA - Standard Certification Authority, 09/2009"

Issuer: OU=I.CA - Provider of Certification Services,O=První certifikační autorita\, a.s.,CN=I.CA - Standard
Certification Authority\, 09/2009,C=CZ

Serial Number:16:e3:60

Subject: OU=I.CA - Provider of Certification Services,O=První certifikační autorita\, a.s.,CN=I.CA - Standard
Certification Authority\, 09/2009,C=CZ

Not Valid Before: Tue Sep 01 00:00:00 2009

Not Valid After: Sun Sep 01 00:00:00 2019

Fingerprint (MD5): 86:ef:8e:31:9d:9f:85:69:a2:a4:1a:12:71:68:ba:1b

Fingerprint (SHA1): 90:de:ce:77:f8:c8:25:34:0e:62:eb:d6:35:e1:be:20:cf:73:27:dd

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "I.CA - Standard Certification Authority, 09/2009"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\253\061\013\060\011\006\003\125\004\006\023\002\103\132
\061\071\060\067\006\003\125\004\003\014\060\111\056\103\101\040
\055\040\123\164\141\156\144\141\162\144\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\054\040\060\071\057\062\060\060\071\061\055\060\053\006
\003\125\004\012\014\044\120\162\166\156\303\255\040\143\145\162
\164\151\146\151\153\141\304\215\156\303\255\040\141\165\164\157
\162\151\164\141\054\040\141\056\163\056\061\062\060\060\006\003
\125\004\013\014\051\111\056\103\101\040\055\040\120\162\157\166
\151\144\145\162\040\157\146\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\123\145\162\166\151\143\145\163

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\253\061\013\060\011\006\003\125\004\006\023\002\103\132
\061\071\060\067\006\003\125\004\003\014\060\111\056\103\101\040
\055\040\123\164\141\156\144\141\162\144\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\054\040\060\071\057\062\060\060\071\061\055\060\053\006
\003\125\004\012\014\044\120\162\166\156\303\255\040\143\145\162

\164\151\146\151\153\141\304\215\156\303\255\040\141\165\164\157
\162\151\164\141\054\040\141\056\163\056\061\062\060\060\006\003
\125\004\013\014\051\111\056\103\101\040\055\040\120\162\157\166
\151\144\145\162\040\157\146\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\123\145\162\166\151\143\145\163

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\026\343\140

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\052\060\202\003\022\240\003\002\001\002\002\003\026
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\000\060\201\253\061\013\060\011\006\003\125\004\006\023\002\103
\132\061\071\060\067\006\003\125\004\003\014\060\111\056\103\101
\040\055\040\123\164\141\156\144\141\162\144\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\054\040\060\071\057\062\060\060\071\061\055\060\053
\006\003\125\004\012\014\044\120\162\166\156\303\255\040\143\145
\162\164\151\146\151\153\141\304\215\156\303\255\040\141\165\164
\157\162\151\164\141\054\040\141\056\163\056\061\062\060\060\006
\003\125\004\013\014\051\111\056\103\101\040\055\040\120\162\157
\166\151\144\145\162\040\157\146\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163\060
\036\027\015\060\071\060\071\060\061\060\060\060\060\060\060\132
\027\015\061\071\060\071\060\061\060\060\060\060\060\060\132\060
\201\253\061\013\060\011\006\003\125\004\006\023\002\103\132\061
\071\060\067\006\003\125\004\003\014\060\111\056\103\101\040\055
\040\123\164\141\156\144\141\162\144\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\054\040\060\071\057\062\060\060\071\061\055\060\053\006\003
\125\004\012\014\044\120\162\166\156\303\255\040\143\145\162\164
\151\146\151\153\141\304\215\156\303\255\040\141\165\164\157\162
\151\164\141\054\040\141\056\163\056\061\062\060\060\006\003\125
\004\013\014\051\111\056\103\101\040\055\040\120\162\157\166\151
\144\145\162\040\157\146\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\123\145\162\166\151\143\145\163\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\250\010
\126\022\077\373\224\203\251\140\166\275\105\203\176\226\064\074
\317\111\116\326\317\374\040\341\341\261\002\024\155\255\312\176
\120\162\051\251\375\234\167\046\070\144\367\103\101\077\024\202
\004\242\101\220\002\347\231\367\203\142\170\104\205\350\235\005
\160\324\376\170\241\164\064\307\254\073\205\002\335\356\121\133
\106\073\123\063\326\147\354\354\024\056\343\304\345\263\164\203
\000\314\306\226\346\034\203\332\334\030\120\151\372\335\103\321
\216\100\375\026\244\267\214\145\207\340\276\254\227\037\260\161
\353\000\145\127\026\316\154\207\257\227\210\360\135\367\207\115
\072\021\012\242\302\104\024\300\026\362\117\365\333\225\102\257

\051\263\051\240\203\121\156\376\074\121\127\223\060\045\046\272
\073\152\206\310\366\013\321\161\077\234\267\072\310\316\147\011
\214\372\100\033\172\154\336\310\034\240\306\134\273\141\030\210
\077\056\131\035\126\374\172\105\234\246\331\070\331\305\140\314
\271\101\125\267\312\274\115\356\264\247\304\366\240\016\274\211
\305\001\225\261\134\337\117\360\314\302\315\102\273\137\002\003
\001\000\001\243\125\060\123\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\021\006\003\125\035\040\004
\012\060\010\060\006\006\004\125\035\040\000\060\035\006\003\125
\035\016\004\026\004\024\301\114\070\224\325\200\206\110\331\042
\220\054\323\356\031\020\333\147\107\207\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\243\313
\321\175\164\373\065\170\007\222\350\356\150\351\344\122\136\360
\330\143\221\224\237\150\373\276\133\272\251\341\143\167\253\120
\166\306\351\126\107\124\120\231\264\045\213\350\301\031\162\066
\132\011\276\347\326\372\302\266\062\075\107\303\120\116\231\156
\223\066\305\212\121\167\143\340\111\063\253\074\037\212\351\073
\331\206\265\050\307\302\165\161\133\146\152\215\130\016\363\165
\220\265\255\054\201\030\315\234\330\303\315\117\361\373\151\040
\227\300\110\317\023\105\022\265\034\366\076\203\342\116\136\335
\131\306\153\112\340\110\316\331\052\235\145\072\275\057\360\360
\114\274\011\172\313\067\000\244\077\073\014\043\335\343\373\306
\102\242\264\266\346\322\162\205\114\337\263\336\026\247\176\035
\347\324\317\255\253\263\120\344\160\214\337\260\160\220\311\206
\236\356\174\204\213\144\034\153\341\150\025\176\311\245\164\340
\116\367\132\352\335\022\061\253\221\100\205\161\013\316\051\050
\371\156\070\024\134\035\376\354\021\277\115\103\176\236\137\070
\277\327\352\236\223\057\320\035\164\265\005\011\323\042

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "I.CA - Standard Certification Authority, 09/2009"

Issuer: OU=I.CA - Provider of Certification Services,O=První certifikační autorita\, a.s.,CN=I.CA - Standard
Certification Authority\, 09/2009,C=CZ

Serial Number:16:e3:60

Subject: OU=I.CA - Provider of Certification Services,O=První certifikační autorita\, a.s.,CN=I.CA - Standard
Certification Authority\, 09/2009,C=CZ

Not Valid Before: Tue Sep 01 00:00:00 2009

Not Valid After: Sun Sep 01 00:00:00 2019

Fingerprint (MD5): 86:ef:8e:31:9d:9f:85:69:a2:a4:1a:12:71:68:ba:1b

Fingerprint (SHA1): 90:de:ce:77:f8:c8:25:34:0e:62:eb:d6:35:e1:be:20:cf:73:27:dd

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE


```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "I.CA - Standard Certification Authority, 09/2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\220\336\316\167\370\310\045\064\016\142\353\326\065\341\276\040
\317\163\047\335
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\206\357\216\061\235\237\205\151\242\244\032\022\161\150\272\033
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\253\061\013\060\011\006\003\125\004\006\023\002\103\132
\061\071\060\067\006\003\125\004\003\014\060\111\056\103\101\040
\055\040\123\164\141\156\144\141\162\144\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\054\040\060\071\057\062\060\060\071\061\055\060\053\006
\003\125\004\012\014\044\120\162\166\156\303\255\040\143\145\162
\164\151\146\151\153\141\304\215\156\303\255\040\141\165\164\157
\162\151\164\141\054\040\141\056\163\056\061\062\060\060\006\003
\125\004\013\014\051\111\056\103\101\040\055\040\120\162\157\166
\151\144\145\162\040\157\146\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\123\145\162\166\151\143\145\163
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\026\343\140
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "I.CA - Qualified Certification Authority, 09/2009"
# Issuer: OU=I.CA - Accredited Provider of Certification Services,O=První certifikaní autorita\, a.s.,CN=I.CA -
Qualified Certification Authority\, 09/2009,C=CZ
# Serial Number:a0:37:a0
# Subject: OU=I.CA - Accredited Provider of Certification Services,O=První certifikaní autorita\, a.s.,CN=I.CA -
Qualified Certification Authority\, 09/2009,C=CZ
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After: Sun Sep 01 00:00:00 2019
# Fingerprint (MD5): 8d:63:9b:56:c1:14:e4:ee:9a:12:85:86:11:90:82:a3
# Fingerprint (SHA1): d2:44:1a:a8:c2:03:ae:ca:a9:6e:50:1f:12:4d:52:b6:8f:e4:c3:75
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "I.CA - Qualified Certification Authority, 09/2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

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\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\054\040\060\071\057\062\060\060\071\061\055\060\053
\006\003\125\004\012\014\044\120\162\166\156\303\255\040\143\145
\162\164\151\146\151\153\141\304\215\156\303\255\040\141\165\164
\157\162\151\164\141\054\040\141\056\163\056\061\075\060\073\006
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\162\145\144\151\164\145\144\040\120\162\157\166\151\144\145\162
\040\157\146\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\123\145\162\166\151\143\145\163

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\267\061\013\060\011\006\003\125\004\006\023\002\103\132
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\055\040\121\165\141\154\151\146\151\145\144\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\054\040\060\071\057\062\060\060\071\061\055\060\053
\006\003\125\004\012\014\044\120\162\166\156\303\255\040\143\145
\162\164\151\146\151\153\141\304\215\156\303\255\040\141\165\164
\157\162\151\164\141\054\040\141\056\163\056\061\075\060\073\006
\003\125\004\013\014\064\111\056\103\101\040\055\040\101\143\143
\162\145\144\151\164\145\144\040\120\162\157\166\151\144\145\162
\040\157\146\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\123\145\162\166\151\143\145\163

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\000\240\067\240

END

CKA_VALUE MULTILINE_OCTAL

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\005\000\060\201\267\061\013\060\011\006\003\125\004\006\023\002
\103\132\061\072\060\070\006\003\125\004\003\014\061\111\056\103
\101\040\055\040\121\165\141\154\151\146\151\145\144\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\054\040\060\071\057\062\060\060\071\061\055
\060\053\006\003\125\004\012\014\044\120\162\166\156\303\255\040
\143\145\162\164\151\146\151\153\141\304\215\156\303\255\040\141
\165\164\157\162\151\164\141\054\040\141\056\163\056\061\075\060
\073\006\003\125\004\013\014\064\111\056\103\101\040\055\040\101
\143\143\162\145\144\151\164\145\144\040\120\162\157\166\151\144
\145\162\040\157\146\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\123\145\162\166\151\143\145\163\060\036\027\015
\060\071\060\071\060\061\060\060\060\060\060\060\132\027\015\061
\071\060\071\060\061\060\060\060\060\060\132\060\201\267\061

\013\060\011\006\003\125\004\006\023\002\103\132\061\072\060\070
\006\003\125\004\003\014\061\111\056\103\101\040\055\040\121\165
\141\154\151\146\151\145\144\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\054
\040\060\071\057\062\060\060\071\061\055\060\053\006\003\125\004
\012\014\044\120\162\166\156\303\255\040\143\145\162\164\151\146
\151\153\141\304\215\156\303\255\040\141\165\164\157\162\151\164
\141\054\040\141\056\163\056\061\075\060\073\006\003\125\004\013
\014\064\111\056\103\101\040\055\040\101\143\143\162\145\144\151
\164\145\144\040\120\162\157\166\151\144\145\162\040\157\146\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\060\202\001\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\265\066\204\313\102\202\360\317\145
\342\124\232\130\163\054\343\353\025\127\122\360\317\042\130\210
\204\015\170\052\357\324\161\346\375\212\106\041\326\077\147\256
\064\161\346\247\222\064\057\041\176\346\333\160\112\340\344\202
\350\243\274\221\226\000\337\072\051\073\076\206\024\043\212\127
\143\357\056\351\033\163\347\066\212\141\172\220\261\304\277\252
\215\003\305\261\204\366\321\337\022\260\224\160\360\007\154\241
\133\072\073\127\164\025\200\064\106\363\173\056\202\244\047\264
\246\002\334\271\345\114\146\311\244\323\376\003\076\366\202\223
\275\000\165\047\374\200\141\026\116\044\261\317\045\141\055\213
\364\140\262\364\053\046\164\244\201\077\277\051\367\017\013\307
\273\303\056\251\003\202\335\177\314\032\334\121\151\222\111\276
\300\023\360\117\021\343\053\311\005\165\041\322\072\236\121\247
\006\025\244\134\346\037\350\144\235\153\042\160\363\246\355\273
\020\273\276\040\312\066\266\351\343\201\343\101\026\222\306\172
\172\073\167\255\243\134\170\015\370\230\167\017\330\154\221\136
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\060\202\001\052\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\201\347\006\003\125\035\040\004\201\337
\060\201\334\060\201\331\006\004\125\035\040\000\060\201\320\060
\201\315\006\010\053\006\001\005\005\007\002\002\060\201\300\032
\201\275\124\145\156\164\157\040\143\145\162\164\151\146\151\153
\141\164\040\152\145\040\166\171\144\141\156\040\152\141\153\157
\040\153\166\141\154\151\146\151\153\157\166\141\156\171\040\163
\171\163\164\145\155\157\166\171\040\143\145\162\164\151\146\151
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\040\143\056\040\062\062\067\057\062\060\060\060\040\123\142\056
\040\166\040\160\154\141\164\156\145\155\040\172\156\145\156\151
\057\124\150\151\163\040\151\163\040\161\165\141\154\151\146\151
\145\144\040\163\171\163\164\145\155\040\143\145\162\164\151\146
\151\143\141\164\145\040\141\143\143\157\162\144\151\156\147\040
\164\157\040\103\172\145\143\150\040\101\143\164\040\116\157\056
\040\062\062\067\057\062\060\060\060\040\103\157\154\154\056\060
\035\006\003\125\035\016\004\026\004\024\171\313\320\043\351\072

\147\160\221\164\117\323\121\342\340\040\375\341\050\373\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\175\225\245\066\327\210\130\150\021\317\145\373\133\015
\057\366\164\201\213\131\331\235\111\270\365\071\226\311\360\262
\017\004\314\130\214\372\004\062\254\300\107\276\055\303\336\223
\213\246\226\105\256\126\164\345\232\113\242\077\252\046\304\050
\126\141\044\005\127\137\231\244\307\147\260\030\122\311\373\101
\250\371\344\361\236\062\316\236\025\105\331\135\254\373\236\333
\233\307\074\217\257\333\113\242\043\350\073\051\160\161\030\245
\370\343\207\256\041\023\152\364\151\052\131\016\061\263\050\123
\072\142\232\254\010\223\174\251\207\266\137\132\246\030\302\320
\302\363\135\214\157\247\077\060\211\070\353\224\023\052\110\132
\336\171\345\220\313\136\244\271\027\266\143\006\071\137\310\066
\143\021\364\266\022\317\110\166\211\074\152\127\371\353\163\042
\367\372\076\005\256\072\300\306\016\222\115\317\324\211\124\321
\032\202\152\067\133\226\050\250\000\042\203\316\320\052\271\263
\215\123\130\056\145\134\325\362\333\214\001\045\163\154\227\213
\374\140\001\354\100\223\301\355\121\270\252\313\142\330\045\060
\242\075

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "I.CA - Qualified Certification Authority, 09/2009"

Issuer: OU=I.CA - Accredited Provider of Certification Services,O=První certifikační autorita, a.s.,CN=I.CA -
Qualified Certification Authority, 09/2009,C=CZ

Serial Number:a0:37:a0

Subject: OU=I.CA - Accredited Provider of Certification Services,O=První certifikační autorita, a.s.,CN=I.CA -
Qualified Certification Authority, 09/2009,C=CZ

Not Valid Before: Tue Sep 01 00:00:00 2009

Not Valid After: Sun Sep 01 00:00:00 2019

Fingerprint (MD5): 8d:63:9b:56:c1:14:e4:ee:9a:12:85:86:11:90:82:a3

Fingerprint (SHA1): d2:44:1a:a8:c2:03:ae:ca:a9:6e:50:1f:12:4d:52:b6:8f:e4:c3:75

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "I.CA - Qualified Certification Authority, 09/2009"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\322\104\032\250\302\003\256\312\251\156\120\037\022\115\122\266
\217\344\303\165

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\215\143\233\126\301\024\344\356\232\022\205\206\021\220\202\243

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\267\061\013\060\011\006\003\125\004\006\023\002\103\132
\061\072\060\070\006\003\125\004\003\014\061\111\056\103\101\040
\055\040\121\165\141\154\151\146\151\145\144\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\054\040\060\071\057\062\060\060\071\061\055\060\053
\006\003\125\004\012\014\044\120\162\166\156\303\255\040\143\145
\162\164\151\146\151\153\141\304\215\156\303\255\040\141\165\164
\157\162\151\164\141\054\040\141\056\163\056\061\075\060\073\006
\003\125\004\013\014\064\111\056\103\101\040\055\040\101\143\143
\162\145\144\151\164\145\144\040\120\162\157\166\151\144\145\162
\040\157\146\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\123\145\162\166\151\143\145\163
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\004\000\240\067\240
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "VI Registru Centras RCSC (RootCA)"

Issuer: CN=VI Registru Centras RCSC (RootCA),OU=Registru Centro Sertifikavimo Centras,O=VI Registru Centras - I.k. 124110246,C=LT

Serial Number:03:a3:a4:57:b5:f0:f3:86:4a:11:63:e8:98:ff:16:9c

Subject: CN=VI Registru Centras RCSC (RootCA),OU=Registru Centro Sertifikavimo Centras,O=VI Registru Centras - I.k. 124110246,C=LT

Not Valid Before: Mon Jul 21 11:47:46 2008

Not Valid After: Sun Jul 21 11:47:46 2024

Fingerprint (MD5): 41:5b:95:78:0d:d1:c3:a7:dc:d9:ba:fe:e7:27:b6:14

Fingerprint (SHA1): 97:1d:34:86:fc:1e:8e:63:15:f7:c6:f2:e1:29:67:c7:24:34:22:14

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "VI Registru Centras RCSC (RootCA)"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\114\124
\061\055\060\053\006\003\125\004\012\023\044\126\111\040\122\145
\147\151\163\164\162\165\040\103\145\156\164\162\141\163\040\055
\040\111\056\153\056\040\061\062\064\061\061\060\062\064\066\061
\056\060\054\006\003\125\004\013\023\045\122\145\147\151\163\164
\162\165\040\103\145\156\164\162\157\040\123\145\162\164\151\146
\151\153\141\166\151\155\157\040\103\145\156\164\162\141\163\061
\052\060\050\006\003\125\004\003\023\041\126\111\040\122\145\147
\151\163\164\162\165\040\103\145\156\164\162\141\163\040\122\103
```

\123\103\040\050\122\157\157\164\103\101\051

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\230\061\013\060\011\006\003\125\004\006\023\002\114\124
\061\055\060\053\006\003\125\004\012\023\044\126\111\040\122\145
\147\151\163\164\162\165\040\103\145\156\164\162\141\163\040\055
\040\111\056\153\056\040\061\062\064\061\061\060\062\064\066\061
\056\060\054\006\003\125\004\013\023\045\122\145\147\151\163\164
\162\165\040\103\145\156\164\162\157\040\123\145\162\164\151\146
\151\153\141\166\151\155\157\040\103\145\156\164\162\141\163\061
\052\060\050\006\003\125\004\003\023\041\126\111\040\122\145\147
\151\163\164\162\165\040\103\145\156\164\162\141\163\040\122\103
\123\103\040\050\122\157\157\164\103\101\051

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\003\243\244\127\265\360\363\206\112\021\143\350\230\377
\026\234

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\212\060\202\004\162\240\003\002\001\002\002\020\003
\243\244\127\265\360\363\206\112\021\143\350\230\377\026\234\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\230\061\013\060\011\006\003\125\004\006\023\002\114\124\061\055
\060\053\006\003\125\004\012\023\044\126\111\040\122\145\147\151
\163\164\162\165\040\103\145\156\164\162\141\163\040\055\040\111
\056\153\056\040\061\062\064\061\061\060\062\064\066\061\056\060
\054\006\003\125\004\013\023\045\122\145\147\151\163\164\162\165
\040\103\145\156\164\162\157\040\123\145\162\164\151\146\151\153
\141\166\151\155\157\040\103\145\156\164\162\141\163\061\052\060
\050\006\003\125\004\003\023\041\126\111\040\122\145\147\151\163
\164\162\165\040\103\145\156\164\162\141\163\040\122\103\123\103
\040\050\122\157\157\164\103\101\051\060\036\027\015\060\070\060
\067\062\061\061\061\064\067\064\066\132\027\015\062\064\060\067
\062\061\061\061\064\067\064\066\132\060\201\230\061\013\060\011
\006\003\125\004\006\023\002\114\124\061\055\060\053\006\003\125
\004\012\023\044\126\111\040\122\145\147\151\163\164\162\165\040
\103\145\156\164\162\141\163\040\055\040\111\056\153\056\040\061
\062\064\061\061\060\062\064\066\061\056\060\054\006\003\125\004
\013\023\045\122\145\147\151\163\164\162\165\040\103\145\156\164
\162\157\040\123\145\162\164\151\146\151\153\141\166\151\155\157
\040\103\145\156\164\162\141\163\061\052\060\050\006\003\125\004
\003\023\041\126\111\040\122\145\147\151\163\164\162\165\040\103
\145\156\164\162\141\163\040\122\103\123\103\040\050\122\157\157
\164\103\101\051\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\310\231\362\042\307\263\207\025\056\247\313
\115\106\253\147\227\317\017\163\167\003\367\144\174\166\110\062

\040\364\243\330\131\235\024\251\037\240\036\221\016\015\255\365
\376\147\222\221\023\040\041\115\012\125\156\161\372\254\027\313
\000\375\016\120\002\063\333\251\330\275\141\032\375\340\020\127
\261\125\171\140\031\264\124\171\236\373\200\060\342\310\102\311
\122\002\010\330\254\057\303\161\101\124\002\365\201\212\022\343
\151\002\245\207\241\160\175\005\276\245\142\277\005\260\010\226
\107\157\177\223\212\255\340\254\323\102\336\275\346\217\024\345
\163\050\240\003\233\101\372\345\076\367\071\164\056\144\364\237
\113\300\365\170\231\124\153\345\025\040\374\351\062\162\100\253
\145\165\274\074\106\064\322\370\020\141\307\014\170\307\174\300
\021\121\321\005\066\373\370\234\377\055\270\345\161\055\111\360
\127\110\263\223\216\234\373\072\311\113\155\061\327\122\325\126
\351\204\056\221\324\002\035\262\200\005\201\305\200\312\051\301
\064\147\271\257\004\060\103\366\257\102\107\336\374\001\056\350
\102\234\276\262\013\024\344\064\334\335\255\123\204\172\330\003
\126\321\302\014\324\227\051\370\114\362\265\034\337\235\203\256
\137\132\045\113\242\260\050\345\277\132\013\320\234\250\234\160
\052\155\016\056\341\047\277\255\013\157\021\323\370\106\055\364
\227\104\113\312\260\310\346\066\157\042\272\216\344\122\225\026
\354\104\152\324\120\036\230\050\371\150\244\272\336\236\060\355
\242\311\122\241\311\065\212\100\341\215\233\233\375\361\106\213
\244\307\117\160\140\121\215\362\222\251\316\272\214\057\111\122
\022\147\320\365\253\004\045\100\164\003\342\330\255\241\164\130
\141\267\265\016\363\177\045\054\021\143\257\361\022\303\364\244
\163\232\144\254\356\246\006\217\362\274\234\254\050\251\134\025
\323\063\255\320\066\310\041\160\153\274\052\037\325\253\270\001
\130\166\374\073\021\115\373\362\034\110\044\021\375\115\217\031
\051\256\153\350\155\136\262\241\015\170\316\322\143\203\164\264
\315\051\114\277\233\160\210\117\022\015\105\347\276\017\145\304
\326\070\044\344\112\025\213\321\152\352\273\066\241\241\220\245
\123\310\245\326\145\002\003\001\000\001\243\201\315\060\201\312
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\057\006\010\053\006\001\005\005\007\001\003\004\043\060\041
\060\010\006\006\004\000\216\106\001\001\060\013\006\006\004\000
\216\106\001\003\002\001\012\060\010\006\006\004\000\216\106\001
\004\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\035\006\003\125\035\016\004\026\004\024\274\163\076
\057\234\221\014\273\217\315\167\231\076\314\205\344\314\130\150
\021\060\020\006\011\053\006\001\004\001\202\067\025\001\004\003
\002\001\000\060\105\006\003\125\035\040\004\076\060\074\060\072
\006\013\053\006\001\004\001\201\361\067\001\001\001\060\053\060
\051\006\010\053\006\001\005\005\007\002\001\026\035\150\164\164
\160\072\057\057\167\167\167\056\162\143\163\143\056\154\164\057
\162\145\160\157\163\151\164\157\162\171\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\031\170
\054\121\023\137\274\231\116\134\247\001\374\336\266\376\251\035
\206\061\021\173\172\231\212\263\210\222\245\140\322\004\143\071
\274\257\216\330\361\053\105\162\062\051\074\055\342\331\330\075

\164\372\107\065\207\334\020\000\066\101\075\355\252\176\262\314
\304\032\351\061\264\365\221\321\204\112\347\365\334\317\106\147
\002\231\257\270\167\372\176\355\041\157\226\043\024\161\077\320
\130\276\252\333\103\054\067\240\035\006\151\064\360\117\217\165
\356\263\322\001\273\354\034\351\217\251\211\357\370\324\033\101
\002\231\276\360\137\272\216\054\302\041\160\336\121\201\330\367
\274\270\303\063\203\303\227\312\011\163\304\351\167\310\162\364
\134\255\017\015\212\352\355\322\012\001\316\353\127\235\025\360
\051\025\357\131\234\257\254\222\202\160\014\230\330\042\235\057
\230\065\251\321\212\211\274\325\235\125\302\056\236\007\045\106
\366\222\115\120\372\075\211\362\337\223\277\223\224\320\331\257
\127\243\363\146\346\216\361\350\240\033\030\006\223\132\054\211
\015\066\304\372\040\263\334\050\365\152\356\217\061\233\131\070
\330\116\152\240\043\041\344\206\253\345\373\140\243\321\315\132
\054\102\111\246\016\125\044\045\065\375\322\072\257\153\130\246
\221\106\137\151\313\275\176\046\233\336\010\275\036\354\236\246
\370\234\165\244\100\066\225\113\042\117\306\266\175\162\121\274
\343\302\150\315\315\345\213\276\300\302\117\233\156\145\316\026
\267\010\210\307\207\336\377\062\214\313\353\102\101\254\373\327
\317\001\103\370\157\300\326\013\360\367\222\351\313\105\135\144
\261\367\312\074\273\211\010\226\311\332\016\341\161\052\017\354
\244\102\055\343\152\017\107\107\260\123\246\326\205\120\227\060
\327\214\056\137\106\042\320\254\316\074\136\234\036\162\203\375
\014\247\370\027\062\273\141\336\343\117\057\030\216\202\265\207
\033\164\005\060\112\277\152\036\110\074\124\050\261\135\235\222
\137\233\020\343\056\042\212\257\335\066\144\177\023\166\107\203
\065\225\032\224\217\365\304\123\155\071\275\325\213\365\312\317
\030\103\005\001\223\244\066\336\060\322\024\363\260\144\265\312
\316\225\367\272\164\354\212\163\076\122\323\136\123\000

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "VI Registru Centras RCSC (RootCA)"

Issuer: CN=VI Registru Centras RCSC (RootCA),OU=Registru Centro Sertifikavimo Centras,O=VI Registru Centras - I.k. 124110246,C=LT

Serial Number:03:a3:a4:57:b5:f0:f3:86:4a:11:63:e8:98:ff:16:9c

Subject: CN=VI Registru Centras RCSC (RootCA),OU=Registru Centro Sertifikavimo Centras,O=VI Registru Centras - I.k. 124110246,C=LT

Not Valid Before: Mon Jul 21 11:47:46 2008

Not Valid After: Sun Jul 21 11:47:46 2024

Fingerprint (MD5): 41:5b:95:78:0d:d1:c3:a7:dc:d9:ba:fe:e7:27:b6:14

Fingerprint (SHA1): 97:1d:34:86:fc:1e:8e:63:15:f7:c6:f2:e1:29:67:c7:24:34:22:14

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE


```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "VI Regstru Centras RCSC (RootCA)"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\227\035\064\206\374\036\216\143\025\367\306\362\341\051\147\307
\044\064\042\024
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\101\133\225\170\015\321\303\247\334\331\272\376\347\047\266\024
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\114\124
\061\055\060\053\006\003\125\004\012\023\044\126\111\040\122\145
\147\151\163\164\162\165\040\103\145\156\164\162\141\163\040\055
\040\111\056\153\056\040\061\062\064\061\061\060\062\064\066\061
\056\060\054\006\003\125\004\013\023\045\122\145\147\151\163\164
\162\165\040\103\145\156\164\162\157\040\123\145\162\164\151\146
\151\153\141\166\151\155\157\040\103\145\156\164\162\141\163\061
\052\060\050\006\003\125\004\003\023\041\126\111\040\122\145\147
\151\163\164\162\165\040\103\145\156\164\162\141\163\040\122\103
\123\103\040\050\122\157\157\164\103\101\051
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\243\244\127\265\360\363\206\112\021\143\350\230\377
\026\234
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "CCA India 2007"
# Issuer: CN=CCA India 2007,O=India PKI,C=IN
# Serial Number: 10112 (0x2780)
# Subject: CN=CCA India 2007,O=India PKI,C=IN
# Not Valid Before: Wed Jun 13 07:02:48 2007
# Not Valid After: Sat Jul 04 07:02:48 2015
# Fingerprint (MD5): 69:60:ec:be:8c:94:d7:6e:6f:2e:c4:78:2f:55:f0:83
# Fingerprint (SHA1): 97:22:6a:ae:4a:7a:64:a5:9b:d1:67:87:f2:7f:84:1c:0a:00:1f:d0

```

```

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CCA India 2007"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\072\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040

```

\120\113\111\061\027\060\025\006\003\125\004\003\023\016\103\103
\101\040\111\156\144\151\141\040\062\060\060\067
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\072\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\027\060\025\006\003\125\004\003\023\016\103\103
\101\040\111\156\144\151\141\040\062\060\060\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\047\200
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\043\060\202\002\013\240\003\002\001\002\002\002\047
\200\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\072\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\027\060\025\006\003\125\004\003\023\016\103\103
\101\040\111\156\144\151\141\040\062\060\060\067\060\036\027\015
\060\067\060\066\061\063\060\067\060\062\064\070\132\027\015\061
\065\060\067\060\064\060\067\060\062\064\070\132\060\072\061\013
\060\011\006\003\125\004\006\023\002\111\116\061\022\060\020\006
\003\125\004\012\023\011\111\156\144\151\141\040\120\113\111\061
\027\060\025\006\003\125\004\003\023\016\103\103\101\040\111\156
\144\151\141\040\062\060\060\067\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\337\217\307\312\112\234\322
\107\342\216\062\202\236\121\351\010\011\167\374\267\176\047\173
\116\135\153\370\210\157\350\013\343\300\066\233\200\351\345\060
\260\124\367\246\060\376\067\152\130\113\324\170\137\124\236\261
\076\171\075\017\023\127\342\106\225\072\035\134\141\065\202\355
\365\303\264\260\122\150\250\370\006\053\236\121\113\302\130\005
\364\313\231\147\254\232\041\055\071\320\370\317\230\210\233\037
\175\365\261\266\300\103\120\203\203\255\253\375\326\326\372\374
\365\017\306\115\247\112\005\225\236\270\132\131\061\124\015\270
\311\274\067\102\222\073\003\323\364\072\334\057\115\370\056\106
\031\255\007\032\045\153\143\125\346\366\135\315\106\333\225\111
\225\271\147\215\104\356\311\370\155\312\214\311\015\232\366\056
\147\337\171\223\307\102\070\144\052\307\121\071\244\005\226\333
\276\245\010\017\324\020\265\357\301\307\212\014\322\322\234\377
\311\061\345\121\131\015\053\100\342\211\047\366\225\333\261\344
\241\053\320\265\103\104\330\336\237\226\332\231\255\232\330\174
\334\043\220\264\005\046\322\214\355\002\003\001\000\001\243\063
\060\061\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\021\006\003\125\035\016\004\012\004\010\117\036
\300\130\047\330\270\344\060\013\006\003\125\035\017\004\004\003
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\005

```
\005\000\003\202\001\001\000\162\206\117\110\202\350\305\360\331
\270\260\107\063\031\357\313\006\201\250\266\254\207\303\271\111
\225\222\052\201\130\327\053\216\242\270\047\240\114\023\120\235
\034\265\161\114\142\121\210\226\014\162\377\013\140\304\065\341
\370\045\156\271\301\341\247\126\072\376\206\343\115\300\253\332
\324\052\160\233\255\132\235\330\045\321\272\205\337\302\033\353
\064\326\010\167\003\060\144\177\326\366\021\011\215\255\176\236
\171\177\233\233\243\224\104\340\164\267\267\211\312\354\004\137
\213\317\342\353\343\106\333\066\367\235\061\256\206\164\251\235
\355\334\160\117\323\063\134\060\206\040\256\062\301\054\217\047
\064\266\167\136\000\032\222\212\276\210\331\070\133\324\303\132
\270\017\223\044\326\052\256\060\110\101\366\143\045\317\115\207
\051\236\263\253\364\364\254\107\204\131\052\317\375\355\257\224
\015\120\000\047\063\163\356\167\346\343\111\270\247\114\046\301
\316\221\152\027\262\322\101\265\251\232\335\330\115\325\343\020
\265\322\075\305\364\321\014\335\274\254\227\322\227\130\350\130
\026\005\232\306\255\275\152
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "CCA India 2007"
# Issuer: CN=CCA India 2007,O=India PKI,C=IN
# Serial Number: 10112 (0x2780)
# Subject: CN=CCA India 2007,O=India PKI,C=IN
# Not Valid Before: Wed Jun 13 07:02:48 2007
# Not Valid After: Sat Jul 04 07:02:48 2015
# Fingerprint (MD5): 69:60:ec:be:8c:94:d7:6e:6f:2e:c4:78:2f:55:f0:83
# Fingerprint (SHA1): 97:22:6a:ae:4a:7a:64:a5:9b:d1:67:87:f2:7f:84:1c:0a:00:1f:d0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CCA India 2007"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\227\042\152\256\112\172\144\245\233\321\147\207\362\177\204\034
\012\000\037\320
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\151\140\354\276\214\224\327\156\157\056\304\170\057\125\360\203
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\072\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\022\060\020\006\003\125\004\012\023\011\111\156\144\151\141\040
\120\113\111\061\027\060\025\006\003\125\004\003\023\016\103\103
\101\040\111\156\144\151\141\040\062\060\060\067
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\047\200
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Autoridade Certificadora Raiz Brasileira v1"
# Issuer: CN=Autoridade Certificadora Raiz Brasileira v1,OU=Instituto Nacional de Tecnologia da Informacao -
ITI,O=ICP-Brasil,C=BR
# Serial Number: 1 (0x1)
# Subject: CN=Autoridade Certificadora Raiz Brasileira v1,OU=Instituto Nacional de Tecnologia da Informacao -
ITI,O=ICP-Brasil,C=BR
# Not Valid Before: Tue Jul 29 19:17:10 2008
# Not Valid After: Thu Jul 29 19:17:10 2021
# Fingerprint (MD5): 93:f1:ad:34:0b:2b:e7:a8:54:60:e2:73:8c:a4:94:31
# Fingerprint (SHA1): 70:5d:2b:45:65:c7:04:7a:54:06:94:a7:9a:f7:ab:b8:42:bd:c1:61
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridade Certificadora Raiz Brasileira v1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\227\061\013\060\011\006\003\125\004\006\023\002\102\122
\061\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102
\162\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064
\111\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156
\141\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141
\040\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055
\040\111\124\111\061\064\060\062\006\003\125\004\003\023\053\101
\165\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146
\151\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141
\163\151\154\145\151\162\141\040\166\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\227\061\013\060\011\006\003\125\004\006\023\002\102\122
\061\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102
\162\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064
\111\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156
\141\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141
\040\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055
\040\111\124\111\061\064\060\062\006\003\125\004\003\023\053\101
\165\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146

```

\151\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141
\163\151\154\145\151\162\141\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\200\060\202\003\150\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\227\061\013\060\011\006\003\125\004\006\023\002\102\122\061
\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102\162
\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064\111
\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156\141
\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141\040
\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055\040
\111\124\111\061\064\060\062\006\003\125\004\003\023\053\101\165
\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146\151
\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141\163
\151\154\145\151\162\141\040\166\061\060\036\027\015\060\070\060
\067\062\071\061\071\061\067\061\060\132\027\015\062\061\060\067
\062\071\061\071\061\067\061\060\132\060\201\227\061\013\060\011
\006\003\125\004\006\023\002\102\122\061\023\060\021\006\003\125
\004\012\023\012\111\103\120\055\102\162\141\163\151\154\061\075
\060\073\006\003\125\004\013\023\064\111\156\163\164\151\164\165
\164\157\040\116\141\143\151\157\156\141\154\040\144\145\040\124
\145\143\156\157\154\157\147\151\141\040\144\141\040\111\156\146
\157\162\155\141\143\141\157\040\055\040\111\124\111\061\064\060
\062\006\003\125\004\003\023\053\101\165\164\157\162\151\144\141
\144\145\040\103\145\162\164\151\146\151\143\141\144\157\162\141
\040\122\141\151\172\040\102\162\141\163\151\154\145\151\162\141
\040\166\061\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\316\034\350\276\223\064\316\311\261\344\124\356
\011\366\354\244\010\205\240\077\306\212\306\160\060\247\200\214
\355\076\001\124\007\214\031\043\073\237\273\307\264\213\040\261
\342\367\101\026\055\136\207\146\272\260\007\335\157\321\077\074
\332\310\131\063\235\025\260\237\222\310\126\124\130\212\072\047
\242\064\036\233\170\265\267\315\345\233\351\300\056\022\236\160
\170\007\372\216\362\114\300\370\345\162\174\036\251\251\140\003
\127\046\107\333\203\166\303\316\310\022\273\321\377\357\256\263
\142\175\232\240\344\274\156\175\001\056\064\140\334\207\340\137
\177\005\160\134\060\025\054\302\165\243\077\120\003\146\043\146
\054\347\164\167\170\333\146\027\337\371\037\015\202\150\217\165
\207\367\351\061\172\123\117\317\130\142\273\100\242\064\317\300
\160\204\120\227\025\332\040\113\351\373\114\102\255\053\150\216
\243\331\255\005\142\376\010\164\304\350\301\314\205\023\316\255
\050\060\120\335\336\300\201\301\111\260\136\056\046\070\351\143
\004\063\167\265\200\166\315\052\177\362\074\254\135\223\102\071

\364\242\163\105\002\003\001\000\001\243\201\324\060\201\321\060
\116\006\003\125\035\040\004\107\060\105\060\103\006\005\140\114
\001\001\000\060\072\060\070\006\010\053\006\001\005\005\007\002
\001\026\054\150\164\164\160\072\057\057\141\143\162\141\151\172
\056\151\143\160\142\162\141\163\151\154\056\147\157\166\056\142
\162\057\104\120\103\141\143\162\141\151\172\056\160\144\146\060
\077\006\003\125\035\037\004\070\060\066\060\064\240\062\240\060
\206\056\150\164\164\160\072\057\057\141\143\162\141\151\172\056
\151\143\160\142\162\141\163\151\154\056\147\157\166\056\142\162
\057\114\103\122\141\143\162\141\151\172\166\061\056\143\162\154
\060\035\006\003\125\035\016\004\026\004\024\102\262\054\134\164
\001\007\276\233\377\125\063\073\356\051\273\135\221\277\006\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\131\154\212\166\351\031\161\127\203\376\247\364
\172\017\236\201\320\317\007\034\014\043\351\044\015\121\313\063
\350\052\011\303\172\377\016\243\200\206\140\301\160\227\340\300
\012\125\335\244\145\114\217\247\107\260\127\267\363\253\304\303
\031\343\230\354\015\260\033\121\221\311\331\011\326\351\152\263
\347\014\260\262\222\207\373\216\115\025\354\022\024\031\170\014
\142\352\024\071\030\012\305\125\333\123\205\334\173\050\372\025
\161\243\312\164\045\202\017\147\047\064\327\256\122\023\002\373
\305\357\232\200\045\245\122\236\071\016\355\072\364\170\007\137
\325\050\172\012\112\365\320\303\147\367\214\130\027\157\012\000
\243\046\020\264\140\042\072\112\110\245\332\340\251\204\336\103
\333\237\103\247\077\050\004\107\222\057\367\347\144\165\041\322
\117\201\316\252\076\144\016\343\016\255\125\232\176\224\233\064
\301\320\256\151\116\036\243\331\263\207\127\332\160\302\132\175
\207\315\371\277\067\336\355\126\065\367\267\042\016\117\222\270
\077\010\337\234\236\230\136\362\157\271\372\233\054\370\315\105
\330\162\262\040

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Autoridade Certificadora Raiz Brasileira v1"
Issuer: CN=Autoridade Certificadora Raiz Brasileira v1,OU=Instituto Nacional de Tecnologia da Informacao -
ITI,O=ICP-Brasil,C=BR
Serial Number: 1 (0x1)
Subject: CN=Autoridade Certificadora Raiz Brasileira v1,OU=Instituto Nacional de Tecnologia da Informacao -
ITI,O=ICP-Brasil,C=BR
Not Valid Before: Tue Jul 29 19:17:10 2008
Not Valid After: Thu Jul 29 19:17:10 2021
Fingerprint (MD5): 93:f1:ad:34:0b:2b:e7:a8:54:60:e2:73:8c:a4:94:31
Fingerprint (SHA1): 70:5d:2b:45:65:c7:04:7a:54:06:94:a7:9a:f7:ab:b8:42:bd:c1:61

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridade Certificadora Raiz Brasileira v1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\160\135\053\105\145\307\004\172\124\006\224\247\232\367\253\270
\102\275\301\141
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\223\361\255\064\013\053\347\250\124\140\342\163\214\244\224\061
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\227\061\013\060\011\006\003\125\004\006\023\002\102\122
\061\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102
\162\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064
\111\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156
\141\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141
\040\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055
\040\111\124\111\061\064\060\062\006\003\125\004\003\023\053\101
\165\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146
\151\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141
\163\151\154\145\151\162\141\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "ipsCA Global CA Root"
# Issuer: 1.2.840.113549.1.9.1=global01@ipsca.com,CN=ipsCA Global CA Root,OU=ipsCA,O=IPS Certification
Authority s.l. ipsCA,L=Madrid,ST=Madrid,C=ES
# Serial Number: 0 (0x0)
# Subject: 1.2.840.113549.1.9.1=global01@ipsca.com,CN=ipsCA Global CA Root,OU=ipsCA,O=IPS Certification
Authority s.l. ipsCA,L=Madrid,ST=Madrid,C=ES
# Not Valid Before: Mon Sep 07 14:38:44 2009
# Not Valid After: Tue Dec 25 14:38:44 2029
# Fingerprint (MD5): 25:2a:c6:c5:89:68:39:f9:55:72:02:16:5e:a3:9e:d2
# Fingerprint (SHA1): 3c:71:d7:0e:35:a5:da:a8:b2:e3:81:2d:c3:67:74:17:f5:99:0d:f3
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ipsCA Global CA Root"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\262\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\017\060\015\006\003\125\004\010\023\006\115\141\144\162\151
\144\061\017\060\015\006\003\125\004\007\023\006\115\141\144\162
\151\144\061\057\060\055\006\003\125\004\012\023\046\111\120\123
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\163\056\154\056\040\151\160
\163\103\101\061\016\060\014\006\003\125\004\013\023\005\151\160
\163\103\101\061\035\060\033\006\003\125\004\003\023\024\151\160
\163\103\101\040\107\154\157\142\141\154\040\103\101\040\122\157
\157\164\061\041\060\037\006\011\052\206\110\206\367\015\001\011
\001\026\022\147\154\157\142\141\154\060\061\100\151\160\163\143
\141\056\143\157\155

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\262\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\017\060\015\006\003\125\004\010\023\006\115\141\144\162\151
\144\061\017\060\015\006\003\125\004\007\023\006\115\141\144\162
\151\144\061\057\060\055\006\003\125\004\012\023\046\111\120\123
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\163\056\154\056\040\151\160
\163\103\101\061\016\060\014\006\003\125\004\013\023\005\151\160
\163\103\101\061\035\060\033\006\003\125\004\003\023\024\151\160
\163\103\101\040\107\154\157\142\141\154\040\103\101\040\122\157
\157\164\061\041\060\037\006\011\052\206\110\206\367\015\001\011
\001\026\022\147\154\157\142\141\154\060\061\100\151\160\163\143
\141\056\143\157\155

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\007\060\202\004\357\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\262\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\017\060\015\006\003\125\004\010\023\006\115\141\144\162\151\144
\061\017\060\015\006\003\125\004\007\023\006\115\141\144\162\151
\144\061\057\060\055\006\003\125\004\012\023\046\111\120\123\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165
\164\150\157\162\151\164\171\040\163\056\154\056\040\151\160\163
\103\101\061\016\060\014\006\003\125\004\013\023\005\151\160\163
\103\101\061\035\060\033\006\003\125\004\003\023\024\151\160\163
\103\101\040\107\154\157\142\141\154\040\103\101\040\122\157\157
\164\061\041\060\037\006\011\052\206\110\206\367\015\001\011\001
\026\022\147\154\157\142\141\154\060\061\100\151\160\163\143\141
\056\143\157\155\060\036\027\015\060\071\060\071\060\067\061\064

\063\070\064\064\132\027\015\062\071\061\062\062\065\061\064\063
\070\064\064\132\060\201\262\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\017\060\015\006\003\125\004\010\023\006\115
\141\144\162\151\144\061\017\060\015\006\003\125\004\007\023\006
\115\141\144\162\151\144\061\057\060\055\006\003\125\004\012\023
\046\111\120\123\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\163\056\154
\056\040\151\160\163\103\101\061\016\060\014\006\003\125\004\013
\023\005\151\160\163\103\101\061\035\060\033\006\003\125\004\003
\023\024\151\160\163\103\101\040\107\154\157\142\141\154\040\103
\101\040\122\157\157\164\061\041\060\037\006\011\052\206\110\206
\367\015\001\011\001\026\022\147\154\157\142\141\154\060\061\100
\151\160\163\143\141\056\143\157\155\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\247\357\314\200\060\260
\221\044\117\260\150\370\303\312\055\025\070\125\130\202\342\070
\143\260\367\243\222\157\203\270\260\136\260\214\254\124\261\167
\320\120\340\227\263\220\255\212\263\037\071\053\105\126\367\252
\342\337\174\262\354\157\123\057\232\313\320\346\146\313\311\023
\350\162\342\264\315\061\127\207\022\265\223\350\372\162\316\352
\107\362\214\264\260\143\327\004\000\267\144\066\071\227\350\225
\361\210\371\161\015\003\047\214\141\317\010\203\226\117\203\305
\116\350\134\370\006\160\361\002\252\034\036\251\310\252\176\347
\135\315\215\074\024\157\147\320\033\251\043\110\213\041\050\072
\212\114\346\021\061\371\041\056\262\147\146\306\051\156\224\223
\317\100\226\374\260\075\277\262\264\223\277\126\161\266\245\101
\207\260\130\265\131\043\050\111\270\230\371\120\036\055\025\050
\013\114\254\111\321\204\251\233\232\347\162\124\267\070\320\333
\311\376\251\163\325\155\020\315\216\165\353\376\227\375\200\074
\374\264\330\110\364\231\106\013\210\024\244\266\056\333\114\140
\364\041\301\154\200\225\024\325\257\325\002\003\001\000\001\243
\202\002\044\060\202\002\040\060\035\006\003\125\035\016\004\026
\004\024\025\246\226\200\261\025\113\061\303\302\234\366\347\023
\013\113\363\030\315\206\060\201\337\006\003\125\035\043\004\201
\327\060\201\324\200\024\025\246\226\200\261\025\113\061\303\302
\234\366\347\023\013\113\363\030\315\206\241\201\270\244\201\265
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\017\060\015\006\003\125\004\010\023\006\115\141\144\162\151
\144\061\017\060\015\006\003\125\004\007\023\006\115\141\144\162
\151\144\061\057\060\055\006\003\125\004\012\023\046\111\120\123
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\163\056\154\056\040\151\160
\163\103\101\061\016\060\014\006\003\125\004\013\023\005\151\160
\163\103\101\061\035\060\033\006\003\125\004\003\023\024\151\160
\163\103\101\040\107\154\157\142\141\154\040\103\101\040\122\157
\157\164\061\041\060\037\006\011\052\206\110\206\367\015\001\011
\001\026\022\147\154\157\142\141\154\060\061\100\151\160\163\143
\141\056\143\157\155\202\001\000\060\014\006\003\125\035\023\004

\005\060\003\001\001\377\060\013\006\003\125\035\017\004\004\003
\002\001\006\060\107\006\003\125\035\045\004\100\060\076\006\010
\053\006\001\005\005\007\003\001\006\010\053\006\001\005\005\007
\003\002\006\010\053\006\001\005\005\007\003\003\006\010\053\006
\001\005\005\007\003\004\006\010\053\006\001\005\005\007\003\010
\006\012\053\006\001\004\001\202\067\012\003\004\060\035\006\003
\125\035\021\004\026\060\024\201\022\147\154\157\142\141\154\060
\061\100\151\160\163\143\141\056\143\157\155\060\035\006\003\125
\035\022\004\026\060\024\201\022\147\154\157\142\141\154\060\061
\100\151\160\163\143\141\056\143\157\155\060\101\006\003\125\035
\037\004\072\060\070\060\066\240\064\240\062\206\060\150\164\164
\160\072\057\057\143\162\154\147\154\157\142\141\154\060\061\056
\151\160\163\143\141\056\143\157\155\057\143\162\154\057\143\162
\154\147\154\157\142\141\154\060\061\056\143\162\154\060\070\006
\010\053\006\001\005\005\007\001\001\004\054\060\052\060\050\006
\010\053\006\001\005\005\007\060\001\206\034\150\164\164\160\072
\057\057\143\162\154\147\154\157\142\141\154\060\061\056\151\160
\163\143\141\056\143\157\155\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\030\364\256\376\200
\017\216\301\167\157\242\132\107\110\237\043\125\241\123\153\371
\135\247\060\245\044\276\103\057\370\301\321\127\371\076\054\200
\045\314\106\251\066\363\111\133\035\366\174\327\143\263\115\076
\170\366\247\264\002\167\370\171\015\076\152\313\030\140\270\375
\000\257\014\335\124\343\124\217\042\075\363\020\157\021\015\265
\036\172\215\047\314\010\270\133\303\270\032\137\053\247\140\077
\000\034\367\017\134\102\146\144\236\207\022\200\160\211\340\372
\127\050\016\116\037\020\057\331\005\200\266\200\057\034\151\360
\366\266\145\064\005\157\312\331\076\370\324\135\067\062\307\270
\053\314\377\163\223\000\161\340\001\310\252\103\275\251\361\316
\372\200\371\361\103\022\221\246\145\345\140\007\115\107\272\053
\057\004\366\112\205\051\210\145\020\311\262\123\142\234\154\233
\140\134\032\033\323\256\305\035\162\231\006\377\005\314\206\046
\163\264\324\124\005\335\036\153\000\073\267\211\350\343\221\002
\040\022\353\357\351\376\012\051\043\201\043\243\000\332\160\314
\222\137\067\043\320\034\173\065\134\003\172

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "ipsCA Global CA Root"

Issuer: 1.2.840.113549.1.9.1=global01@ipsca.com,CN=ipsCA Global CA Root,OU=ipsCA,O=IPS Certification
Authority s.l. ipsCA,L=Madrid,ST=Madrid,C=ES

Serial Number: 0 (0x0)

Subject: 1.2.840.113549.1.9.1=global01@ipsca.com,CN=ipsCA Global CA Root,OU=ipsCA,O=IPS Certification
Authority s.l. ipsCA,L=Madrid,ST=Madrid,C=ES

Not Valid Before: Mon Sep 07 14:38:44 2009

```
# Not Valid After: Tue Dec 25 14:38:44 2029
# Fingerprint (MD5): 25:2a:c6:c5:89:68:39:f9:55:72:02:16:5e:a3:9e:d2
# Fingerprint (SHA1): 3c:71:d7:0e:35:a5:da:a8:b2:e3:81:2d:c3:67:74:17:f5:99:0d:f3
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ipsCA Global CA Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\074\161\327\016\065\245\332\250\262\343\201\055\303\147\164\027
\365\231\015\363
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\045\052\306\305\211\150\071\371\125\162\002\026\136\243\236\322
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\017\060\015\006\003\125\004\010\023\006\115\141\144\162\151
\144\061\017\060\015\006\003\125\004\007\023\006\115\141\144\162
\151\144\061\057\060\055\006\003\125\004\012\023\046\111\120\123
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\163\056\154\056\040\151\160
\163\103\101\061\016\060\014\006\003\125\004\013\023\005\151\160
\163\103\101\061\035\060\033\006\003\125\004\003\023\024\151\160
\163\103\101\040\107\154\157\142\141\154\040\103\101\040\122\157
\157\164\061\041\060\037\006\011\052\206\110\206\367\015\001\011
\001\026\022\147\154\157\142\141\154\060\061\100\151\160\163\143
\141\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "ipsCA Main CA Root"
# Issuer: 1.2.840.113549.1.9.1=main01@ipsca.com,CN=ipsCA Main CA Root,OU=ipsCA,O=IPS Certification
Authority s.l. ipsCA,L=Madrid,ST=Madrid,C=ES
# Serial Number: 0 (0x0)
# Subject: 1.2.840.113549.1.9.1=main01@ipsca.com,CN=ipsCA Main CA Root,OU=ipsCA,O=IPS Certification
Authority s.l. ipsCA,L=Madrid,ST=Madrid,C=ES
# Not Valid Before: Mon Sep 07 14:54:36 2009
# Not Valid After: Tue Dec 25 14:54:36 2029
# Fingerprint (MD5): 30:c9:08:dd:d7:3e:63:a4:09:28:14:c7:4e:b9:7e:2c
# Fingerprint (SHA1): cf:e4:31:3d:ba:05:b8:a7:c3:00:63:99:5a:9e:b7:c2:47:ad:8f:d5
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ipsCA Main CA Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\017\060\015\006\003\125\004\010\023\006\115\141\144\162\151
\144\061\017\060\015\006\003\125\004\007\023\006\115\141\144\162
\151\144\061\057\060\055\006\003\125\004\012\023\046\111\120\123
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\163\056\154\056\040\151\160
\163\103\101\061\016\060\014\006\003\125\004\013\023\005\151\160
\163\103\101\061\033\060\031\006\003\125\004\003\023\022\151\160
\163\103\101\040\115\141\151\156\040\103\101\040\122\157\157\164
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026
\020\155\141\151\156\060\061\100\151\160\163\143\141\056\143\157
\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\017\060\015\006\003\125\004\010\023\006\115\141\144\162\151
\144\061\017\060\015\006\003\125\004\007\023\006\115\141\144\162
\151\144\061\057\060\055\006\003\125\004\012\023\046\111\120\123
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\163\056\154\056\040\151\160
\163\103\101\061\016\060\014\006\003\125\004\013\023\005\151\160
\163\103\101\061\033\060\031\006\003\125\004\003\023\022\151\160
\163\103\101\040\115\141\151\156\040\103\101\040\122\157\157\164
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026
\020\155\141\151\156\060\061\100\151\160\163\143\141\056\143\157
\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\356\060\202\004\326\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\256\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\017\060\015\006\003\125\004\010\023\006\115\141\144\162\151\144
\061\017\060\015\006\003\125\004\007\023\006\115\141\144\162\151
\144\061\057\060\055\006\003\125\004\012\023\046\111\120\123\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165
\164\150\157\162\151\164\171\040\163\056\154\056\040\151\160\163
\103\101\061\016\060\014\006\003\125\004\013\023\005\151\160\163
```

\103\101\061\033\060\031\006\003\125\004\003\023\022\151\160\163
\103\101\040\115\141\151\156\040\103\101\040\122\157\157\164\061
\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026\020
\155\141\151\156\060\061\100\151\160\163\143\141\056\143\157\155
\060\036\027\015\060\071\060\071\060\067\061\064\065\064\063\066
\132\027\015\062\071\061\062\062\065\061\064\065\064\063\066\132
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\017\060\015\006\003\125\004\010\023\006\115\141\144\162\151
\144\061\017\060\015\006\003\125\004\007\023\006\115\141\144\162
\151\144\061\057\060\055\006\003\125\004\012\023\046\111\120\123
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\163\056\154\056\040\151\160
\163\103\101\061\016\060\014\006\003\125\004\013\023\005\151\160
\163\103\101\061\033\060\031\006\003\125\004\003\023\022\151\160
\163\103\101\040\115\141\151\156\040\103\101\040\122\157\157\164
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026
\020\155\141\151\156\060\061\100\151\160\163\143\141\056\143\157
\155\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\225\060\045\262\175\042\114\332\077\026\302\147\337\145
\314\353\105\222\107\145\236\254\166\317\154\152\311\316\003\315
\243\303\070\162\343\155\245\153\245\122\207\346\142\245\373\001
\175\357\147\104\313\266\101\357\013\140\175\112\375\042\355\241
\343\364\235\262\102\140\316\066\015\051\131\171\356\142\007\172
\271\023\115\304\143\065\227\266\246\365\006\214\355\031\145\077
\214\046\064\177\356\350\051\226\213\253\174\166\200\024\304\047
\121\234\143\277\052\224\206\030\217\220\236\205\375\032\331\164
\160\320\177\354\035\244\054\172\121\305\201\024\253\125\263\142
\225\203\017\203\110\150\206\267\357\077\006\213\216\245\150\302
\243\131\246\231\120\113\015\274\134\162\025\340\262\105\213\036
\131\311\052\117\133\326\242\277\301\177\275\250\246\242\175\174
\051\004\341\033\272\102\301\154\316\331\273\272\124\060\075\047
\207\301\234\270\017\262\333\137\104\200\232\152\103\115\026\323
\334\304\160\250\216\230\150\034\342\062\303\261\107\040\213\013
\152\212\237\377\125\301\217\275\166\171\056\170\233\060\010\160
\056\157\002\003\001\000\001\243\202\002\023\060\202\002\017\060
\035\006\003\125\035\016\004\026\004\024\141\355\071\215\153\074
\341\066\306\317\333\101\374\033\103\121\127\313\115\153\060\201
\333\006\003\125\035\043\004\201\323\060\201\320\200\024\141\355
\071\215\153\074\341\066\306\317\333\101\374\033\103\121\127\313
\115\153\241\201\264\244\201\261\060\201\256\061\013\060\011\006
\003\125\004\006\023\002\105\123\061\017\060\015\006\003\125\004
\010\023\006\115\141\144\162\151\144\061\017\060\015\006\003\125
\004\007\023\006\115\141\144\162\151\144\061\057\060\055\006\003
\125\004\012\023\046\111\120\123\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\163\056\154\056\040\151\160\163\103\101\061\016\060\014\006
\003\125\004\013\023\005\151\160\163\103\101\061\033\060\031\006

\003\125\004\003\023\022\151\160\163\103\101\040\115\141\151\156
\040\103\101\040\122\157\157\164\061\037\060\035\006\011\052\206
\110\206\367\015\001\011\001\026\020\155\141\151\156\060\061\100
\151\160\163\143\141\056\143\157\155\202\001\000\060\014\006\003
\125\035\023\004\005\060\003\001\001\377\060\013\006\003\125\035
\017\004\004\003\002\001\006\060\107\006\003\125\035\045\004\100
\060\076\006\010\053\006\001\005\005\007\003\001\006\010\053\006
\001\005\005\007\003\002\006\010\053\006\001\005\005\007\003\003
\006\010\053\006\001\005\005\007\003\004\006\010\053\006\001\005
\005\007\003\010\006\012\053\006\001\004\001\202\067\012\003\004
\060\033\006\003\125\035\021\004\024\060\022\201\020\155\141\151
\156\060\061\100\151\160\163\143\141\056\143\157\155\060\033\006
\003\125\035\022\004\024\060\022\201\020\155\141\151\156\060\061
\100\151\160\163\143\141\056\143\157\155\060\072\006\003\125\035
\037\004\063\060\061\060\057\240\055\240\053\206\051\150\164\164
\160\072\057\057\143\162\154\155\141\151\156\060\061\056\151\160
\163\143\141\056\143\157\155\057\143\162\154\057\155\141\151\156
\060\061\056\143\162\154\060\066\006\010\053\006\001\005\005\007
\001\001\004\052\060\050\060\046\006\010\053\006\001\005\005\007
\060\001\206\032\150\164\164\160\072\057\057\143\162\154\155\141
\151\156\060\061\056\151\160\163\143\141\056\143\157\155\060\015
\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001
\001\000\106\234\017\142\266\332\075\034\151\076\276\042\301\351
\176\040\357\311\356\372\306\020\236\145\135\117\270\104\263\324
\041\151\126\117\162\176\142\336\233\111\207\235\343\310\140\255
\157\260\006\067\035\100\341\175\072\320\023\326\227\342\207\166
\367\037\115\323\203\055\012\271\210\131\322\041\317\346\300\166
\217\265\111\153\371\074\315\136\053\251\351\244\051\023\317\012
\372\235\223\055\333\070\341\162\052\015\073\057\160\227\275\331
\263\004\261\242\156\372\157\204\317\140\161\073\232\343\205\330
\177\270\015\062\033\240\372\005\144\026\150\044\073\233\370\314
\052\000\021\177\300\052\334\075\351\051\224\161\002\243\030\156
\054\014\060\005\316\230\226\115\032\366\121\143\241\106\364\057
\217\121\037\075\256\207\122\375\300\073\223\310\214\162\321\161
\310\231\352\175\244\014\214\237\061\207\172\367\333\225\360\277
\157\105\317\254\205\337\321\106\136\145\102\223\112\020\027\164
\030\005\002\132\114\222\067\341\342\055\103\012\272\232\252\104
\114\207\315\304\224\334\157\033\152\307\022\222\144\267\000\370
\045\115

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "ipsCA Main CA Root"

Issuer: 1.2.840.113549.1.9.1=main01@ipsca.com,CN=ipsCA Main CA Root,OU=ipsCA,O=IPS Certification

Authority s.l. ipsCA,L=Madrid,ST=Madrid,C=ES

```
# Serial Number: 0 (0x0)
# Subject: 1.2.840.113549.1.9.1=main01@ipsca.com,CN=ipsCA Main CA Root,OU=ipsCA,O=IPS Certification
Authority s.l. ipsCA,L=Madrid,ST=Madrid,C=ES
# Not Valid Before: Mon Sep 07 14:54:36 2009
# Not Valid After: Tue Dec 25 14:54:36 2029
# Fingerprint (MD5): 30:c9:08:dd:d7:3e:63:a4:09:28:14:c7:4e:b9:7e:2c
# Fingerprint (SHA1): cf:e4:31:3d:ba:05:b8:a7:c3:00:63:99:5a:9e:b7:c2:47:ad:8f:d5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ipsCA Main CA Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\317\344\061\075\272\005\270\247\303\000\143\231\132\236\267\302
\107\255\217\325
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\060\311\010\335\327\076\143\244\011\050\024\307\116\271\176\054
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\017\060\015\006\003\125\004\010\023\006\115\141\144\162\151
\144\061\017\060\015\006\003\125\004\007\023\006\115\141\144\162
\151\144\061\057\060\055\006\003\125\004\012\023\046\111\120\123
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\163\056\154\056\040\151\160
\163\103\101\061\016\060\014\006\003\125\004\013\023\005\151\160
\163\103\101\061\033\060\031\006\003\125\004\003\023\022\151\160
\163\103\101\040\115\141\151\156\040\103\101\040\122\157\157\164
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026
\020\155\141\151\156\060\061\100\151\160\163\143\141\056\143\157
\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Actalis Authentication CA G1"
# Issuer: CN=Actalis Authentication CA G1,O=Actalis S.p.A./03358520967,L=Milano,C=IT
# Serial Number: 1 (0x1)
# Subject: CN=Actalis Authentication CA G1,O=Actalis S.p.A./03358520967,L=Milano,C=IT
# Not Valid Before: Tue Jun 23 14:06:00 2009
# Not Valid After: Sat Jun 25 14:06:00 2022
```

```
# Fingerprint (MD5): c2:2a:59:ab:cf:15:2f:4c:f7:e6:31:a3:16:ae:84:0c
# Fingerprint (SHA1): 91:58:c5:ef:98:73:01:a8:90:3c:fd:ab:03:d7:2d:a1:d8:89:09:c9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication CA G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\152\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\017\060\015\006\003\125\004\007\014\006\115\151\154\141\156\157
\061\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154
\151\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065
\062\060\071\066\067\061\045\060\043\006\003\125\004\003\014\034
\101\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151
\143\141\164\151\157\156\040\103\101\040\107\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\152\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\017\060\015\006\003\125\004\007\014\006\115\151\154\141\156\157
\061\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154
\151\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065
\062\060\071\066\067\061\045\060\043\006\003\125\004\003\014\034
\101\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151
\143\141\164\151\157\156\040\103\101\040\107\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\224\060\202\002\174\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\152\061\013\060\011\006\003\125\004\006\023\002\111\124\061\017
\060\015\006\003\125\004\007\014\006\115\151\154\141\156\157\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\045\060\043\006\003\125\004\003\014\034\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\103\101\040\107\061\060\036\027\015\060
\071\060\066\062\063\061\064\060\066\060\060\132\027\015\062\062
\060\066\062\065\061\064\060\066\060\060\132\060\152\061\013\060
\011\006\003\125\004\006\023\002\111\124\061\017\060\015\006\003
\125\004\007\014\006\115\151\154\141\156\157\061\043\060\041\006
\003\125\004\012\014\032\101\143\164\141\154\151\163\040\123\056
\160\056\101\056\057\060\063\063\065\070\065\062\060\071\066\067
\061\045\060\043\006\003\125\004\003\014\034\101\143\164\141\154
\151\163\040\101\165\164\150\145\156\164\151\143\141\164\151\157
```


\156\040\103\101\040\107\061\060\202\001\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060
\202\001\012\002\202\001\001\000\303\034\206\064\077\047\122\102
\140\272\053\140\320\041\053\311\327\351\100\165\072\154\130\017
\043\073\317\206\076\324\144\253\156\332\352\310\052\330\225\105
\337\311\034\322\045\222\236\020\230\132\213\161\151\300\225\351
\366\153\150\334\367\266\304\015\376\156\365\160\073\301\244\250
\117\040\242\047\013\237\361\022\165\174\317\256\177\136\313\170
\002\130\050\327\057\252\333\240\256\164\075\176\253\366\351\162
\241\052\317\326\220\140\337\340\240\065\312\300\333\004\304\007
\126\374\146\165\214\216\172\023\241\074\006\153\032\346\177\071
\234\210\344\204\157\242\342\177\153\237\354\001\252\322\304\313
\262\354\232\075\270\027\030\254\037\140\231\063\346\353\005\335
\314\362\151\147\260\016\276\050\044\103\313\055\271\107\204\031
\371\352\344\361\365\150\364\237\307\173\120\121\257\242\374\157
\167\210\061\277\222\333\177\234\305\265\254\241\010\230\347\152
\063\376\321\273\000\341\267\005\010\257\363\246\126\210\066\075
\343\212\112\342\015\235\200\206\146\237\324\302\243\120\272\034
\022\327\207\212\061\112\270\025\002\003\001\000\001\243\105\060
\103\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\022\006\003\125\035\023\001\001\377\004\010\060\006\001
\001\377\002\001\000\060\035\006\003\125\035\016\004\026\004\024
\001\273\326\233\126\264\176\346\305\130\335\054\230\364\312\162
\366\137\063\206\060\015\006\011\052\206\110\206\367\015\001\001
\005\005\000\003\202\001\001\000\241\040\326\313\242\064\155\074
\156\341\125\322\112\320\331\272\262\067\121\210\167\047\356\002
\110\223\105\101\342\165\121\362\031\224\011\240\363\270\175\272
\003\200\043\240\045\357\001\031\265\331\032\172\055\343\102\212
\261\206\061\017\226\354\146\204\362\316\043\022\106\226\153\061
\136\006\272\257\243\122\252\102\040\250\321\256\252\233\337\304
\027\236\123\160\001\264\251\032\332\150\310\143\017\266\132\163
\123\321\151\021\006\023\122\347\153\250\005\061\267\260\374\207
\106\305\165\210\201\361\137\170\002\347\237\255\234\273\124\355
\137\231\152\067\325\353\125\263\052\300\103\140\121\334\264\161
\222\046\243\017\314\172\075\334\300\102\211\027\051\010\147\124
\144\305\371\250\104\274\204\161\130\226\075\147\127\177\273\254
\220\263\161\042\277\076\272\254\146\046\105\020\263\360\037\072
\072\150\245\120\065\312\264\027\221\006\001\054\367\015\260\160
\262\133\126\165\271\167\231\300\331\225\205\002\055\163\146\007
\311\117\231\021\356\133\053\250\343\150\043\005\250\363\004\017
\006\273\037\011\216\306\133\035

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Actalis Authentication CA G1"

```

# Issuer: CN=Actalis Authentication CA G1,O=Actalis S.p.A./03358520967,L=Milano,C=IT
# Serial Number: 1 (0x1)
# Subject: CN=Actalis Authentication CA G1,O=Actalis S.p.A./03358520967,L=Milano,C=IT
# Not Valid Before: Tue Jun 23 14:06:00 2009
# Not Valid After: Sat Jun 25 14:06:00 2022
# Fingerprint (MD5): c2:2a:59:ab:cf:15:2f:4c:f7:e6:31:a3:16:ae:84:0c
# Fingerprint (SHA1): 91:58:c5:ef:98:73:01:a8:90:3c:fd:ab:03:d7:2d:a1:d8:89:09:c9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication CA G1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\221\130\305\357\230\163\001\250\220\074\375\253\003\327\055\241
\330\211\011\311
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\302\052\131\253\317\025\057\114\367\346\061\243\026\256\204\014
END
CKA_ISSUER MULTILINE_OCTAL
\060\152\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\017\060\015\006\003\125\004\007\014\006\115\151\154\141\156\157
\061\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154
\151\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065
\062\060\071\066\067\061\045\060\043\006\003\125\004\003\014\034
\101\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151
\143\141\164\151\157\156\040\103\101\040\107\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "A-Trust-Qual-03"
# Issuer: CN=A-Trust-Qual-03,OU=A-Trust-Qual-03,O=A-Trust Ges. f. Sicherheitssysteme im elektr. Datenverkehr
GmbH,C=AT
# Serial Number: 255636 (0x3e694)
# Subject: CN=A-Trust-Qual-03,OU=A-Trust-Qual-03,O=A-Trust Ges. f. Sicherheitssysteme im elektr.
Datenverkehr GmbH,C=AT
# Not Valid Before: Thu Apr 24 22:00:00 2008
# Not Valid After: Tue Apr 24 22:00:00 2018
# Fingerprint (MD5): d8:7e:32:ef:69:f8:bf:72:03:1d:40:82:e8:a7:75:af
# Fingerprint (SHA1): 42:ef:dd:e6:bf:f3:5e:d0:ba:e6:ac:dd:20:4c:50:ae:86:c4:f4:fa
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "A-Trust-Qual-03"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\213\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162\165
\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150\145
\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151\155
\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166\145
\162\153\145\150\162\040\107\155\142\110\061\030\060\026\006\003
\125\004\013\014\017\101\055\124\162\165\163\164\055\121\165\141
\154\055\060\063\061\030\060\026\006\003\125\004\003\014\017\101
\055\124\162\165\163\164\055\121\165\141\154\055\060\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL
\060\201\213\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162\165
\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150\145
\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151\155
\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166\145
\162\153\145\150\162\040\107\155\142\110\061\030\060\026\006\003
\125\004\013\014\017\101\055\124\162\165\163\164\055\121\165\141
\154\055\060\063\061\030\060\026\006\003\125\004\003\014\017\101
\055\124\162\165\163\164\055\121\165\141\154\055\060\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\003\346\224

END

CKA_VALUE MULTILINE_OCTAL
\060\202\003\313\060\202\002\263\240\003\002\001\002\002\003\003
\346\224\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\201\213\061\013\060\011\006\003\125\004\006\023\002\101
\124\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162
\165\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150
\145\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151
\155\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166
\145\162\153\145\150\162\040\107\155\142\110\061\030\060\026\006
\003\125\004\013\014\017\101\055\124\162\165\163\164\055\121\165
\141\154\055\060\063\061\030\060\026\006\003\125\004\003\014\017
\101\055\124\162\165\163\164\055\121\165\141\154\055\060\063\060
\036\027\015\060\070\060\064\062\064\062\062\060\060\060\060\132
\027\015\061\070\060\064\062\064\062\062\060\060\060\060\132\060
\201\213\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\110\060\106\006\003\125\004\012\014\077\101\055\124\162\165\163
\164\040\107\145\163\056\040\146\056\040\123\151\143\150\145\162

\150\145\151\164\163\163\171\163\164\145\155\145\040\151\155\040
\145\154\145\153\164\162\056\040\104\141\164\145\156\166\145\162
\153\145\150\162\040\107\155\142\110\061\030\060\026\006\003\125
\004\013\014\017\101\055\124\162\165\163\164\055\121\165\141\154
\055\060\063\061\030\060\026\006\003\125\004\003\014\017\101\055
\124\162\165\163\164\055\121\165\141\154\055\060\063\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\263\236
\044\210\034\322\317\100\003\110\152\252\245\240\053\275\226\365
\174\012\237\237\253\120\220\333\101\316\126\200\171\052\300\375
\223\123\172\234\133\363\131\141\044\210\143\243\325\030\356\233
\204\164\204\234\354\214\075\332\301\206\172\157\066\056\046\353
\176\075\311\076\255\347\256\113\164\167\050\053\044\040\377\052
\056\302\225\144\020\366\176\173\303\267\332\021\175\236\253\355
\057\214\031\242\034\235\214\314\063\160\165\011\007\376\136\373
\100\244\045\214\057\375\265\121\147\072\250\053\114\237\326\150
\235\140\233\244\305\143\260\356\160\315\050\077\112\164\352\131
\371\165\305\000\006\156\037\260\143\301\052\252\023\135\374\313
\322\145\033\071\061\042\132\302\171\042\135\031\361\113\302\276
\316\034\210\001\164\361\046\101\167\062\071\306\214\120\150\317
\123\205\103\212\017\240\217\356\216\013\222\243\000\100\276\300
\242\131\136\054\241\104\270\376\037\042\323\014\272\320\350\357
\051\344\162\067\112\213\370\026\354\042\062\007\052\043\054\363
\243\327\315\312\251\247\117\162\277\274\021\216\250\033\002\003
\001\000\001\243\066\060\064\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\021\006\003\125\035\016\004
\012\004\010\106\006\337\067\362\302\067\020\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\161
\010\324\046\104\276\200\342\153\102\265\052\120\375\135\350\214
\140\363\234\266\222\201\162\070\262\157\251\076\201\362\303\064
\044\123\241\121\122\310\245\211\323\274\334\333\022\271\333\251
\260\130\357\300\010\146\062\142\343\341\363\243\130\243\167\156
\356\344\241\273\127\021\150\167\063\010\364\315\131\270\352\135
\033\011\306\254\314\215\013\272\315\337\326\232\276\253\166\000
\255\175\026\113\144\134\337\230\076\153\155\136\054\174\071\025
\131\102\067\040\074\237\303\334\177\365\123\066\267\342\307\244
\042\214\172\276\161\275\115\263\150\310\270\251\211\377\161\060
\213\317\221\155\362\205\056\245\112\042\176\162\336\324\256\261
\355\014\357\374\105\175\055\334\044\255\355\171\007\345\255\117
\262\351\122\164\111\270\214\122\372\275\022\344\031\303\374\121
\215\026\343\153\150\156\071\232\337\051\071\245\273\261\241\027
\301\027\343\165\152\374\175\261\162\074\337\301\352\345\243\034
\324\235\131\033\032\164\037\151\052\203\124\044\030\323\356\345
\340\203\127\276\033\342\320\037\255\154\065\276\215\272\137

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "A-Trust-Qual-03"

Issuer: CN=A-Trust-Qual-03,OU=A-Trust-Qual-03,O=A-Trust Ges. f. Sicherheitssysteme im elektr. Datenverkehr GmbH,C=AT

Serial Number: 255636 (0x3e694)

Subject: CN=A-Trust-Qual-03,OU=A-Trust-Qual-03,O=A-Trust Ges. f. Sicherheitssysteme im elektr. Datenverkehr GmbH,C=AT

Not Valid Before: Thu Apr 24 22:00:00 2008

Not Valid After: Tue Apr 24 22:00:00 2018

Fingerprint (MD5): d8:7e:32:ef:69:f8:bf:72:03:1d:40:82:e8:a7:75:af

Fingerprint (SHA1): 42:ef:dd:e6:bf:f3:5e:d0:ba:e6:ac:dd:20:4c:50:ae:86:c4:f4:fa

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "A-Trust-Qual-03"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\102\357\335\346\277\363\136\320\272\346\254\335\040\114\120\256

\206\304\364\372

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\330\176\062\357\151\370\277\162\003\035\100\202\350\247\165\257

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\213\061\013\060\011\006\003\125\004\006\023\002\101\124

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\003\346\224

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "AddTrust External CA Root"

Issuer: CN=AddTrust External CA Root,OU=AddTrust External TTP Network,O=AddTrust AB,C=SE

Serial Number: 1 (0x1)

```
# Subject: CN=AddTrust External CA Root,OU=AddTrust External TTP Network,O=AddTrust AB,C=SE
# Not Valid Before: Tue May 30 10:48:38 2000
# Not Valid After: Sat May 30 10:48:38 2020
# Fingerprint (MD5): 1d:35:54:04:85:78:b0:3f:42:42:4d:bf:20:73:0a:3f
# Fingerprint (SHA1): 02:fa:f3:e2:91:43:54:68:60:78:57:69:4d:f5:e4:5b:68:85:18:68
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AddTrust External CA Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\046\060\044\006\003\125\004\013\023\035
\101\144\144\124\162\165\163\164\040\105\170\164\145\162\156\141
\154\040\124\124\120\040\116\145\164\167\157\162\153\061\042\060
\040\006\003\125\004\003\023\031\101\144\144\124\162\165\163\164
\040\105\170\164\145\162\156\141\154\040\103\101\040\122\157\157
\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\046\060\044\006\003\125\004\013\023\035
\101\144\144\124\162\165\163\164\040\105\170\164\145\162\156\141
\154\040\124\124\120\040\116\145\164\167\157\162\153\061\042\060
\040\006\003\125\004\003\023\031\101\144\144\124\162\165\163\164
\040\105\170\164\145\162\156\141\154\040\103\101\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\066\060\202\003\036\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\157\061\013\060\011\006\003\125\004\006\023\002\123\105\061\024
\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165\163
\164\040\101\102\061\046\060\044\006\003\125\004\013\023\035\101
\144\144\124\162\165\163\164\040\105\170\164\145\162\156\141\154
\040\124\124\120\040\116\145\164\167\157\162\153\061\042\060\040
\006\003\125\004\003\023\031\101\144\144\124\162\165\163\164\040
\105\170\164\145\162\156\141\154\040\103\101\040\122\157\157\164
\060\036\027\015\060\060\060\065\063\060\061\060\064\070\063\070
\132\027\015\062\060\060\065\063\060\061\060\064\070\063\070\132
\060\157\061\013\060\011\006\003\125\004\006\023\002\123\105\061
```

\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\046\060\044\006\003\125\004\013\023\035
\101\144\144\124\162\165\163\164\040\105\170\164\145\162\156\141
\154\040\124\124\120\040\116\145\164\167\157\162\153\061\042\060
\040\006\003\125\004\003\023\031\101\144\144\124\162\165\163\164
\040\105\170\164\145\162\156\141\154\040\103\101\040\122\157\157
\164\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\267\367\032\063\346\362\000\004\055\071\340\116\133\355
\037\274\154\017\315\265\372\043\266\316\336\233\021\063\227\244
\051\114\175\223\237\275\112\274\223\355\003\032\343\217\317\345
\155\120\132\326\227\051\224\132\200\260\111\172\333\056\225\375
\270\312\277\067\070\055\036\076\221\101\255\160\126\307\360\117
\077\350\062\236\164\312\310\220\124\351\306\137\017\170\235\232
\100\074\016\254\141\252\136\024\217\236\207\241\152\120\334\327
\232\116\257\005\263\246\161\224\234\161\263\120\140\012\307\023
\235\070\007\206\002\250\351\250\151\046\030\220\253\114\260\117
\043\253\072\117\204\330\337\316\237\341\151\157\273\327\102\327
\153\104\344\307\255\356\155\101\137\162\132\161\010\067\263\171
\145\244\131\240\224\067\367\000\057\015\302\222\162\332\320\070
\162\333\024\250\105\304\135\052\175\267\264\326\304\356\254\315
\023\104\267\311\053\335\103\000\045\372\141\271\151\152\130\043
\021\267\247\063\217\126\165\131\365\315\051\327\106\267\012\053
\145\266\323\102\157\025\262\270\173\373\357\351\135\123\325\064
\132\047\002\003\001\000\001\243\201\334\060\201\331\060\035\006
\003\125\035\016\004\026\004\024\255\275\230\172\064\264\046\367
\372\304\046\124\357\003\275\340\044\313\124\032\060\013\006\003
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\201\231\006\003\125
\035\043\004\201\221\060\201\216\200\024\255\275\230\172\064\264
\046\367\372\304\046\124\357\003\275\340\044\313\124\032\241\163
\244\161\060\157\061\013\060\011\006\003\125\004\006\023\002\123
\105\061\024\060\022\006\003\125\004\012\023\013\101\144\144\124
\162\165\163\164\040\101\102\061\046\060\044\006\003\125\004\013
\023\035\101\144\144\124\162\165\163\164\040\105\170\164\145\162
\156\141\154\040\124\124\120\040\116\145\164\167\157\162\153\061
\042\060\040\006\003\125\004\003\023\031\101\144\144\124\162\165
\163\164\040\105\170\164\145\162\156\141\154\040\103\101\040\122
\157\157\164\202\001\001\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\001\001\000\260\233\340\205\045\302
\326\043\342\017\226\006\222\235\101\230\234\331\204\171\201\331
\036\133\024\007\043\066\145\217\260\330\167\273\254\101\154\107
\140\203\121\260\371\062\075\347\374\366\046\023\307\200\026\245
\277\132\374\207\317\170\171\211\041\232\342\114\007\012\206\065
\274\362\336\121\304\322\226\267\334\176\116\356\160\375\034\071
\353\014\002\121\024\055\216\275\026\340\301\337\106\165\347\044
\255\354\364\102\264\205\223\160\020\147\272\235\006\065\112\030
\323\053\172\314\121\102\241\172\143\321\346\273\241\305\053\302

```
\066\276\023\015\346\275\143\176\171\173\247\011\015\100\253\152
\335\217\212\303\366\366\214\032\102\005\121\324\105\365\237\247
\142\041\150\025\040\103\074\231\347\174\275\044\330\251\221\027
\163\210\077\126\033\061\070\030\264\161\017\232\315\310\016\236
\216\056\033\341\214\230\203\313\037\061\361\104\114\306\004\163
\111\166\140\017\307\370\275\027\200\153\056\351\314\114\016\132
\232\171\017\040\012\056\325\236\143\046\036\125\222\224\330\202
\027\132\173\320\274\307\217\116\206\004
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "AddTrust External CA Root"
```

```
# Issuer: CN=AddTrust External CA Root,OU=AddTrust External TTP Network,O=AddTrust AB,C=SE
```

```
# Serial Number: 1 (0x1)
```

```
# Subject: CN=AddTrust External CA Root,OU=AddTrust External TTP Network,O=AddTrust AB,C=SE
```

```
# Not Valid Before: Tue May 30 10:48:38 2000
```

```
# Not Valid After: Sat May 30 10:48:38 2020
```

```
# Fingerprint (MD5): 1d:35:54:04:85:78:b0:3f:42:42:4d:bf:20:73:0a:3f
```

```
# Fingerprint (SHA1): 02:fa:f3:e2:91:43:54:68:60:78:57:69:4d:f5:e4:5b:68:85:18:68
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AddTrust External CA Root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\002\372\363\342\221\103\124\150\140\170\127\151\115\365\344\133
\150\205\030\150
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\035\065\124\004\205\170\260\077\102\102\115\277\040\163\012\077
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\046\060\044\006\003\125\004\013\023\035
\101\144\144\124\162\165\163\164\040\105\170\164\145\162\156\141
\154\040\124\124\120\040\116\145\164\167\157\162\153\061\042\060
\040\006\003\125\004\003\023\031\101\144\144\124\162\165\163\164
\040\105\170\164\145\162\156\141\154\040\103\101\040\122\157\157
\164
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\001
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```


CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Certificate "ECRaizEstado"
Issuer: CN=ECRaizEstado,O=SCEE,C=PT
Serial Number:42:ea:5b:0a:51:11:26:7c:d8:27:74:b7:df:7f:71
Subject: CN=ECRaizEstado,O=SCEE,C=PT
Not Valid Before: Fri Jun 23 13:41:27 2006
Not Valid After: Sun Jun 23 13:41:27 2030
Fingerprint (MD5): c2:db:ab:8e:96:52:c5:ee:ae:f2:55:00:89:6d:55:95
Fingerprint (SHA1): 39:13:85:3e:45:c4:39:a2:da:71:8c:df:b6:f3:e0:33:e0:4f:ee:71

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ECRaizEstado"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\063\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\015\060\013\006\003\125\004\012\014\004\123\103\105\105\061\025
\060\023\006\003\125\004\003\014\014\105\103\122\141\151\172\105
\163\164\141\144\157

END

CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\063\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\015\060\013\006\003\125\004\012\014\004\123\103\105\105\061\025
\060\023\006\003\125\004\003\014\014\105\103\122\141\151\172\105
\163\164\141\144\157

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\102\352\133\012\121\021\046\174\330\047\164\267\337\177
\161

END

CKA_VALUE MULTILINE_OCTAL
\060\202\005\156\060\202\003\126\240\003\002\001\002\002\017\102
\352\133\012\121\021\046\174\330\047\164\267\337\177\161\060\015
\006\011\052\206\110\206\367\015\001\001\005\005\000\060\063\061
\013\060\011\006\003\125\004\006\023\002\120\124\061\015\060\013
\006\003\125\004\012\014\004\123\103\105\105\061\025\060\023\006
\003\125\004\003\014\014\105\103\122\141\151\172\105\163\164\141
\144\157\060\036\027\015\060\066\060\066\062\063\061\063\064\061
\062\067\132\027\015\063\060\060\066\062\063\061\063\064\061\062
\067\132\060\063\061\013\060\011\006\003\125\004\006\023\002\120
\124\061\015\060\013\006\003\125\004\012\014\004\123\103\105\105
\061\025\060\023\006\003\125\004\003\014\014\105\103\122\141\151

\172\105\163\164\141\144\157\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\333\357\242\103\156\310\251\375
\156\327\337\254\242\222\204\241\310\131\240\014\232\123\376\357
\256\314\031\015\162\212\244\302\063\043\357\347\006\162\352\155
\113\072\101\122\017\311\110\016\055\347\272\144\356\242\072\114
\143\134\146\051\213\337\251\210\305\275\350\361\367\216\113\374
\001\074\104\022\071\052\160\242\300\333\305\242\337\137\307\113
\306\250\334\075\141\174\112\130\301\104\062\223\336\160\231\241
\043\046\126\077\243\341\352\137\060\106\330\170\365\060\243\226
\011\211\260\075\361\206\223\005\266\022\152\030\215\360\245\144
\073\053\207\144\136\075\027\216\013\156\346\230\314\227\070\070
\040\214\160\132\151\053\275\145\215\315\067\131\134\154\321\162
\164\131\006\116\310\267\001\327\167\277\360\110\206\250\263\032
\135\101\324\067\027\021\020\137\112\156\215\165\305\003\100\175
\041\256\000\360\333\374\237\154\072\146\244\337\367\312\337\200
\146\132\331\330\177\024\242\046\031\364\256\013\041\340\312\076
\005\335\026\330\176\131\332\241\260\151\303\235\064\023\372\145
\111\071\207\356\166\057\215\275\074\047\031\003\116\255\016\013
\053\054\306\056\161\023\065\051\127\351\160\334\033\121\352\315
\227\361\225\215\262\206\372\046\006\057\200\032\225\361\230\073
\356\366\345\206\245\316\033\001\345\364\351\063\312\017\125\104
\137\150\212\054\307\133\146\050\335\226\113\203\235\136\035\176
\030\325\376\262\140\373\232\121\150\303\226\214\037\150\113\120
\122\013\066\346\061\047\344\327\051\014\033\332\033\057\341\004
\123\270\324\171\111\260\073\201\136\010\210\042\167\342\051\300
\256\162\252\253\264\162\122\275\154\273\365\272\170\331\234\270
\040\157\060\215\112\235\062\371\364\001\346\142\171\230\102\100
\005\172\157\034\052\077\265\373\337\315\030\100\216\345\020\304
\071\133\126\361\074\127\005\253\322\071\115\077\370\213\043\307
\153\271\100\261\342\376\377\263\034\012\151\037\233\214\017\264
\037\340\012\336\110\375\215\137\217\231\365\001\166\005\066\135
\216\334\063\216\121\156\021\342\101\375\314\267\215\052\137\076
\222\345\362\261\340\244\043\342\242\267\306\215\030\233\051\112
\321\106\177\364\144\040\030\335\002\003\001\000\001\243\177\060
\175\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\035\006\003\125\035\016\004\026\004\024\161\177\065
\336\365\167\161\155\035\022\234\341\220\244\272\360\251\203\217
\200\060\073\006\003\125\035\040\004\064\060\062\060\060\006\004
\125\035\040\000\060\050\060\046\006\010\053\006\001\005\005\007
\002\001\026\032\150\164\164\160\072\057\057\167\167\167\056\145
\143\145\145\056\147\157\166\056\160\164\057\144\160\143\060\015
\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002
\001\000\214\255\234\162\245\265\147\166\147\070\207\351\072\214
\376\235\131\065\276\220\361\003\000\240\130\330\230\321\277\374
\374\363\120\334\264\145\325\332\272\360\214\056\174\015\346\011
\221\137\115\243\366\135\170\234\130\135\152\160\224\243\257\333

\057\000\311\003\100\153\337\121\003\026\031\214\053\274\231\066
\366\300\255\222\030\023\214\247\355\035\322\337\003\220\005\354
\260\223\230\233\367\115\132\023\370\347\233\367\066\166\336\174
\046\370\021\070\117\111\116\263\163\037\137\047\133\341\236\062
\036\366\300\230\033\331\040\054\134\226\215\206\311\013\105\327
\222\255\212\275\352\127\242\243\126\266\040\074\354\262\307\071
\176\260\200\376\275\121\053\052\264\303\162\151\303\371\107\056
\156\377\234\207\355\334\165\313\020\210\340\264\316\056\016\123
\035\013\350\156\036\102\114\320\276\071\170\165\311\024\336\047
\221\163\252\354\152\200\360\360\027\226\142\117\276\004\313\342
\247\345\135\017\223\105\313\131\110\046\023\336\335\261\365\012
\332\026\261\250\035\217\176\130\033\267\325\011\336\210\153\316
\204\076\250\276\122\142\312\322\241\241\307\313\074\026\340\166
\126\060\077\346\017\153\006\167\376\144\235\132\152\163\174\356
\336\041\351\232\111\227\067\266\204\177\242\221\076\105\373\327
\132\006\305\207\065\334\272\110\114\206\001\010\107\066\266\070
\120\225\021\231\163\321\067\111\012\372\102\117\057\020\124\323
\101\220\372\310\334\273\021\334\015\314\175\174\233\334\016\221
\161\206\115\270\362\025\232\053\070\027\021\241\362\236\250\154
\234\343\316\256\342\346\113\213\362\212\006\073\007\167\002\021
\356\203\352\235\146\206\312\360\142\251\325\127\203\244\025\361
\105\024\376\032\165\177\245\017\334\122\164\131\165\012\370\373
\125\101\251\134\215\061\104\335\315\224\116\063\321\033\101\252
\333\327\241\074\360\305\110\155\105\101\065\265\171\203\346\371
\115\361\126\070\327\277\100\042\373\040\200\343\034\302\131\106
\007\143\002\141\000\073\233\120\273\103\303\260\351\012\232\270
\166\364\107\141\125\144\160\117\067\331\234\021\243\023\262\341
\335\100\102\273\230\327\240\006\213\346\150\127\113\016\070\150
\177\272

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "ECRaizEstado"
Issuer: CN=ECRaizEstado,O=SCEE,C=PT
Serial Number:42:ea:5b:0a:51:11:26:7c:d8:27:74:b7:df:7f:71
Subject: CN=ECRaizEstado,O=SCEE,C=PT
Not Valid Before: Fri Jun 23 13:41:27 2006
Not Valid After: Sun Jun 23 13:41:27 2030
Fingerprint (MD5): c2:db:ab:8e:96:52:c5:ee:ae:f2:55:00:89:6d:55:95
Fingerprint (SHA1): 39:13:85:3e:45:c4:39:a2:da:71:8c:df:b6:f3:e0:33:e0:4f:ee:71
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ECRaizEstado"

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\071\023\205\076\105\304\071\242\332\161\214\337\266\363\340\063
\340\117\356\161
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\302\333\253\216\226\122\305\356\256\362\125\000\211\155\125\225
END
CKA_ISSUER MULTILINE_OCTAL
\060\063\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\015\060\013\006\003\125\004\012\014\004\123\103\105\105\061\025
\060\023\006\003\125\004\003\014\014\105\103\122\141\151\172\105
\163\164\141\144\157
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\102\352\133\012\121\021\046\174\330\047\164\267\337\177
\161
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Configuration"
# Issuer: CN=Posta CA Root,CN=AIA,CN=Public Key
Services,CN=Services,CN=Configuration,DC=ca,DC=posta,DC=rs
# Serial Number:48:fc:7e:f5
# Subject: CN=Posta CA Root,CN=AIA,CN=Public Key
Services,CN=Services,CN=Configuration,DC=ca,DC=posta,DC=rs
# Not Valid Before: Mon Oct 20 12:22:08 2008
# Not Valid After: Fri Oct 20 12:52:08 2028
# Fingerprint (MD5): 18:02:b0:01:27:03:6a:19:1b:32:3b:83:de:9a:a9:85
# Fingerprint (SHA1): d6:bf:79:94:f4:2b:e5:fa:29:da:0b:d7:58:7b:59:1f:47:a4:4f:22
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Configuration"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\256\061\022\060\020\006\012\011\222\046\211\223\362\054
\144\001\031\026\002\162\163\061\025\060\023\006\012\011\222\046
\211\223\362\054\144\001\031\026\005\160\157\163\164\141\061\022
\060\020\006\012\011\222\046\211\223\362\054\144\001\031\026\002
\143\141\061\026\060\024\006\003\125\004\003\023\015\103\157\156
\146\151\147\165\162\141\164\151\157\156\061\021\060\017\006\003
\125\004\003\023\010\123\145\162\166\151\143\145\163\061\034\060
\032\006\003\125\004\003\023\023\120\165\142\154\151\143\040\113
```

\145\171\040\123\145\162\166\151\143\145\163\061\014\060\012\006
\003\125\004\003\023\003\101\111\101\061\026\060\024\006\003\125
\004\003\023\015\120\157\163\164\141\040\103\101\040\122\157\157
\164

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\256\061\022\060\020\006\012\011\222\046\211\223\362\054
\144\001\031\026\002\162\163\061\025\060\023\006\012\011\222\046
\211\223\362\054\144\001\031\026\005\160\157\163\164\141\061\022
\060\020\006\012\011\222\046\211\223\362\054\144\001\031\026\002
\143\141\061\026\060\024\006\003\125\004\003\023\015\103\157\156
\146\151\147\165\162\141\164\151\157\156\061\021\060\017\006\003
\125\004\003\023\010\123\145\162\166\151\143\145\163\061\034\060
\032\006\003\125\004\003\023\023\120\165\142\154\151\143\040\113
\145\171\040\123\145\162\166\151\143\145\163\061\014\060\012\006
\003\125\004\003\023\003\101\111\101\061\026\060\024\006\003\125
\004\003\023\015\120\157\163\164\141\040\103\101\040\122\157\157
\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\110\374\176\365

END

CKA_VALUE MULTILINE_OCTAL

\060\202\007\037\060\202\006\007\240\003\002\001\002\002\004\110
\374\176\365\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\256\061\022\060\020\006\012\011\222\046\211\223
\362\054\144\001\031\026\002\162\163\061\025\060\023\006\012\011
\222\046\211\223\362\054\144\001\031\026\005\160\157\163\164\141
\061\022\060\020\006\012\011\222\046\211\223\362\054\144\001\031
\026\002\143\141\061\026\060\024\006\003\125\004\003\023\015\103
\157\156\146\151\147\165\162\141\164\151\157\156\061\021\060\017
\006\003\125\004\003\023\010\123\145\162\166\151\143\145\163\061
\034\060\032\006\003\125\004\003\023\023\120\165\142\154\151\143
\040\113\145\171\040\123\145\162\166\151\143\145\163\061\014\060
\012\006\003\125\004\003\023\003\101\111\101\061\026\060\024\006
\003\125\004\003\023\015\120\157\163\164\141\040\103\101\040\122
\157\157\164\060\036\027\015\060\070\061\060\062\060\061\062\062
\062\060\070\132\027\015\062\070\061\060\062\060\061\062\065\062
\060\070\132\060\201\256\061\022\060\020\006\012\011\222\046\211
\223\362\054\144\001\031\026\002\162\163\061\025\060\023\006\012
\011\222\046\211\223\362\054\144\001\031\026\005\160\157\163\164
\141\061\022\060\020\006\012\011\222\046\211\223\362\054\144\001
\031\026\002\143\141\061\026\060\024\006\003\125\004\003\023\015
\103\157\156\146\151\147\165\162\141\164\151\157\156\061\021\060
\017\006\003\125\004\003\023\010\123\145\162\166\151\143\145\163
\061\034\060\032\006\003\125\004\003\023\023\120\165\142\154\151
\143\040\113\145\171\040\123\145\162\166\151\143\145\163\061\014

\060\012\006\003\125\004\003\023\003\101\111\101\061\026\060\024
\006\003\125\004\003\023\015\120\157\163\164\141\040\103\101\040
\122\157\157\164\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\250\362\275\210\276\300\257\104\276\233\112
\242\143\034\326\126\253\035\051\262\034\252\025\036\105\321\254
\235\240\141\325\065\371\344\132\203\066\143\103\336\070\127\025
\374\360\224\142\364\007\200\127\203\127\250\263\025\274\373\115
\043\170\137\332\366\307\201\026\276\253\337\347\334\203\123\163
\053\266\335\143\210\215\105\363\015\335\175\277\350\210\260\146
\301\103\135\067\322\155\241\234\232\106\303\263\077\320\302\240
\212\224\056\203\246\074\303\140\275\054\314\036\213\143\202\166
\101\050\344\025\153\134\014\141\071\125\070\101\312\310\146\350
\307\270\227\122\020\046\160\267\007\267\011\036\246\023\136\256
\231\132\046\157\144\075\354\304\323\245\271\134\166\144\255\143
\175\210\203\342\113\314\015\336\324\306\323\010\102\365\133\027
\365\161\341\221\055\003\237\236\034\334\213\162\244\350\107\144
\020\207\144\060\163\330\362\264\361\127\046\223\127\313\266\307
\015\210\213\035\317\005\060\135\004\326\166\067\350\040\062\127
\277\017\234\063\306\010\214\366\264\302\251\006\260\133\060\241
\036\055\022\272\077\002\003\001\000\001\243\202\003\101\060\202
\003\075\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\201\272\006\003\125\035\040\004\201\262\060\201
\257\060\201\254\006\013\053\006\001\004\001\372\070\012\012\001
\001\060\201\234\060\060\006\010\053\006\001\005\005\007\002\001
\026\044\150\164\164\160\072\057\057\167\167\167\056\143\141\056
\160\157\163\164\141\056\162\163\057\144\157\153\165\155\145\156
\164\141\143\151\152\141\060\150\006\010\053\006\001\005\005\007
\002\002\060\134\032\132\117\166\157\040\152\145\040\145\154\145
\153\164\162\157\156\163\153\151\040\163\145\162\164\151\146\151
\153\141\164\040\122\117\117\124\040\103\101\040\163\145\162\166
\145\162\141\040\123\145\162\164\151\146\151\153\141\143\151\157
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\042\120\157\163\164\141\040\103\101\040\122\157\157\164\042\056
\060\021\006\011\140\206\110\001\206\370\102\001\001\004\004\003
\002\000\007\060\202\001\274\006\003\125\035\037\004\202\001\263
\060\202\001\257\060\201\311\240\201\306\240\201\303\244\201\300
\060\201\275\061\022\060\020\006\012\011\222\046\211\223\362\054
\144\001\031\026\002\162\163\061\025\060\023\006\012\011\222\046
\211\223\362\054\144\001\031\026\005\160\157\163\164\141\061\022
\060\020\006\012\011\222\046\211\223\362\054\144\001\031\026\002
\143\141\061\026\060\024\006\003\125\004\003\023\015\103\157\156
\146\151\147\165\162\141\164\151\157\156\061\021\060\017\006\003
\125\004\003\023\010\123\145\162\166\151\143\145\163\061\034\060
\032\006\003\125\004\003\023\023\120\165\142\154\151\143\040\113
\145\171\040\123\145\162\166\151\143\145\163\061\014\060\012\006
\003\125\004\003\023\003\101\111\101\061\026\060\024\006\003\125

\004\003\023\015\120\157\163\164\141\040\103\101\040\122\157\157
\164\061\015\060\013\006\003\125\004\003\023\004\103\122\114\061
\060\201\340\240\201\335\240\201\332\206\201\243\154\144\141\160
\072\057\057\154\144\141\160\056\143\141\056\160\157\163\164\141
\056\162\163\057\143\156\075\120\157\163\164\141\045\062\060\103
\101\045\062\060\122\157\157\164\054\143\156\075\101\111\101\054
\143\156\075\120\165\142\154\151\143\045\062\060\113\145\171\045
\062\060\123\145\162\166\151\143\145\163\054\143\156\075\123\145
\162\166\151\143\145\163\054\143\156\075\103\157\156\146\151\147
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\075\160\157\163\164\141\054\144\143\075\162\163\077\143\145\162
\164\151\146\151\143\141\164\145\122\145\166\157\143\141\164\151
\157\156\114\151\163\164\045\063\102\142\151\156\141\162\171\206
\062\150\164\164\160\072\057\057\163\145\162\164\151\146\151\153
\141\164\151\056\143\141\056\160\157\163\164\141\056\162\163\057
\143\162\154\057\120\157\163\164\141\103\101\122\157\157\164\056
\143\162\154\060\053\006\003\125\035\020\004\044\060\042\200\017
\062\060\060\070\061\060\062\060\061\062\062\062\060\070\132\201
\017\062\060\062\070\061\060\062\060\061\062\065\062\060\070\132
\060\037\006\003\125\035\043\004\030\060\026\200\024\362\313\215
\342\065\357\020\103\304\332\173\312\372\353\211\003\241\042\257
\270\060\035\006\003\125\035\016\004\026\004\024\362\313\215\342
\065\357\020\103\304\332\173\312\372\353\211\003\241\042\257\270
\060\035\006\011\052\206\110\206\366\175\007\101\000\004\020\060
\016\033\010\126\067\056\061\072\064\056\060\003\002\004\220\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\001\001\000\160\106\241\310\344\027\005\146\017\235\342\103\061
\110\035\222\220\031\304\205\001\205\026\156\370\222\316\173\256
\122\026\304\227\215\012\050\175\325\313\154\343\325\345\016\062
\117\310\150\055\064\010\075\163\250\223\102\051\063\106\014\104
\147\361\320\232\234\151\001\345\221\361\015\311\151\074\063\113
\116\031\223\143\063\005\051\041\241\330\377\076\124\253\236\366
\241\172\002\327\334\377\245\076\124\170\371\323\301\312\022\225
\371\211\236\024\342\362\241\104\262\313\351\055\165\065\314\226
\125\273\070\013\210\046\332\326\254\357\323\122\242\013\113\072
\123\332\113\042\123\314\312\052\044\232\142\252\304\062\232\176
\334\314\301\262\154\315\217\331\264\300\317\365\002\300\214\053
\204\133\033\100\274\020\320\120\341\141\326\146\126\232\004\221
\245\343\325\275\240\056\042\201\261\331\070\332\344\250\207\137
\074\106\004\226\336\311\232\073\277\255\170\154\035\111\111\264
\151\271\160\017\005\222\126\266\375\257\256\370\040\055\107\043
\317\266\034\315\304\233\200\116\371\277\061\300\124\276\273\061
\177\363\076

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```

# Microsoft Code Signing Only Certificate
# Trust for "Configuration"
# Issuer: CN=Posta CA Root,CN=AIA,CN=Public Key
Services,CN=Services,CN=Configuration,DC=ca,DC=posta,DC=rs
# Serial Number:48:fc:7e:f5
# Subject: CN=Posta CA Root,CN=AIA,CN=Public Key
Services,CN=Services,CN=Configuration,DC=ca,DC=posta,DC=rs
# Not Valid Before: Mon Oct 20 12:22:08 2008
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# Fingerprint (SHA1): d6:bf:79:94:f4:2b:e5:fa:29:da:0b:d7:58:7b:59:1f:47:a4:4f:22
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Configuration"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\326\277\171\224\364\053\345\372\051\332\013\327\130\173\131\037
\107\244\117\042
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\030\002\260\001\047\003\152\031\033\062\073\203\336\232\251\205
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\256\061\022\060\020\006\012\011\222\046\211\223\362\054
\144\001\031\026\002\162\163\061\025\060\023\006\012\011\222\046
\211\223\362\054\144\001\031\026\005\160\157\163\164\141\061\022
\060\020\006\012\011\222\046\211\223\362\054\144\001\031\026\002
\143\141\061\026\060\024\006\003\125\004\003\023\015\103\157\156
\146\151\147\165\162\141\164\151\157\156\061\021\060\017\006\003
\125\004\003\023\010\123\145\162\166\151\143\145\163\061\034\060
\032\006\003\125\004\003\023\023\120\165\142\154\151\143\040\113
\145\171\040\123\145\162\166\151\143\145\163\061\014\060\012\006
\003\125\004\003\023\003\101\111\101\061\026\060\024\006\003\125
\004\003\023\015\120\157\163\164\141\040\103\101\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\110\374\176\365
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "FNMT-RCM"
# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

```



```
# Serial Number:81:bb:dd:6b:24:1f:da:b4:be:8f:1b:da:08:55:c4
# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
# Not Valid Before: Wed Oct 29 15:59:55 2008
# Not Valid After: Tue Jan 01 00:00:00 2030
# Fingerprint (MD5): 0c:5a:dd:5a:ae:29:f7:a7:76:79:fa:41:51:fe:f0:35
# Fingerprint (SHA1): b8:65:13:0b:ed:ca:38:d2:7f:69:92:94:20:77:0b:ed:86:ef:bc:10
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "FNMT-RCM"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\201\273\335\153\044\037\332\264\276\217\033\332\010
\125\304
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\204\060\202\003\154\240\003\002\001\002\002\020\000
\201\273\335\153\044\037\332\264\276\217\033\332\010\125\304\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\073
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\021\060
\017\006\003\125\004\012\014\010\106\116\115\124\055\122\103\115
\061\031\060\027\006\003\125\004\013\014\020\101\103\040\122\101
\111\132\040\106\116\115\124\055\122\103\115\060\036\027\015\060
\070\061\060\062\071\061\065\065\071\065\065\132\027\015\063\060
\060\061\060\061\060\060\060\060\060\132\060\073\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003
\125\004\012\014\010\106\116\115\124\055\122\103\115\061\031\060
\027\006\003\125\004\013\014\020\101\103\040\122\101\111\132\040
\106\116\115\124\055\122\103\115\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\272\161\200\172\114\206\156
\177\310\023\155\300\306\175\034\000\227\217\054\014\043\273\020
\232\100\251\032\267\207\210\370\233\126\152\373\346\173\216\213
\222\216\247\045\135\131\021\333\066\056\267\121\027\037\251\010
```

\037\004\027\044\130\252\067\112\030\337\345\071\324\127\375\327
\301\054\221\001\221\342\042\324\003\300\130\374\167\107\354\217
\076\164\103\272\254\064\215\115\070\166\147\216\260\310\157\060
\063\130\161\134\264\365\153\156\324\001\120\270\023\176\154\112
\243\111\321\040\031\356\274\300\051\030\145\247\336\376\357\335
\012\220\041\347\032\147\222\102\020\230\137\117\060\274\076\034
\105\264\020\327\150\100\024\300\100\372\347\167\027\172\346\013
\217\145\133\074\331\232\122\333\265\275\236\106\317\075\353\221
\005\002\300\226\262\166\114\115\020\226\073\222\372\234\177\017
\231\337\276\043\065\105\036\002\134\376\265\250\233\231\045\332
\136\363\042\303\071\365\344\052\056\323\306\037\304\154\252\305
\034\152\001\005\112\057\322\305\301\250\064\046\135\146\245\322
\002\041\371\030\267\006\365\116\231\157\250\253\114\121\350\317
\120\030\305\167\310\071\011\054\111\222\062\231\250\273\027\027
\171\260\132\305\346\243\304\131\145\107\065\203\136\251\350\065
\013\231\273\344\315\040\306\233\112\006\071\265\150\374\042\272
\356\125\214\053\116\352\363\261\343\374\266\231\232\325\102\372
\161\115\010\317\207\036\152\161\175\371\323\264\351\245\161\201
\173\302\116\107\226\245\366\166\205\243\050\217\351\200\156\201
\123\245\155\137\270\110\371\302\371\066\246\056\111\377\270\226
\302\214\007\263\233\210\130\374\353\033\034\336\055\160\342\227
\222\060\241\211\343\274\125\250\047\326\113\355\220\255\213\372
\143\045\131\055\250\065\335\312\227\063\274\345\315\307\235\321
\354\357\136\016\112\220\006\046\143\255\271\331\065\055\007\272
\166\145\054\254\127\217\175\364\007\224\327\201\002\226\135\243
\007\111\325\172\320\127\371\033\347\123\106\165\252\260\171\102
\313\150\161\010\351\140\275\071\151\316\364\257\303\126\100\307
\255\122\242\011\344\157\206\107\212\037\353\050\047\135\203\040
\257\004\311\154\126\232\213\106\365\002\003\001\000\001\243\201
\203\060\201\200\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024
\367\175\305\375\304\350\232\033\167\144\247\365\035\240\314\277
\207\140\232\155\060\076\006\003\125\035\040\004\067\060\065\060
\063\006\004\125\035\040\000\060\053\060\051\006\010\053\006\001
\005\005\007\002\001\026\035\150\164\164\160\072\057\057\167\167
\167\056\143\145\162\164\056\146\156\155\164\056\145\163\057\144
\160\143\163\057\060\015\006\011\052\206\110\206\367\015\001\001
\005\005\000\003\202\002\001\000\166\271\046\327\274\140\174\073
\303\307\204\121\222\131\171\266\215\277\123\340\274\210\240\265
\331\114\351\255\365\146\116\357\240\140\310\013\270\221\355\063
\216\202\361\206\225\376\306\323\032\211\253\117\073\331\063\037
\320\013\307\261\365\117\244\113\273\003\014\043\134\154\260\336
\254\162\372\151\336\000\020\315\361\326\317\066\122\276\177\374
\046\101\363\362\374\060\342\061\306\333\020\076\251\164\272\117
\354\355\040\231\311\260\342\242\243\251\102\231\063\313\177\367
\252\002\351\044\226\052\370\344\316\135\101\240\006\011\125\132
\332\337\032\117\353\071\374\137\340\251\251\104\327\030\352\225

```
\261\104\173\332\352\070\011\164\036\147\050\077\340\213\071\054
\123\372\014\340\071\367\053\032\016\061\001\324\146\171\210\164
\235\110\110\216\264\223\141\346\277\051\011\357\276\006\251\032
\154\010\160\004\012\277\156\011\166\244\144\103\316\037\127\235
\227\236\154\370\164\027\034\121\003\372\140\123\324\126\106\226
\320\120\237\306\235\063\363\103\261\250\327\242\311\260\311\203
\261\175\307\334\254\201\166\327\211\355\103\046\326\377\242\134
\242\055\240\044\107\252\106\232\151\061\011\301\375\020\171\260
\205\354\160\040\346\075\101\124\242\112\142\057\326\336\114\303
\234\217\275\313\246\125\224\034\335\275\101\317\050\145\215\320
\115\327\207\321\114\323\103\163\041\354\327\056\027\147\062\207
\266\320\033\164\252\151\307\344\154\207\327\175\031\232\354\075
\104\361\252\202\131\162\315\105\333\332\146\102\341\070\154\066
\137\124\335\046\126\127\242\331\076\244\012\362\357\374\031\200
\037\333\272\252\200\274\330\121\315\124\152\325\177\330\157\265
\334\026\373\100\342\125\124\220\303\335\207\063\321\377\036\245
\142\213\066\104\254\250\277\300\326\304\224\167\263\275\304\165
\044\151\351\377\071\224\253\374\121\147\044\352\100\036\353\211
\055\023\006\175\256\007\241\303\014\365\324\132\262\116\267\041
\035\027\305\345\271\362\037\343\206\001\135\013\006\171\135\311
\312\077\026\176\201\036\115\176\360\232\074\045\305\316\164\171
\236\112\341\361\351\365\045\106\366\304\336\344\104\144\163\035
\306\071\076\172\346\205\173\030
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "FNMT-RCM"
```

```
# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
```

```
# Serial Number:81:bb:dd:6b:24:1f:da:b4:be:8f:1b:da:08:55:c4
```

```
# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
```

```
# Not Valid Before: Wed Oct 29 15:59:55 2008
```

```
# Not Valid After: Tue Jan 01 00:00:00 2030
```

```
# Fingerprint (MD5): 0c:5a:dd:5a:ae:29:f7:a7:76:79:fa:41:51:fe:f0:35
```

```
# Fingerprint (SHA1): b8:65:13:0b:ed:ca:38:d2:7f:69:92:94:20:77:0b:ed:86:ef:bc:10
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "FNMT-RCM"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\270\145\023\013\355\312\070\322\177\151\222\224\040\167\013\355
```

```
\206\357\274\020
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\014\132\335\132\256\051\367\247\166\171\372\101\121\376\360\065
```

END

CKA_ISSUER MULTILINE_OCTAL

\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\000\201\273\335\153\044\037\332\264\276\217\033\332\010
\125\304

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "StartCom Certification Authority"

Issuer: CN=StartCom Certification Authority,OU=Secure Digital Certificate Signing,O=StartCom Ltd.,C=IL

Serial Number: 1 (0x1)

Subject: CN=StartCom Certification Authority,OU=Secure Digital Certificate Signing,O=StartCom Ltd.,C=IL

Not Valid Before: Sun Sep 17 19:46:36 2006

Not Valid After: Wed Sep 17 19:46:36 2036

Fingerprint (MD5): 22:4d:8f:8a:fc:f7:35:c2:bb:57:34:90:7b:8b:22:16

Fingerprint (SHA1): 3e:2b:f7:f2:03:1b:96:f3:8c:e6:c4:d8:a8:5d:3e:2d:58:47:6a:0f

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "StartCom Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\175\061\013\060\011\006\003\125\004\006\023\002\111\114\061
\026\060\024\006\003\125\004\012\023\015\123\164\141\162\164\103
\157\155\040\114\164\144\056\061\053\060\051\006\003\125\004\013
\023\042\123\145\143\165\162\145\040\104\151\147\151\164\141\154
\040\103\145\162\164\151\146\151\143\141\164\145\040\123\151\147
\156\151\156\147\061\051\060\047\006\003\125\004\003\023\040\123
\164\141\162\164\103\157\155\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\175\061\013\060\011\006\003\125\004\006\023\002\111\114\061
\026\060\024\006\003\125\004\012\023\015\123\164\141\162\164\103
\157\155\040\114\164\144\056\061\053\060\051\006\003\125\004\013
\023\042\123\145\143\165\162\145\040\104\151\147\151\164\141\154
\040\103\145\162\164\151\146\151\143\141\164\145\040\123\151\147

\156\151\156\147\061\051\060\047\006\003\125\004\003\023\040\123
\164\141\162\164\103\157\155\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\007\311\060\202\005\261\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\175\061\013\060\011\006\003\125\004\006\023\002\111\114\061\026
\060\024\006\003\125\004\012\023\015\123\164\141\162\164\103\157
\155\040\114\164\144\056\061\053\060\051\006\003\125\004\013\023
\042\123\145\143\165\162\145\040\104\151\147\151\164\141\154\040
\103\145\162\164\151\146\151\143\141\164\145\040\123\151\147\156
\151\156\147\061\051\060\047\006\003\125\004\003\023\040\123\164
\141\162\164\103\157\155\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036
\027\015\060\066\060\071\061\067\061\071\064\066\063\066\132\027
\015\063\066\060\071\061\067\061\071\064\066\063\066\132\060\175
\061\013\060\011\006\003\125\004\006\023\002\111\114\061\026\060
\024\006\003\125\004\012\023\015\123\164\141\162\164\103\157\155
\040\114\164\144\056\061\053\060\051\006\003\125\004\013\023\042
\123\145\143\165\162\145\040\104\151\147\151\164\141\154\040\103
\145\162\164\151\146\151\143\141\164\145\040\123\151\147\156\151
\156\147\061\051\060\047\006\003\125\004\003\023\040\123\164\141
\162\164\103\157\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\301\210
\333\011\274\154\106\174\170\237\225\173\265\063\220\362\162\142
\326\301\066\040\042\044\136\316\351\167\362\103\012\242\006\144
\244\314\216\066\370\070\346\043\360\156\155\261\074\335\162\243
\205\034\241\323\075\264\063\053\323\057\257\376\352\260\101\131
\147\266\304\006\175\012\236\164\205\326\171\114\200\067\172\337
\071\005\122\131\367\364\033\106\103\244\322\205\205\322\303\161
\363\165\142\064\272\054\212\177\036\217\356\355\064\320\021\307
\226\315\122\075\272\063\326\335\115\336\013\073\112\113\237\302
\046\057\372\265\026\034\162\065\167\312\074\135\346\312\341\046
\213\032\066\166\134\001\333\164\024\045\376\355\265\240\210\017
\335\170\312\055\037\007\227\060\001\055\162\171\372\106\326\023
\052\250\271\246\253\203\111\035\345\362\357\335\344\001\216\030
\012\217\143\123\026\205\142\251\016\031\072\314\265\146\246\302
\153\164\007\344\053\341\166\076\264\155\330\366\104\341\163\142
\037\073\304\276\240\123\126\045\154\121\011\367\252\253\312\277
\166\375\155\233\363\235\333\277\075\146\274\014\126\252\257\230
\110\225\072\113\337\247\130\120\331\070\165\251\133\352\103\014
\002\377\231\353\350\154\115\160\133\051\145\234\335\252\135\314

\257\001\061\354\014\353\322\215\350\352\234\173\346\156\367\047
\146\014\032\110\327\156\102\343\077\336\041\076\173\341\015\160
\373\143\252\250\154\032\124\264\134\045\172\311\242\311\213\026
\246\273\054\176\027\136\005\115\130\156\022\035\001\356\022\020
\015\306\062\177\030\377\374\364\372\315\156\221\350\066\111\276
\032\110\151\213\302\226\115\032\022\262\151\027\301\012\220\326
\372\171\042\110\277\272\173\151\370\160\307\372\172\067\330\330
\015\322\166\117\127\377\220\267\343\221\322\335\357\302\140\267
\147\072\335\376\252\234\360\324\213\177\162\042\316\306\237\227
\266\370\257\212\240\020\250\331\373\030\306\266\265\134\122\074
\211\266\031\052\163\001\012\017\003\263\022\140\362\172\057\201
\333\243\156\377\046\060\227\365\213\335\211\127\266\255\075\263
\257\053\305\267\166\002\360\245\326\053\232\206\024\052\162\366
\343\063\214\135\011\113\023\337\273\214\164\023\122\113\002\003
\001\000\001\243\202\002\122\060\202\002\116\060\014\006\003\125
\035\023\004\005\060\003\001\001\377\060\013\006\003\125\035\017
\004\004\003\002\001\256\060\035\006\003\125\035\016\004\026\004
\024\116\013\357\032\244\100\133\245\027\151\207\060\312\064\150
\103\320\101\256\362\060\144\006\003\125\035\037\004\135\060\133
\060\054\240\052\240\050\206\046\150\164\164\160\072\057\057\143
\145\162\164\056\163\164\141\162\164\143\157\155\056\157\162\147
\057\163\146\163\143\141\055\143\162\154\056\143\162\154\060\053
\240\051\240\047\206\045\150\164\164\160\072\057\057\143\162\154
\056\163\164\141\162\164\143\157\155\056\157\162\147\057\163\146
\163\143\141\055\143\162\154\056\143\162\154\060\202\001\135\006
\003\125\035\040\004\202\001\124\060\202\001\120\060\202\001\114
\006\013\053\006\001\004\001\201\265\067\001\001\001\060\202\001
\073\060\057\006\010\053\006\001\005\005\007\002\001\026\043\150
\164\164\160\072\057\057\143\145\162\164\056\163\164\141\162\164
\143\157\155\056\157\162\147\057\160\157\154\151\143\171\056\160
\144\146\060\065\006\010\053\006\001\005\005\007\002\001\026\051
\150\164\164\160\072\057\057\143\145\162\164\056\163\164\141\162
\164\143\157\155\056\157\162\147\057\151\156\164\145\162\155\145
\144\151\141\164\145\056\160\144\146\060\201\320\006\010\053\006
\001\005\005\007\002\002\060\201\303\060\047\026\040\123\164\141
\162\164\040\103\157\155\155\145\162\143\151\141\154\040\050\123
\164\141\162\164\103\157\155\051\040\114\164\144\056\060\003\002
\001\001\032\201\227\114\151\155\151\164\145\144\040\114\151\141
\142\151\154\151\164\171\054\040\162\145\141\144\040\164\150\145
\040\163\145\143\164\151\157\156\040\052\114\145\147\141\154\040
\114\151\155\151\164\141\164\151\157\156\163\052\040\157\146\040
\164\150\145\040\123\164\141\162\164\103\157\155\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\120\157\154\151\143\171\040\141\166\141\151
\154\141\142\154\145\040\141\164\040\150\164\164\160\072\057\057
\143\145\162\164\056\163\164\141\162\164\143\157\155\056\157\162
\147\057\160\157\154\151\143\171\056\160\144\146\060\021\006\011
\140\206\110\001\206\370\102\001\001\004\004\003\002\000\007\060

\070\006\011\140\206\110\001\206\370\102\001\015\004\053\026\051
\123\164\141\162\164\103\157\155\040\106\162\145\145\040\123\123
\114\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\002\001\000\026\154\231
\364\146\014\064\365\320\205\136\175\012\354\332\020\116\070\034
\136\337\246\045\005\113\221\062\301\350\073\361\075\335\104\011
\133\007\111\212\051\313\146\002\267\261\232\367\045\230\011\074
\216\033\341\335\066\207\053\113\273\150\323\071\146\075\240\046
\307\362\071\221\035\121\253\202\173\176\325\316\132\344\342\003
\127\160\151\227\010\371\136\130\246\012\337\214\006\232\105\026
\026\070\012\136\127\366\142\307\172\002\005\346\274\036\265\362
\236\364\251\051\203\370\262\024\343\156\050\207\104\303\220\032
\336\070\251\074\254\103\115\144\105\316\335\050\251\134\362\163
\173\004\370\027\350\253\261\363\056\134\144\156\163\061\072\022
\270\274\263\021\344\175\217\201\121\232\073\215\211\364\115\223
\146\173\074\003\355\323\232\035\232\363\145\120\365\240\320\165
\237\057\257\360\352\202\103\230\370\151\234\211\171\304\103\216
\106\162\343\144\066\022\257\367\045\036\070\211\220\167\176\303
\153\152\271\303\313\104\113\254\170\220\213\347\307\054\036\113
\021\104\310\064\122\047\315\012\135\237\205\301\211\325\032\170
\362\225\020\123\062\335\200\204\146\165\331\265\150\050\373\141
\056\276\204\250\070\300\231\022\206\245\036\147\144\255\006\056
\057\251\160\205\307\226\017\174\211\145\365\216\103\124\016\253
\335\245\200\071\224\140\300\064\311\226\160\054\243\022\365\037
\110\173\275\034\176\153\267\235\220\364\042\073\256\370\374\052
\312\372\202\122\240\357\257\113\125\223\353\301\265\360\042\213
\254\064\116\046\042\004\241\207\054\165\112\267\345\175\023\327
\270\014\144\300\066\322\311\057\206\022\214\043\011\301\033\202
\073\163\111\243\152\127\207\224\345\326\170\305\231\103\143\343
\115\340\167\055\341\145\231\162\151\004\032\107\011\346\017\001
\126\044\373\037\277\016\171\251\130\056\271\304\011\001\176\225
\272\155\000\006\076\262\352\112\020\071\330\320\053\365\277\354
\165\277\227\002\305\011\033\010\334\125\067\342\201\373\067\204
\103\142\040\312\347\126\113\145\352\376\154\301\044\223\044\241
\064\353\005\377\232\042\256\233\175\077\361\145\121\012\246\060
\152\263\364\210\034\200\015\374\162\212\350\203\136

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "StartCom Certification Authority"
Issuer: CN=StartCom Certification Authority,OU=Secure Digital Certificate Signing,O=StartCom Ltd.,C=IL
Serial Number: 1 (0x1)
Subject: CN=StartCom Certification Authority,OU=Secure Digital Certificate Signing,O=StartCom Ltd.,C=IL
Not Valid Before: Sun Sep 17 19:46:36 2006

```
# Not Valid After: Wed Sep 17 19:46:36 2036
# Fingerprint (MD5): 22:4d:8f:8a:fc:f7:35:c2:bb:57:34:90:7b:8b:22:16
# Fingerprint (SHA1): 3e:2b:f7:f2:03:1b:96:f3:8c:e6:c4:d8:a8:5d:3e:2d:58:47:6a:0f
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "StartCom Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\076\053\367\362\003\033\226\363\214\346\304\330\250\135\076\055
\130\107\152\017
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\042\115\217\212\374\367\065\302\273\127\064\220\173\213\042\026
END
CKA_ISSUER MULTILINE_OCTAL
\060\175\061\013\060\011\006\003\125\004\006\023\002\111\114\061
\026\060\024\006\003\125\004\012\023\015\123\164\141\162\164\103
\157\155\040\114\164\144\056\061\053\060\051\006\003\125\004\013
\023\042\123\145\143\165\162\145\040\104\151\147\151\164\141\154
\040\103\145\162\164\151\146\151\143\141\164\145\040\123\151\147
\156\151\156\147\061\051\060\047\006\003\125\004\003\023\040\123
\164\141\162\164\103\157\155\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "VeriSign Class 3 Public Primary Certification Authority - G4"
# Issuer: CN=VeriSign Class 3 Public Primary Certification Authority - G4,OU=(c) 2007 VeriSign\, Inc. - For
authorized use only,OU=VeriSign Trust Network,O=VeriSign\, Inc.,C=US
# Serial Number:2f:80:fe:23:8c:0e:22:0f:48:67:12:28:91:87:ac:b3
# Subject: CN=VeriSign Class 3 Public Primary Certification Authority - G4,OU=(c) 2007 VeriSign\, Inc. - For
authorized use only,OU=VeriSign Trust Network,O=VeriSign\, Inc.,C=US
# Not Valid Before: Mon Nov 05 00:00:00 2007
# Not Valid After: Mon Jan 18 23:59:59 2038
# Fingerprint (MD5): 3a:52:e1:e7:fd:6f:3a:e3:6f:f3:6f:99:1b:f9:22:41
# Fingerprint (SHA1): 22:d5:d8:df:8f:02:31:d1:8d:f7:9d:b7:cf:8a:2d:64:c9:3f:6c:3a
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```


CKA_LABEL UTF8 "VeriSign Class 3 Public Primary Certification Authority - G4"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\062\060\060\067\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\063\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\064

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\062\060\060\067\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\063\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\057\200\376\043\214\016\042\017\110\147\022\050\221\207
\254\263

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\204\060\202\003\012\240\003\002\001\002\002\020\057
\200\376\043\214\016\042\017\110\147\022\050\221\207\254\263\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\312\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006
\003\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040
\111\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126
\145\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145
\164\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061
\050\143\051\040\062\060\060\067\040\126\145\162\151\123\151\147
\156\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165

\164\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154
\171\061\105\060\103\006\003\125\004\003\023\074\126\145\162\151
\123\151\147\156\040\103\154\141\163\163\040\063\040\120\165\142
\154\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\040\055\040\107\064\060\036\027\015\060\067\061\061
\060\065\060\060\060\060\060\060\132\027\015\063\070\060\061\061
\070\062\063\065\071\065\071\132\060\201\312\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004
\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156\143
\056\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151
\123\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157
\162\153\061\072\060\070\006\003\125\004\013\023\061\050\143\051
\040\062\060\060\067\040\126\145\162\151\123\151\147\156\054\040
\111\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157
\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061\105
\060\103\006\003\125\004\003\023\074\126\145\162\151\123\151\147
\156\040\103\154\141\163\163\040\063\040\120\165\142\154\151\143
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\064\060\166\060\020\006\007\052\206\110\316\075
\002\001\006\005\053\201\004\000\042\003\142\000\004\247\126\172
\174\122\332\144\233\016\055\134\330\136\254\222\075\376\001\346
\031\112\075\024\003\113\372\140\047\040\331\203\211\151\372\124
\306\232\030\136\125\052\144\336\006\366\215\112\073\255\020\074
\145\075\220\210\004\211\340\060\141\263\256\135\001\247\173\336
\174\262\276\312\145\141\000\206\256\332\217\173\320\211\255\115
\035\131\232\101\261\274\107\200\334\236\142\303\371\243\201\262
\060\201\257\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\155\006\010\053\006\001\005\005\007\001\014
\004\141\060\137\241\135\240\133\060\131\060\127\060\125\026\011
\151\155\141\147\145\057\147\151\146\060\041\060\037\060\007\006
\005\053\016\003\002\032\004\024\217\345\323\032\206\254\215\216
\153\303\317\200\152\324\110\030\054\173\031\056\060\045\026\043
\150\164\164\160\072\057\057\154\157\147\157\056\166\145\162\151
\163\151\147\156\056\143\157\155\057\166\163\154\157\147\157\056
\147\151\146\060\035\006\003\125\035\016\004\026\004\024\263\026
\221\375\356\246\156\344\265\056\111\217\207\170\201\200\354\345
\261\265\060\012\006\010\052\206\110\316\075\004\003\003\003\150
\000\060\145\002\060\146\041\014\030\046\140\132\070\173\126\102
\340\247\374\066\204\121\221\040\054\166\115\103\075\304\035\204
\043\320\254\326\174\065\006\316\315\151\275\220\015\333\154\110
\102\035\016\252\102\002\061\000\234\075\110\071\043\071\130\032
\025\022\131\152\236\357\325\131\262\035\122\054\231\161\315\307
\051\337\033\052\141\173\161\321\336\363\300\345\015\072\112\252
\055\247\330\206\052\335\056\020

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "VeriSign Class 3 Public Primary Certification Authority - G4"

Issuer: CN=VeriSign Class 3 Public Primary Certification Authority - G4,OU=(c) 2007 VeriSign\, Inc. - For authorized use only,OU=VeriSign Trust Network,O=VeriSign\, Inc.,C=US

Serial Number:2f:80:fe:23:8c:0e:22:0f:48:67:12:28:91:87:ac:b3

Subject: CN=VeriSign Class 3 Public Primary Certification Authority - G4,OU=(c) 2007 VeriSign\, Inc. - For authorized use only,OU=VeriSign Trust Network,O=VeriSign\, Inc.,C=US

Not Valid Before: Mon Nov 05 00:00:00 2007

Not Valid After: Mon Jan 18 23:59:59 2038

Fingerprint (MD5): 3a:52:e1:e7:fd:6f:3a:e3:6f:f3:6f:99:1b:f9:22:41

Fingerprint (SHA1): 22:d5:d8:df:8f:02:31:d1:8d:f7:9d:b7:cf:8a:2d:64:c9:3f:6c:3a

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "VeriSign Class 3 Public Primary Certification Authority - G4"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\042\325\330\337\217\002\061\321\215\367\235\267\317\212\055\144
\311\077\154\072

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\072\122\341\347\375\157\072\343\157\363\157\231\033\371\042\101

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\062\060\060\067\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\063\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\057\200\376\043\214\016\042\017\110\147\022\050\221\207
\254\263

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "thawte Primary Root CA - G2"

Issuer: CN=thawte Primary Root CA - G2,OU=(c) 2007 thawte\, Inc. - For authorized use only,O=thawte\, Inc.,C=US

Serial Number:35:fc:26:5c:d9:84:4f:c9:3d:26:3d:57:9b:ae:d7:56

Subject: CN=thawte Primary Root CA - G2,OU=(c) 2007 thawte\, Inc. - For authorized use only,O=thawte\, Inc.,C=US

Not Valid Before: Mon Nov 05 00:00:00 2007

Not Valid After: Mon Jan 18 23:59:59 2038

Fingerprint (MD5): 74:9d:ea:60:24:c4:fd:22:53:3e:cc:3a:72:d9:29:4f

Fingerprint (SHA1): aa:db:bc:22:23:8f:c4:01:a1:27:bb:38:dd:f4:1d:db:08:9e:f0:12

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "thawte Primary Root CA - G2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\204\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\070\060\066\006\003\125\004\013
\023\057\050\143\051\040\062\060\060\067\040\164\150\141\167\164
\145\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165
\164\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154
\171\061\044\060\042\006\003\125\004\003\023\033\164\150\141\167
\164\145\040\120\162\151\155\141\162\171\040\122\157\157\164\040
\103\101\040\055\040\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\204\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\070\060\066\006\003\125\004\013
\023\057\050\143\051\040\062\060\060\067\040\164\150\141\167\164
\145\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165
\164\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154
\171\061\044\060\042\006\003\125\004\003\023\033\164\150\141\167
\164\145\040\120\162\151\155\141\162\171\040\122\157\157\164\040
\103\101\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\065\374\046\134\331\204\117\311\075\046\075\127\233\256
\327\126

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\210\060\202\002\015\240\003\002\001\002\002\020\065
\374\046\134\331\204\117\311\075\046\075\127\233\256\327\126\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\204\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006
\003\125\004\012\023\014\164\150\141\167\164\145\054\040\111\156
\143\056\061\070\060\066\006\003\125\004\013\023\057\050\143\051
\040\062\060\060\067\040\164\150\141\167\164\145\054\040\111\156
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151
\172\145\144\040\165\163\145\040\157\156\154\171\061\044\060\042
\006\003\125\004\003\023\033\164\150\141\167\164\145\040\120\162
\151\155\141\162\171\040\122\157\157\164\040\103\101\040\055\040
\107\062\060\036\027\015\060\067\061\061\060\065\060\060\060\060
\060\060\132\027\015\063\070\060\061\061\070\062\063\065\071\065
\071\132\060\201\204\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\025\060\023\006\003\125\004\012\023\014\164\150\141
\167\164\145\054\040\111\156\143\056\061\070\060\066\006\003\125
\004\013\023\057\050\143\051\040\062\060\060\067\040\164\150\141
\167\164\145\054\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\044\060\042\006\003\125\004\003\023\033\164\150
\141\167\164\145\040\120\162\151\155\141\162\171\040\122\157\157
\164\040\103\101\040\055\040\107\062\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\242\325\234\202\173\225\235\361\122\170\207\376\212\026\277
\005\346\337\243\002\117\015\007\306\000\121\272\014\002\122\055
\042\244\102\071\304\376\217\352\311\301\276\324\115\377\237\172
\236\342\261\174\232\255\247\206\011\163\207\321\347\232\343\172
\245\252\156\373\272\263\160\300\147\210\242\065\324\243\232\261
\375\255\302\357\061\372\250\271\363\373\010\306\221\321\373\051
\225\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\232\330\000\060\000\347\153\177\205\030\356\213\266\316\212
\014\370\021\341\273\060\012\006\010\052\206\110\316\075\004\003
\003\003\151\000\060\146\002\061\000\335\370\340\127\107\133\247
\346\012\303\275\365\200\212\227\065\015\033\211\074\124\206\167
\050\312\241\364\171\336\265\346\070\260\360\145\160\214\177\002
\124\302\277\377\330\241\076\331\317\002\061\000\304\215\224\374
\334\123\322\334\235\170\026\037\025\063\043\123\122\343\132\061
\135\235\312\256\275\023\051\104\015\047\133\250\347\150\234\022
\367\130\077\056\162\002\127\243\217\241\024\056

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "thawte Primary Root CA - G2"

```
# Issuer: CN=thawte Primary Root CA - G2,OU=(c) 2007 thawte\, Inc. - For authorized use only,O=thawte\,
Inc.,C=US
# Serial Number:35:fc:26:5c:d9:84:4f:c9:3d:26:3d:57:9b:ae:d7:56
# Subject: CN=thawte Primary Root CA - G2,OU=(c) 2007 thawte\, Inc. - For authorized use only,O=thawte\,
Inc.,C=US
# Not Valid Before: Mon Nov 05 00:00:00 2007
# Not Valid After: Mon Jan 18 23:59:59 2038
# Fingerprint (MD5): 74:9d:ea:60:24:c4:fd:22:53:3e:cc:3a:72:d9:29:4f
# Fingerprint (SHA1): aa:db:bc:22:23:8f:c4:01:a1:27:bb:38:dd:f4:1d:db:08:9e:f0:12
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "thawte Primary Root CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\252\333\274\042\043\217\304\001\241\047\273\070\335\364\035\333
\010\236\360\022
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\164\235\352\140\044\304\375\042\123\076\314\072\162\331\051\117
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\070\060\066\006\003\125\004\013
\023\057\050\143\051\040\062\060\060\067\040\164\150\141\167\164
\145\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165
\164\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154
\171\061\044\060\042\006\003\125\004\003\023\033\164\150\141\167
\164\145\040\120\162\151\155\141\162\171\040\122\157\157\164\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\065\374\046\134\331\204\117\311\075\046\075\127\233\256
\327\126
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "GeoTrust Primary Certification Authority - G2"
# Issuer: CN=GeoTrust Primary Certification Authority - G2,OU=(c) 2007 GeoTrust Inc. - For authorized use
only,O=GeoTrust Inc.,C=US
# Serial Number:3c:b2:f4:48:0a:00:e2:fe:eb:24:3b:5e:60:3e:c3:6b
# Subject: CN=GeoTrust Primary Certification Authority - G2,OU=(c) 2007 GeoTrust Inc. - For authorized use
only,O=GeoTrust Inc.,C=US
```

```
# Not Valid Before: Mon Nov 05 00:00:00 2007
# Not Valid After: Mon Jan 18 23:59:59 2038
# Fingerprint (MD5): 01:5e:d8:6b:bd:6f:3d:8e:a1:31:f8:12:e0:98:73:6a
# Fingerprint (SHA1): 8d:17:84:d5:37:f3:03:7d:ec:70:fe:57:8b:51:9a:99:e6:10:d7:b0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Primary Certification Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\050\143\051\040\062\060\060\067\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\050\143\051\040\062\060\060\067\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\074\262\364\110\012\000\342\376\353\044\073\136\140\076
\303\153
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\256\060\202\002\065\240\003\002\001\002\002\020\074
\262\364\110\012\000\342\376\353\044\073\136\140\076\303\153\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\230\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\026\060\024\006
\003\125\004\012\023\015\107\145\157\124\162\165\163\164\040\111
\156\143\056\061\071\060\067\006\003\125\004\013\023\060\050\143
\051\040\062\060\060\067\040\107\145\157\124\162\165\163\164\040
\111\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157
```

\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061\066
\060\064\006\003\125\004\003\023\055\107\145\157\124\162\165\163
\164\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062\060\036\027\015\060\067\061\061\060\065
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062
\063\065\071\065\071\132\060\201\230\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023
\015\107\145\157\124\162\165\163\164\040\111\156\143\056\061\071
\060\067\006\003\125\004\013\023\060\050\143\051\040\062\060\060
\067\040\107\145\157\124\162\165\163\164\040\111\156\143\056\040
\055\040\106\157\162\040\141\165\164\150\157\162\151\172\145\144
\040\165\163\145\040\157\156\154\171\061\066\060\064\006\003\125
\004\003\023\055\107\145\157\124\162\165\163\164\040\120\162\151
\155\141\162\171\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\025\261\350\375\003\025\103
\345\254\353\207\067\021\142\357\322\203\066\122\175\105\127\013
\112\215\173\124\073\072\156\137\025\002\300\120\246\317\045\057
\175\312\110\270\307\120\143\034\052\041\010\174\232\066\330\013
\376\321\046\305\130\061\060\050\045\363\135\135\243\270\266\245
\264\222\355\154\054\237\353\335\103\211\242\074\113\110\221\035
\120\354\046\337\326\140\056\275\041\243\102\060\100\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\025\137\065\127\121\125\373
\045\262\255\003\151\374\001\243\372\276\021\125\325\060\012\006
\010\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060
\144\226\131\246\350\011\336\213\272\372\132\210\210\360\037\221
\323\106\250\362\112\114\002\143\373\154\137\070\333\056\101\223
\251\016\346\235\334\061\034\262\240\247\030\034\171\341\307\066
\002\060\072\126\257\232\164\154\366\373\203\340\063\323\010\137
\241\234\302\133\237\106\326\266\313\221\006\143\242\006\347\063
\254\076\250\201\022\320\313\272\320\222\013\266\236\226\252\004
\017\212

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "GeoTrust Primary Certification Authority - G2"

Issuer: CN=GeoTrust Primary Certification Authority - G2,OU=(c) 2007 GeoTrust Inc. - For authorized use only,O=GeoTrust Inc.,C=US

Serial Number:3c:b2:f4:48:0a:00:e2:fe:eb:24:3b:5e:60:3e:c3:6b

Subject: CN=GeoTrust Primary Certification Authority - G2,OU=(c) 2007 GeoTrust Inc. - For authorized use only,O=GeoTrust Inc.,C=US


```
# Not Valid Before: Mon Nov 05 00:00:00 2007
# Not Valid After: Mon Jan 18 23:59:59 2038
# Fingerprint (MD5): 01:5e:d8:6b:bd:6f:3d:8e:a1:31:f8:12:e0:98:73:6a
# Fingerprint (SHA1): 8d:17:84:d5:37:f3:03:7d:ec:70:fe:57:8b:51:9a:99:e6:10:d7:b0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Primary Certification Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\215\027\204\325\067\363\003\175\354\160\376\127\213\121\232\231
\346\020\327\260
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\001\136\330\153\275\157\075\216\241\061\370\022\340\230\163\152
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\050\143\051\040\062\060\060\067\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\074\262\364\110\012\000\342\376\353\044\073\136\140\076
\303\153
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "VeriSign Universal Root Certification Authority"
# Issuer: CN=VeriSign Universal Root Certification Authority,OU=(c) 2008 VeriSign\, Inc. - For authorized use
only,OU=VeriSign Trust Network,O=VeriSign\, Inc.,C=US
# Serial Number:40:1a:c4:64:21:b3:13:21:03:0e:bb:e4:12:1a:c5:1d
# Subject: CN=VeriSign Universal Root Certification Authority,OU=(c) 2008 VeriSign\, Inc. - For authorized use
only,OU=VeriSign Trust Network,O=VeriSign\, Inc.,C=US
# Not Valid Before: Wed Apr 02 00:00:00 2008
# Not Valid After: Tue Dec 01 23:59:59 2037
# Fingerprint (MD5): 8e:ad:b5:01:aa:4d:81:e4:8c:1d:d1:e1:14:00:95:19
# Fingerprint (SHA1): 36:79:ca:35:66:87:72:30:4d:30:a5:fb:87:3b:0f:a7:7b:b7:0d:54
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "VeriSign Universal Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\275\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\062\060\060\070\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\070\060\066\006\003\125\004\003\023
\057\126\145\162\151\123\151\147\156\040\125\156\151\166\145\162
\163\141\154\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\275\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\062\060\060\070\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\070\060\066\006\003\125\004\003\023
\057\126\145\162\151\123\151\147\156\040\125\156\151\166\145\162
\163\141\154\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\100\032\304\144\041\263\023\041\003\016\273\344\022\032
\305\035
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\271\060\202\003\241\240\003\002\001\002\002\020\100
\032\304\144\041\263\023\041\003\016\273\344\022\032\305\035\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\275\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027
\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151\147
\156\054\040\111\156\143\056\061\037\060\035\006\003\125\004\013
\023\026\126\145\162\151\123\151\147\156\040\124\162\165\163\164
\040\116\145\164\167\157\162\153\061\072\060\070\006\003\125\004
```

\013\023\061\050\143\051\040\062\060\060\070\040\126\145\162\151
\123\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162
\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040
\157\156\154\171\061\070\060\066\006\003\125\004\003\023\057\126
\145\162\151\123\151\147\156\040\125\156\151\166\145\162\163\141
\154\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036
\027\015\060\070\060\064\060\062\060\060\060\060\060\132\027
\015\063\067\061\062\060\061\062\063\065\071\065\071\132\060\201
\275\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027
\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151\147
\156\054\040\111\156\143\056\061\037\060\035\006\003\125\004\013
\023\026\126\145\162\151\123\151\147\156\040\124\162\165\163\164
\040\116\145\164\167\157\162\153\061\072\060\070\006\003\125\004
\013\023\061\050\143\051\040\062\060\060\070\040\126\145\162\151
\123\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162
\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040
\157\156\154\171\061\070\060\066\006\003\125\004\003\023\057\126
\145\162\151\123\151\147\156\040\125\156\151\166\145\162\163\141
\154\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\307
\141\067\136\261\001\064\333\142\327\025\233\377\130\132\214\043
\043\326\140\216\221\327\220\230\203\172\346\130\031\070\214\305
\366\345\144\205\264\242\161\373\355\275\271\332\315\115\000\264
\310\055\163\245\307\151\161\225\037\071\074\262\104\007\234\350
\016\372\115\112\304\041\337\051\141\217\062\042\141\202\305\207
\037\156\214\174\137\026\040\121\104\321\160\117\127\352\343\034
\343\314\171\356\130\330\016\302\263\105\223\300\054\347\232\027
\053\173\000\067\172\101\063\170\341\063\342\363\020\032\177\207
\054\276\366\365\367\102\342\345\277\207\142\211\137\000\113\337
\305\335\344\165\104\062\101\072\036\161\156\151\313\013\165\106
\010\321\312\322\053\225\320\317\373\271\100\153\144\214\127\115
\374\023\021\171\204\355\136\124\366\064\237\010\001\363\020\045
\006\027\112\332\361\035\172\146\153\230\140\146\244\331\357\322
\056\202\361\360\357\011\352\104\311\025\152\342\003\156\063\323
\254\237\125\000\307\366\010\152\224\271\137\334\340\063\361\204
\140\371\133\047\021\264\374\026\362\273\126\152\200\045\215\002
\003\001\000\001\243\201\262\060\201\257\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\155\006\010\053
\006\001\005\005\007\001\014\004\141\060\137\241\135\240\133\060
\131\060\127\060\125\026\011\151\155\141\147\145\057\147\151\146
\060\041\060\037\060\007\006\005\053\016\003\002\032\004\024\217
\345\323\032\206\254\215\216\153\303\317\200\152\324\110\030\054
\173\031\056\060\045\026\043\150\164\164\160\072\057\057\154\157
\147\157\056\166\145\162\151\163\151\147\156\056\143\157\155\057

```
\166\163\154\157\147\157\056\147\151\146\060\035\006\003\125\035
\016\004\026\004\024\266\167\372\151\110\107\237\123\022\325\302
\352\007\062\166\007\321\227\007\031\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\003\202\001\001\000\112\370\370
\260\003\346\054\147\173\344\224\167\143\314\156\114\371\175\016
\015\334\310\271\065\271\160\117\143\372\044\372\154\203\214\107
\235\073\143\363\232\371\166\062\225\221\261\167\274\254\232\276
\261\344\061\041\306\201\225\126\132\016\261\302\324\261\246\131
\254\361\143\313\270\114\035\131\220\112\357\220\026\050\037\132
\256\020\373\201\120\070\014\154\314\361\075\303\365\143\343\263
\343\041\311\044\071\351\375\025\146\106\364\033\021\320\115\163
\243\175\106\371\075\355\250\137\142\324\361\077\370\340\164\127
\053\030\235\201\264\304\050\332\224\227\245\160\353\254\035\276
\007\021\360\325\333\335\345\214\360\325\062\260\203\346\127\342
\217\277\276\241\252\277\075\035\265\324\070\352\327\260\134\072
\117\152\077\217\300\146\154\143\252\351\331\244\026\364\201\321
\225\024\016\175\315\225\064\331\322\217\160\163\201\173\234\176
\275\230\141\330\105\207\230\220\305\353\206\060\306\065\277\360
\377\303\125\210\203\113\357\005\222\006\161\362\270\230\223\267
\354\315\202\141\361\070\346\117\227\230\052\132\215
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "VeriSign Universal Root Certification Authority"

Issuer: CN=VeriSign Universal Root Certification Authority,OU=(c) 2008 VeriSign\, Inc. - For authorized use only,OU=VeriSign Trust Network,O=VeriSign\, Inc.,C=US

Serial Number:40:1a:c4:64:21:b3:13:21:03:0e:bb:e4:12:1a:c5:1d

Subject: CN=VeriSign Universal Root Certification Authority,OU=(c) 2008 VeriSign\, Inc. - For authorized use only,OU=VeriSign Trust Network,O=VeriSign\, Inc.,C=US

Not Valid Before: Wed Apr 02 00:00:00 2008

Not Valid After: Tue Dec 01 23:59:59 2037

Fingerprint (MD5): 8e:ad:b5:01:aa:4d:81:e4:8c:1d:d1:e1:14:00:95:19

Fingerprint (SHA1): 36:79:ca:35:66:87:72:30:4d:30:a5:fb:87:3b:0f:a7:7b:b7:0d:54

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "VeriSign Universal Root Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\066\171\312\065\146\207\162\060\115\060\245\373\207\073\017\247
\173\267\015\124
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\216\255\265\001\252\115\201\344\214\035\321\341\024\000\225\031
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\275\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\062\060\060\070\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\070\060\066\006\003\125\004\003\023
\057\126\145\162\151\123\151\147\156\040\125\156\151\166\145\162
\163\141\154\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\100\032\304\144\041\263\023\041\003\016\273\344\022\032
\305\035
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "thawte Primary Root CA - G3"
# Issuer: CN=thawte Primary Root CA - G3,OU=(c) 2008 thawte\, Inc. - For authorized use only,OU=Certification
Services Division,O=thawte\, Inc.,C=US
# Serial Number:60:01:97:b7:46:a7:ea:b4:b4:9a:d6:4b:2f:f7:90:fb
# Subject: CN=thawte Primary Root CA - G3,OU=(c) 2008 thawte\, Inc. - For authorized use only,OU=Certification
Services Division,O=thawte\, Inc.,C=US
# Not Valid Before: Wed Apr 02 00:00:00 2008
# Not Valid After: Tue Dec 01 23:59:59 2037
# Fingerprint (MD5): fb:1b:5d:43:8a:94:cd:44:c6:76:f2:43:4b:47:e7:31
# Fingerprint (SHA1): f1:8b:53:8d:1b:e9:03:b6:a6:f0:56:43:5b:17:15:89:ca:f3:6b:f2
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "thawte Primary Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157
\156\061\070\060\066\006\003\125\004\013\023\057\050\143\051\040
\062\060\060\070\040\164\150\141\167\164\145\054\040\111\156\143
```

\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151\172
\145\144\040\165\163\145\040\157\156\154\171\061\044\060\042\006
\003\125\004\003\023\033\164\150\141\167\164\145\040\120\162\151
\155\141\162\171\040\122\157\157\164\040\103\101\040\055\040\107
\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\256\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157
\156\061\070\060\066\006\003\125\004\013\023\057\050\143\051\040
\062\060\060\070\040\164\150\141\167\164\145\054\040\111\156\143
\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151\172
\145\144\040\165\163\145\040\157\156\154\171\061\044\060\042\006
\003\125\004\003\023\033\164\150\141\167\164\145\040\120\162\151
\155\141\162\171\040\122\157\157\164\040\103\101\040\055\040\107
\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\140\001\227\267\106\247\352\264\264\232\326\113\057\367
\220\373

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\052\060\202\003\022\240\003\002\001\002\002\020\140
\001\227\267\106\247\352\264\264\232\326\113\057\367\220\373\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\256\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025
\060\023\006\003\125\004\012\023\014\164\150\141\167\164\145\054
\040\111\156\143\056\061\050\060\046\006\003\125\004\013\023\037
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\040\104\151\166\151\163\151\157\156\061
\070\060\066\006\003\125\004\013\023\057\050\143\051\040\062\060
\060\070\040\164\150\141\167\164\145\054\040\111\156\143\056\040
\055\040\106\157\162\040\141\165\164\150\157\162\151\172\145\144
\040\165\163\145\040\157\156\154\171\061\044\060\042\006\003\125
\004\003\023\033\164\150\141\167\164\145\040\120\162\151\155\141
\162\171\040\122\157\157\164\040\103\101\040\055\040\107\063\060
\036\027\015\060\070\060\064\060\062\060\060\060\060\060\060\132
\027\015\063\067\061\062\060\061\062\063\065\071\065\071\132\060
\201\256\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164\145
\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013\023
\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123
\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157\156
\061\070\060\066\006\003\125\004\013\023\057\050\143\051\040\062

\060\060\070\040\164\150\141\167\164\145\054\040\111\156\143\056
\040\055\040\106\157\162\040\141\165\164\150\157\162\151\172\145
\144\040\165\163\145\040\157\156\154\171\061\044\060\042\006\003
\125\004\003\023\033\164\150\141\167\164\145\040\120\162\151\155
\141\162\171\040\122\157\157\164\040\103\101\040\055\040\107\063
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\262\277\047\054\373\333\330\133\335\170\173\033\236\167\146
\201\313\076\274\174\256\363\246\047\232\064\243\150\061\161\070
\063\142\344\363\161\146\171\261\251\145\243\245\213\325\217\140
\055\077\102\314\252\153\062\300\043\313\054\101\335\344\337\374
\141\234\342\163\262\042\225\021\103\030\137\304\266\037\127\154
\012\005\130\042\310\066\114\072\174\245\321\317\206\257\210\247
\104\002\023\164\161\163\012\102\131\002\370\033\024\153\102\337
\157\137\272\153\202\242\235\133\347\112\275\036\001\162\333\113
\164\350\073\177\177\175\037\004\264\046\233\340\264\132\254\107
\075\125\270\327\260\046\122\050\001\061\100\146\330\331\044\275
\366\052\330\354\041\111\134\233\366\172\351\177\125\065\176\226
\153\215\223\223\047\313\222\273\352\254\100\300\237\302\370\200
\317\135\364\132\334\316\164\206\246\076\154\013\123\312\275\222
\316\031\006\162\346\014\134\070\151\307\004\326\274\154\316\133
\366\367\150\234\334\045\025\110\210\241\351\251\370\230\234\340
\363\325\061\050\141\021\154\147\226\215\071\231\313\302\105\044
\071\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125
\035\016\004\026\004\024\255\154\252\224\140\234\355\344\377\372
\076\012\164\053\143\003\367\266\131\277\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\032\100
\330\225\145\254\011\222\211\306\071\364\020\345\251\016\146\123
\135\170\336\372\044\221\273\347\104\121\337\306\026\064\012\357
\152\104\121\352\053\007\212\003\172\303\353\077\012\054\122\026
\240\053\103\271\045\220\077\160\251\063\045\155\105\032\050\073
\047\317\252\303\051\102\033\337\073\114\300\063\064\133\101\210
\277\153\053\145\257\050\357\262\365\303\252\146\316\173\126\356
\267\310\313\147\301\311\234\032\030\270\304\303\111\003\361\140
\016\120\315\106\305\363\167\171\367\266\025\340\070\333\307\057
\050\240\014\077\167\046\164\331\045\022\332\061\332\032\036\334
\051\101\221\042\074\151\247\273\002\362\266\134\047\003\211\364
\006\352\233\344\162\202\343\241\011\301\351\000\031\323\076\324
\160\153\272\161\246\252\130\256\364\273\351\154\266\357\207\314
\233\273\377\071\346\126\141\323\012\247\304\134\114\140\173\005
\167\046\172\277\330\007\122\054\142\367\160\143\331\071\274\157
\034\302\171\334\166\051\257\316\305\054\144\004\136\210\066\156
\061\324\100\032\142\064\066\077\065\001\256\254\143\240

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "thawte Primary Root CA - G3"

Issuer: CN=thawte Primary Root CA - G3,OU=(c) 2008 thawte\, Inc. - For authorized use only,OU=Certification Services Division,O=thawte\, Inc.,C=US

Serial Number:60:01:97:b7:46:a7:ea:b4:b4:9a:d6:4b:2f:f7:90:fb

Subject: CN=thawte Primary Root CA - G3,OU=(c) 2008 thawte\, Inc. - For authorized use only,OU=Certification Services Division,O=thawte\, Inc.,C=US

Not Valid Before: Wed Apr 02 00:00:00 2008

Not Valid After: Tue Dec 01 23:59:59 2037

Fingerprint (MD5): fb:1b:5d:43:8a:94:cd:44:c6:76:f2:43:4b:47:e7:31

Fingerprint (SHA1): f1:8b:53:8d:1b:e9:03:b6:a6:f0:56:43:5b:17:15:89:ca:f3:6b:f2

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "thawte Primary Root CA - G3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\361\213\123\215\033\351\003\266\246\360\126\103\133\027\025\211

\312\363\153\362

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\373\033\135\103\212\224\315\104\306\166\362\103\113\107\347\061

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\256\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157
\156\061\070\060\066\006\003\125\004\013\023\057\050\143\051\040
\062\060\060\070\040\164\150\141\167\164\145\054\040\111\156\143
\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151\172
\145\144\040\165\163\145\040\157\156\154\171\061\044\060\042\006
\003\125\004\003\023\033\164\150\141\167\164\145\040\120\162\151
\155\141\162\171\040\122\157\157\164\040\103\101\040\055\040\107
\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\140\001\227\267\106\247\352\264\264\232\326\113\057\367
\220\373

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE


```

# Microsoft Code Signing Only Certificate
# Certificate "GeoTrust Primary Certification Authority - G3"
# Issuer: CN=GeoTrust Primary Certification Authority - G3,OU=(c) 2008 GeoTrust Inc. - For authorized use
only,O=GeoTrust Inc.,C=US
# Serial Number:15:ac:6e:94:19:b2:79:4b:41:f6:27:a9:c3:18:0f:1f
# Subject: CN=GeoTrust Primary Certification Authority - G3,OU=(c) 2008 GeoTrust Inc. - For authorized use
only,O=GeoTrust Inc.,C=US
# Not Valid Before: Wed Apr 02 00:00:00 2008
# Not Valid After: Tue Dec 01 23:59:59 2037
# Fingerprint (MD5): b5:e8:34:36:c9:10:44:58:48:70:6d:2e:83:d4:b8:05
# Fingerprint (SHA1): 03:9e:ed:b8:0b:e7:a0:3c:69:53:89:3b:20:d2:d9:32:3a:4c:2a:fd
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\050\143\051\040\062\060\060\070\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\050\143\051\040\062\060\060\070\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\254\156\224\031\262\171\113\101\366\047\251\303\030
\017\037
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\376\060\202\002\346\240\003\002\001\002\002\020\025

```

\254\156\224\031\262\171\113\101\366\047\251\303\030\017\037\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\230\061\013\060\011\006\003\125\004\006\023\002\125\123\061\026
\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165\163
\164\040\111\156\143\056\061\071\060\067\006\003\125\004\013\023
\060\050\143\051\040\062\060\060\070\040\107\145\157\124\162\165
\163\164\040\111\156\143\056\040\055\040\106\157\162\040\141\165
\164\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154
\171\061\066\060\064\006\003\125\004\003\023\055\107\145\157\124
\162\165\163\164\040\120\162\151\155\141\162\171\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\055\040\107\063\060\036\027\015\060\070\060
\064\060\062\060\060\060\060\060\060\132\027\015\063\067\061\062
\060\061\062\063\065\071\065\071\132\060\201\230\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\026\060\024\006\003\125
\004\012\023\015\107\145\157\124\162\165\163\164\040\111\156\143
\056\061\071\060\067\006\003\125\004\013\023\060\050\143\051\040
\062\060\060\070\040\107\145\157\124\162\165\163\164\040\111\156
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151
\172\145\144\040\165\163\145\040\157\156\154\171\061\066\060\064
\006\003\125\004\003\023\055\107\145\157\124\162\165\163\164\040
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040
\055\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\334\342\136\142\130\035\063\127\071\062\063
\372\353\313\207\214\247\324\112\335\006\210\352\144\216\061\230
\245\070\220\036\230\317\056\143\053\360\106\274\104\262\211\241
\300\050\014\111\160\041\225\237\144\300\246\223\022\002\145\046
\206\306\245\211\360\372\327\204\240\160\257\117\032\227\077\006
\104\325\311\353\162\020\175\344\061\050\373\034\141\346\050\007
\104\163\222\042\151\247\003\210\154\235\143\310\122\332\230\047
\347\010\114\160\076\264\311\022\301\305\147\203\135\063\363\003
\021\354\152\320\123\342\321\272\066\140\224\200\273\141\143\154
\133\027\176\337\100\224\036\253\015\302\041\050\160\210\377\326
\046\154\154\140\004\045\116\125\176\175\357\277\224\110\336\267
\035\335\160\215\005\137\210\245\233\362\302\356\352\321\100\101
\155\142\070\035\126\006\305\003\107\121\040\031\374\173\020\013
\016\142\256\166\125\277\137\167\276\076\111\001\123\075\230\045
\003\166\044\132\035\264\333\211\352\171\345\266\263\073\077\272
\114\050\101\177\006\254\152\216\301\320\366\005\035\175\346\102
\206\343\245\325\107\002\003\001\000\001\243\102\060\100\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\035\006\003\125\035\016\004\026\004\024\304\171\312\216\241\116
\003\035\034\334\153\333\061\133\224\076\077\060\177\055\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\055\305\023\317\126\200\173\172\170\275\237\256\054\231

```
\347\357\332\337\224\136\011\151\247\347\156\150\214\275\162\276
\107\251\016\227\022\270\112\361\144\323\071\337\045\064\324\301
\315\116\201\360\017\004\304\044\263\064\226\306\246\252\060\337
\150\141\163\327\371\216\205\211\357\016\136\225\050\112\052\047
\217\020\216\056\174\206\304\002\236\332\014\167\145\016\104\015
\222\375\375\263\026\066\372\021\015\035\214\016\007\211\152\051
\126\367\162\364\335\025\234\167\065\146\127\253\023\123\330\216
\301\100\305\327\023\026\132\162\307\267\151\001\304\172\261\203
\001\150\175\215\101\241\224\030\301\045\134\374\360\376\203\002
\207\174\015\015\317\056\010\134\112\100\015\076\354\201\141\346
\044\333\312\340\016\055\007\262\076\126\334\215\365\101\205\007
\110\233\014\013\313\111\077\175\354\267\375\313\215\147\211\032
\253\355\273\036\243\000\010\010\027\052\202\134\061\135\106\212
\055\017\206\233\164\331\105\373\324\100\261\172\252\150\055\206
\262\231\042\341\301\053\307\234\370\363\137\250\202\022\353\031
\021\055
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "GeoTrust Primary Certification Authority - G3"

Issuer: CN=GeoTrust Primary Certification Authority - G3,OU=(c) 2008 GeoTrust Inc. - For authorized use only,O=GeoTrust Inc.,C=US

Serial Number:15:ac:6e:94:19:b2:79:4b:41:f6:27:a9:c3:18:0f:1f

Subject: CN=GeoTrust Primary Certification Authority - G3,OU=(c) 2008 GeoTrust Inc. - For authorized use only,O=GeoTrust Inc.,C=US

Not Valid Before: Wed Apr 02 00:00:00 2008

Not Valid After: Tue Dec 01 23:59:59 2037

Fingerprint (MD5): b5:e8:34:36:c9:10:44:58:48:70:6d:2e:83:d4:b8:05

Fingerprint (SHA1): 03:9e:ed:b8:0b:e7:a0:3c:69:53:89:3b:20:d2:d9:32:3a:4c:2a:fd

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GeoTrust Primary Certification Authority - G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\003\236\355\270\013\347\240\074\151\123\211\073\040\322\331\062
\072\114\052\375
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\265\350\064\066\311\020\104\130\110\160\155\056\203\324\270\005
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
```

```
\013\023\060\050\143\051\040\062\060\060\070\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\063
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\025\254\156\224\031\262\171\113\101\366\047\251\303\030
\017\037
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Certificate "E-ME SSI (RCA)"

Issuer: CN=E-ME SSI (RCA),OU=Sertifikācijas pakalpojumu dala,C=LV

Serial Number:2e:ef:db:fb:d8:89:3d:8f:49:1c:93:72:fe:45:df:ed

Subject: CN=E-ME SSI (RCA),OU=Sertifikācijas pakalpojumu dala,C=LV

Not Valid Before: Tue May 19 08:45:56 2009

Not Valid After: Wed May 19 08:48:15 2027

Fingerprint (MD5): cb:bd:c3:68:2d:b3:cb:18:59:d3:29:52:e8:c6:64:89

Fingerprint (SHA1): c9:32:1d:e6:b5:a8:26:66:cf:69:71:a1:8a:56:f2:d3:a8:67:56:02

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "E-ME SSI (RCA)"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\120\061\013\060\011\006\003\125\004\006\023\002\114\126\061
\050\060\046\006\003\125\004\013\023\037\123\145\162\164\151\146
\151\153\141\143\151\152\141\163\040\160\141\153\141\154\160\157
\152\165\155\165\040\144\141\154\141\061\027\060\025\006\003\125
\004\003\023\016\105\055\115\105\040\123\123\111\040\050\122\103
\101\051
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\120\061\013\060\011\006\003\125\004\006\023\002\114\126\061
\050\060\046\006\003\125\004\013\023\037\123\145\162\164\151\146
\151\153\141\143\151\152\141\163\040\160\141\153\141\154\160\157
\152\165\155\165\040\144\141\154\141\061\027\060\025\006\003\125
\004\003\023\016\105\055\115\105\040\123\123\111\040\050\122\103
\101\051
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\056\357\333\373\330\211\075\217\111\034\223\162\376\105
\337\355

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\340\060\202\003\310\240\003\002\001\002\002\020\056
\357\333\373\330\211\075\217\111\034\223\162\376\105\337\355\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\120
\061\013\060\011\006\003\125\004\006\023\002\114\126\061\050\060
\046\006\003\125\004\013\023\037\123\145\162\164\151\146\151\153
\141\143\151\152\141\163\040\160\141\153\141\154\160\157\152\165
\155\165\040\144\141\154\141\061\027\060\025\006\003\125\004\003
\023\016\105\055\115\105\040\123\123\111\040\050\122\103\101\051
\060\036\027\015\060\071\060\065\061\071\060\070\064\065\065\066
\132\027\015\062\067\060\065\061\071\060\070\064\070\061\065\132
\060\120\061\013\060\011\006\003\125\004\006\023\002\114\126\061
\050\060\046\006\003\125\004\013\023\037\123\145\162\164\151\146
\151\153\141\143\151\152\141\163\040\160\141\153\141\154\160\157
\152\165\155\165\040\144\141\154\141\061\027\060\025\006\003\125
\004\003\023\016\105\055\115\105\040\123\123\111\040\050\122\103
\101\051\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\304\004\153\000\303\260\340\056\073\350\123\005\005
\010\276\310\204\047\125\326\035\212\022\342\027\042\132\154\377
\263\335\266\231\303\312\301\352\371\330\045\265\337\072\235\235
\077\122\305\351\362\254\277\211\164\212\124\256\116\317\156\362
\136\256\332\275\022\007\231\225\317\144\253\376\231\221\144\131
\214\311\276\104\152\061\233\230\352\272\352\321\041\016\050\013
\071\233\343\326\212\246\367\002\272\077\075\331\131\364\171\231
\336\323\044\233\213\160\033\052\204\326\345\011\017\046\046\044
\130\217\045\136\363\305\235\164\211\245\066\305\345\122\262\353
\350\206\223\107\156\247\051\207\244\176\334\264\243\313\062\126
\367\105\200\332\134\307\057\240\247\327\357\365\374\265\250\315
\204\225\142\370\251\053\043\073\155\323\267\222\310\352\301\274
\024\115\350\153\234\026\172\323\354\007\373\007\045\020\117\024
\207\173\222\066\316\126\202\145\113\023\046\006\330\243\243\246
\337\302\172\373\173\065\005\242\023\075\076\166\274\034\127\203
\003\121\307\064\336\132\365\074\275\066\045\234\026\017\115\316
\350\015\032\313\135\103\242\024\157\272\174\140\324\002\205\166
\305\153\052\270\105\261\134\167\107\021\255\240\045\251\146\221
\214\121\027\155\141\125\012\031\077\233\002\377\304\365\326\322
\263\351\045\123\341\004\075\217\042\320\242\145\345\256\247\264
\340\035\221\152\302\206\222\367\072\135\023\247\172\114\102\337
\132\263\112\210\104\054\357\107\272\251\257\326\317\142\163\212
\006\042\026\054\302\354\037\006\250\323\107\120\131\062\022\345
\271\235\142\065\236\312\136\012\264\235\043\210\302\323\117\054
\054\311\223\350\176\270\011\354\246\331\335\143\341\311\250\152

\150\334\204\121\254\132\022\347\073\246\265\007\012\261\252\116
\263\264\242\127\337\067\154\026\116\253\231\062\172\360\234\043
\045\213\312\232\250\214\340\070\041\264\316\367\154\141\310\342
\014\022\131\006\201\046\066\132\017\065\163\324\026\105\375\336
\225\336\326\113\134\237\163\331\276\031\275\347\277\344\125\152
\310\153\104\367\307\270\063\210\171\031\015\006\144\350\257\013
\241\165\014\122\145\272\012\043\225\161\367\143\374\176\345\214
\217\314\321\002\003\001\000\001\243\201\265\060\201\262\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\030
\006\010\053\006\001\005\005\007\001\003\004\014\060\012\060\010
\006\006\004\000\216\106\001\001\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\073\046\003\272\317\343\131\106\102\120\255\024
\234\277\003\073\357\326\076\061\060\020\006\011\053\006\001\004
\001\202\067\025\001\004\003\002\001\000\060\104\006\003\125\035
\040\004\075\060\073\060\071\006\013\053\006\001\004\001\201\372
\075\001\001\001\060\052\060\050\006\010\053\006\001\005\005\007
\002\001\026\034\150\164\164\160\072\057\057\167\167\167\056\145
\155\145\056\154\166\057\162\145\160\157\163\151\164\157\162\171
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\002\001\000\205\346\246\224\344\331\106\137\235\277\223\273
\371\153\166\144\050\256\277\074\105\052\212\223\171\154\323\113
\210\206\040\153\042\046\070\075\034\023\252\353\141\227\154\056
\076\127\234\154\103\242\336\155\100\304\061\362\155\272\106\026
\263\055\306\273\246\334\345\057\261\330\301\325\221\036\021\177
\373\137\241\334\035\141\370\155\233\141\360\342\077\053\161\325
\015\313\336\337\145\077\240\157\225\233\172\313\333\065\067\051
\135\136\235\271\124\261\254\140\022\345\143\331\315\257\122\033
\005\226\023\174\332\044\165\001\255\324\236\245\313\301\022\105
\117\127\257\043\277\051\274\352\216\255\170\370\207\043\350\110
\313\100\250\276\135\063\326\354\306\006\103\302\147\052\350\343
\205\056\140\236\104\057\053\117\061\261\007\235\225\041\325\052
\222\257\200\221\323\307\051\275\315\361\025\014\237\001\356\370
\055\073\244\007\160\111\171\044\355\274\241\323\226\121\202\237
\302\310\274\336\043\232\307\120\053\232\266\170\122\252\316\225
\366\140\073\242\231\371\046\146\364\107\054\101\045\274\101\372
\326\213\177\275\137\202\174\323\105\205\264\114\330\354\263\027
\357\104\072\365\050\145\357\365\236\161\314\041\336\350\326\121
\034\020\373\100\374\111\345\134\204\027\257\252\031\136\242\355
\116\036\242\373\312\107\034\034\144\076\024\221\242\071\031\064
\210\177\221\313\073\235\031\160\352\050\373\374\120\017\314\275
\075\136\002\003\153\171\065\104\101\166\356\266\055\164\204\341
\202\161\323\045\260\323\303\231\104\253\077\342\014\245\356\275
\246\374\244\021\000\356\234\275\067\321\326\142\304\060\024\055
\020\012\227\212\210\365\045\074\226\276\106\100\032\212\300\205
\166\304\240\111\340\111\245\347\031\265\011\363\314\115\355\026
\136\232\324\323\310\151\320\330\212\067\205\153\116\344\252\007
\222\134\324\161\161\201\110\323\170\365\126\140\376\314\002\324

```
\000\223\037\114\222\100\227\276\162\123\171\056\046\122\276\246
\243\164\261\224\331\024\143\072\156\133\321\074\222\047\122\220
\062\132\222\322\017\116\133\013\006\072\142\345\326\047\014\001
\366\045\002\270\213\020\051\102\251\367\151\312\334\353\012\222
\113\050\061\206
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "E-ME SSI (RCA)"

Issuer: CN=E-ME SSI (RCA),OU=Sertifikācijas pakalpojumu dala,C=LV

Serial Number:2e:ef:db:fb:d8:89:3d:8f:49:1c:93:72:fe:45:df:ed

Subject: CN=E-ME SSI (RCA),OU=Sertifikācijas pakalpojumu dala,C=LV

Not Valid Before: Tue May 19 08:45:56 2009

Not Valid After: Wed May 19 08:48:15 2027

Fingerprint (MD5): cb:bd:c3:68:2d:b3:cb:18:59:d3:29:52:e8:c6:64:89

Fingerprint (SHA1): c9:32:1d:e6:b5:a8:26:66:cf:69:71:a1:8a:56:f2:d3:a8:67:56:02

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "E-ME SSI (RCA)"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\311\062\035\346\265\250\046\146\317\151\161\241\212\126\362\323
\250\147\126\002
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\313\275\303\150\055\263\313\030\131\323\051\122\350\306\144\211
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\120\061\013\060\011\006\003\125\004\006\023\002\114\126\061
\050\060\046\006\003\125\004\013\023\037\123\145\162\164\151\146
\151\153\141\143\151\152\141\163\040\160\141\153\141\154\160\157
\152\165\155\165\040\144\141\154\141\061\027\060\025\006\003\125
\004\003\023\016\105\055\115\105\040\123\123\111\040\050\122\103
\101\051
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\056\357\333\373\330\211\075\217\111\034\223\162\376\105
\337\355
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "ACEDICOM Root"
# Issuer: C=ES,O=EDICOM,OU=PKI,CN=ACEDICOM Root
# Serial Number:61:8d:c7:86:3b:01:82:05
# Subject: C=ES,O=EDICOM,OU=PKI,CN=ACEDICOM Root
# Not Valid Before: Fri Apr 18 16:24:22 2008
# Not Valid After: Thu Apr 13 16:24:22 2028
# Fingerprint (MD5): 42:81:a0:e2:1c:e3:55:10:de:55:89:42:65:96:22:e6
# Fingerprint (SHA1): e0:b4:32:2e:b2:f6:a5:68:b6:54:53:84:48:18:4a:50:36:87:43:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACEDICOM Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\026\060\024\006\003\125\004\003\014\015\101\103\105
\104\111\103\117\115\040\122\157\157\164\061\014\060\012\006\003
\125\004\013\014\003\120\113\111\061\017\060\015\006\003\125\004
\012\014\006\105\104\111\103\117\115\061\013\060\011\006\003\125
\004\006\023\002\105\123
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\026\060\024\006\003\125\004\003\014\015\101\103\105
\104\111\103\117\115\040\122\157\157\164\061\014\060\012\006\003
\125\004\013\014\003\120\113\111\061\017\060\015\006\003\125\004
\012\014\006\105\104\111\103\117\115\061\013\060\011\006\003\125
\004\006\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\141\215\307\206\073\001\202\005
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\265\060\202\003\235\240\003\002\001\002\002\010\141
\215\307\206\073\001\202\005\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\104\061\026\060\024\006\003\125\004
\003\014\015\101\103\105\104\111\103\117\115\040\122\157\157\164
\061\014\060\012\006\003\125\004\013\014\003\120\113\111\061\017
\060\015\006\003\125\004\012\014\006\105\104\111\103\117\115\061
\013\060\011\006\003\125\004\006\023\002\105\123\060\036\027\015
\060\070\060\064\061\070\061\066\062\064\062\062\132\027\015\062
\070\060\064\061\063\061\066\062\064\062\062\132\060\104\061\026
\060\024\006\003\125\004\003\014\015\101\103\105\104\111\103\117
\115\040\122\157\157\164\061\014\060\012\006\003\125\004\013\014
\003\120\113\111\061\017\060\015\006\003\125\004\012\014\006\105
\104\111\103\117\115\061\013\060\011\006\003\125\004\006\023\002
\105\123\060\202\002\042\060\015\006\011\052\206\110\206\367\015
```


\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\377\222\225\341\150\006\166\264\054\310\130\110\312
\375\200\124\051\125\143\044\377\220\145\233\020\165\173\303\152
\333\142\002\001\362\030\206\265\174\132\070\261\344\130\271\373
\323\330\055\237\275\062\067\277\054\025\155\276\265\364\041\322
\023\221\331\007\255\001\005\326\363\275\167\316\137\102\201\012
\371\152\343\203\000\250\053\056\125\023\143\201\312\107\034\173
\134\026\127\172\033\203\140\004\072\076\145\303\315\001\336\336
\244\326\014\272\216\336\331\004\356\027\126\042\233\217\143\375
\115\026\013\267\173\167\214\371\045\265\321\155\231\022\056\117
\032\270\346\352\004\222\256\075\021\271\121\102\075\207\260\061
\205\257\171\132\234\376\347\116\136\222\117\103\374\253\072\255
\245\022\046\146\271\342\014\327\230\316\324\130\245\225\100\012
\267\104\235\023\164\053\302\245\353\042\025\230\020\330\213\305
\004\237\035\217\140\345\006\033\233\317\271\171\240\075\242\043
\077\102\077\153\372\034\003\173\060\215\316\154\300\277\346\033
\137\277\147\270\204\031\325\025\357\173\313\220\066\061\142\311
\274\002\253\106\137\233\376\032\150\224\064\075\220\216\255\366
\344\035\011\177\112\210\070\077\276\147\375\064\226\365\035\274
\060\164\313\070\356\325\154\253\324\374\364\000\267\000\133\205
\062\026\166\063\351\330\243\231\235\005\000\252\026\346\363\201
\175\157\175\252\206\155\255\025\164\323\304\242\161\252\364\024
\175\347\062\270\037\274\325\361\116\275\157\027\002\071\327\016
\225\102\072\307\000\076\351\046\143\021\352\013\321\112\377\030
\235\262\327\173\057\072\331\226\373\350\036\222\256\023\125\310
\331\047\366\334\110\033\260\044\301\205\343\167\235\232\244\363
\014\021\035\015\310\264\024\356\265\202\127\011\277\040\130\177
\057\042\043\330\160\313\171\154\311\113\362\251\052\310\374\207
\053\327\032\120\370\047\350\057\103\343\072\275\330\127\161\375
\316\246\122\133\371\335\115\355\345\366\157\211\355\273\223\234
\166\041\165\360\222\114\051\367\057\234\001\056\376\120\106\236
\144\014\024\263\007\133\305\302\163\154\361\007\134\105\044\024
\065\256\203\361\152\115\211\172\372\263\330\055\146\360\066\207
\365\053\123\002\003\001\000\001\243\201\252\060\201\247\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\037\006\003\125\035\043\004\030\060\026\200\024\246\263\341\053
\053\111\266\327\163\241\252\224\365\001\347\163\145\114\254\120
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\035\006\003\125\035\016\004\026\004\024\246\263\341\053\053
\111\266\327\163\241\252\224\365\001\347\163\145\114\254\120\060
\104\006\003\125\035\040\004\075\060\073\060\071\006\004\125\035
\040\000\060\061\060\057\006\010\053\006\001\005\005\007\002\001
\026\043\150\164\164\160\072\057\057\141\143\145\144\151\143\157
\155\056\145\144\151\143\157\155\147\162\157\165\160\056\143\157
\155\057\144\157\143\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\002\001\000\316\054\013\122\121\142\046
\175\014\047\203\217\305\366\332\240\150\173\117\222\136\352\244
\163\062\021\123\104\262\104\313\235\354\017\171\102\263\020\246

\307\015\235\313\266\372\077\072\174\352\277\210\123\033\074\367
\202\372\005\065\063\341\065\250\127\300\347\375\215\117\077\223
\062\117\170\146\003\167\007\130\351\225\310\176\076\320\171\000
\214\362\033\121\063\233\274\224\351\072\173\156\122\055\062\236
\043\244\105\373\266\056\023\260\213\030\261\335\316\325\035\247
\102\177\125\276\373\133\273\107\324\374\044\315\004\256\226\005
\025\326\254\316\060\363\312\013\305\272\342\042\340\246\255\042
\344\002\356\164\021\177\114\377\170\035\065\332\346\002\064\353
\030\022\141\167\006\011\026\143\352\030\255\242\207\037\362\307
\200\011\011\165\116\020\250\217\075\206\270\165\021\300\044\142
\212\226\173\112\105\351\354\131\305\276\153\203\346\341\350\254
\265\060\036\376\005\007\200\371\341\043\015\120\217\005\230\377
\054\137\350\073\266\255\317\201\265\041\207\312\010\052\043\047
\060\040\053\317\355\224\133\254\262\172\322\307\050\241\212\013
\233\115\112\054\155\205\077\011\162\074\147\342\331\334\007\272
\353\145\173\132\001\143\326\220\133\117\027\146\075\177\013\031
\243\223\143\020\122\052\237\024\026\130\342\334\245\364\241\026
\213\016\221\213\201\312\233\131\372\330\153\221\007\145\125\137
\122\037\257\072\373\220\335\151\245\133\234\155\016\054\266\372
\316\254\245\174\062\112\147\100\334\060\064\043\335\327\004\043
\146\360\374\125\200\247\373\146\031\202\065\147\142\160\071\136
\157\307\352\220\100\104\010\036\270\262\326\333\356\131\247\015
\030\171\064\274\124\030\136\123\312\064\121\355\105\012\346\216
\307\202\066\076\247\070\143\251\060\054\027\020\140\222\237\125
\207\022\131\020\302\017\147\151\021\314\116\036\176\112\232\255
\257\100\250\165\254\126\220\164\270\240\234\245\171\157\334\351
\032\310\151\005\351\272\372\003\263\174\344\340\116\302\316\235
\350\266\106\015\156\176\127\072\147\224\302\313\037\234\167\112
\147\116\151\206\103\223\070\373\266\333\117\203\221\324\140\176
\113\076\053\070\007\125\230\136\244

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "ACEDICOM Root"
Issuer: C=ES,O=EDICOM,OU=PKI,CN=ACEDICOM Root
Serial Number:61:8d:c7:86:3b:01:82:05
Subject: C=ES,O=EDICOM,OU=PKI,CN=ACEDICOM Root
Not Valid Before: Fri Apr 18 16:24:22 2008
Not Valid After: Thu Apr 13 16:24:22 2028
Fingerprint (MD5): 42:81:a0:e2:1c:e3:55:10:de:55:89:42:65:96:22:e6
Fingerprint (SHA1): e0:b4:32:2e:b2:f6:a5:68:b6:54:53:84:48:18:4a:50:36:87:43:84
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "ACEDICOM Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\340\264\062\056\262\366\245\150\266\124\123\204\110\030\112\120
\066\207\103\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\102\201\240\342\034\343\125\020\336\125\211\102\145\226\042\346
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\026\060\024\006\003\125\004\003\014\015\101\103\105
\104\111\103\117\115\040\122\157\157\164\061\014\060\012\006\003
\125\004\013\014\003\120\113\111\061\017\060\015\006\003\125\004
\012\014\006\105\104\111\103\117\115\061\013\060\011\006\003\125
\004\006\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\141\215\307\206\073\001\202\005
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Autoridad Certificadora Raiz de la Secretaria de Economia"
# Issuer: 1.2.840.113549.1.9.1=acrse@economia.gob.mx,O=Secretaria de Economia,OU=Direccion General de
Normatividad Mercantil,CN=Autoridad Certificadora Raiz de la Secretaria de Economia,STREET=Insurgentes Sur
1940,2.5.4.17=01030,C=MX,ST=Distrito Federal,L=Alvaro Obregon
# Serial Number: 1 (0x1)
# Subject: 1.2.840.113549.1.9.1=acrse@economia.gob.mx,O=Secretaria de Economia,OU=Direccion General de
Normatividad Mercantil,CN=Autoridad Certificadora Raiz de la Secretaria de Economia,STREET=Insurgentes Sur
1940,2.5.4.17=01030,C=MX,ST=Distrito Federal,L=Alvaro Obregon
# Not Valid Before: Sun May 08 00:00:00 2005
# Not Valid After: Thu May 08 00:00:00 2025
# Fingerprint (MD5): 07:61:92:04:7e:a6:b9:cd:5e:6b:00:7a:e3:bf:1d:04
# Fingerprint (SHA1): 34:d4:99:42:6f:9f:c2:bb:27:b0:75:ba:b6:82:aa:e5:ef:fc:ba:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad Certificadora Raiz de la Secretaria de Economia"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\202\001\061\061\027\060\025\006\003\125\004\007\023\016\101
\154\166\141\162\157\040\117\142\162\145\147\157\156\061\031\060
\027\006\003\125\004\010\023\020\104\151\163\164\162\151\164\157
\040\106\145\144\145\162\141\154\061\013\060\011\006\003\125\004
\006\023\002\115\130\061\016\060\014\006\003\125\004\021\023\005

```

\060\061\060\063\060\061\035\060\033\006\003\125\004\011\023\024
\111\156\163\165\162\147\145\156\164\145\163\040\123\165\162\040
\061\071\064\060\061\102\060\100\006\003\125\004\003\023\071\101
\165\164\157\162\151\144\141\144\040\103\145\162\164\151\146\151
\143\141\144\157\162\141\040\122\141\151\172\040\144\145\040\154
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\013\023\053\104\151\162\145\143\143\151\157\156\040\107\145\156
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\151\144\141\144\040\115\145\162\143\141\156\164\151\154\061\037
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\157\142\056\155\170

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\202\001\061\061\027\060\025\006\003\125\004\007\023\016\101
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\027\006\003\125\004\010\023\020\104\151\163\164\162\151\164\157
\040\106\145\144\145\162\141\154\061\013\060\011\006\003\125\004
\006\023\002\115\130\061\016\060\014\006\003\125\004\021\023\005
\060\061\060\063\060\061\035\060\033\006\003\125\004\011\023\024
\111\156\163\165\162\147\145\156\164\145\163\040\123\165\162\040
\061\071\064\060\061\102\060\100\006\003\125\004\003\023\071\101
\165\164\157\162\151\144\141\144\040\103\145\162\164\151\146\151
\143\141\144\157\162\141\040\122\141\151\172\040\144\145\040\154
\141\040\123\145\143\162\145\164\141\162\151\141\040\144\145\040
\105\143\157\156\157\155\151\141\061\064\060\062\006\003\125\004
\013\023\053\104\151\162\145\143\143\151\157\156\040\107\145\156
\145\162\141\154\040\144\145\040\116\157\162\155\141\164\151\166
\151\144\141\144\040\115\145\162\143\141\156\164\151\154\061\037
\060\035\006\003\125\004\012\023\026\123\145\143\162\145\164\141
\162\151\141\040\144\145\040\105\143\157\156\157\155\151\141\061
\044\060\042\006\011\052\206\110\206\367\015\001\011\001\026\025
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END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

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\202\001\061\061\027\060\025\006\003\125\004\007\023\016\101\154
\166\141\162\157\040\117\142\162\145\147\157\156\061\031\060\027
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\023\002\115\130\061\016\060\014\006\003\125\004\021\023\005\060
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\156\163\165\162\147\145\156\164\145\163\040\123\165\162\040\061
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\164\157\162\151\144\141\144\040\103\145\162\164\151\146\151\143
\141\144\157\162\141\040\122\141\151\172\040\144\145\040\154\141
\040\123\145\143\162\145\164\141\162\151\141\040\144\145\040\105
\143\157\156\157\155\151\141\061\064\060\062\006\003\125\004\013
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\060\060\060\060\132\027\015\062\065\060\065\060\070\060\060\060
\060\060\060\132\060\202\001\061\061\027\060\025\006\003\125\004
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\123\165\162\040\061\071\064\060\061\102\060\100\006\003\125\004
\003\023\071\101\165\164\157\162\151\144\141\144\040\103\145\162
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\040\144\145\040\105\143\157\156\157\155\151\141\061\064\060\062
\006\003\125\004\013\023\053\104\151\162\145\143\143\151\157\156
\040\107\145\156\145\162\141\154\040\144\145\040\116\157\162\155
\141\164\151\166\151\144\141\144\040\115\145\162\143\141\156\164
\151\154\061\037\060\035\006\003\125\004\012\023\026\123\145\143
\162\145\164\141\162\151\141\040\144\145\040\105\143\157\156\157
\155\151\141\061\044\060\042\006\011\052\206\110\206\367\015\001
\011\001\026\025\141\143\162\163\145\100\145\143\157\156\157\155
\151\141\056\147\157\142\056\155\170\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\301\144\240\364\347\122
\160\262\352\223\023\364\065\072\037\352\072\034\305\033\213\130
\341\226\326\002\101\136\216\205\100\377\101\146\100\123\374\230
\265\321\062\062\227\147\100\200\235\356\040\077\016\124\373\102
\007\373\167\032\231\330\206\364\034\052\210\045\363\351\104\243
\116\376\007\276\261\310\357\074\215\207\340\036\312\111\020\073
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\224\121\013\354\236\250\317\073\242\120\062\034\102\275\143\341
\207\313\271\205\110\016\300\325\130\266\366\316\113\362\007\317
\343\004\325\037\302\326\243\156\243\273\266\267\156\304\361\242
\037\026\274\266\055\260\357\364\132\233\051\215\274\341\374\007
\133\036\011\063\202\170\314\100\155\161\263\143\023\057\323\114
\066\254\071\117\306\301\260\266\365\205\002\003\001\000\001\243
\201\262\060\201\257\060\063\006\003\125\035\037\004\054\060\052
\060\050\240\046\240\044\206\042\150\164\164\160\072\057\057\141
\143\056\145\143\157\156\157\155\151\141\056\147\157\142\056\155
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\042\150\164\164\160\072\057\057\141\143\056\145\143\157\156\157
\155\151\141\056\147\157\142\056\155\170\057\143\160\163\056\150
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\003\001\001\377\060\013\006\003\125\035\017\004\004\003\002\001
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\003\002\000\007\060\015\006\011\052\206\110\206\367\015\001\001
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\253\065\254\300\304\343\347\310\160\245\051\057\207\030\345\250
\202\336\007\325\010\364\317\236\075\236\374\112\054\026\174\237
\242\235\145\020\314\301\033\233\152\147\332\262\263\035\377\315
\144\172\070\143\255\110\375\363\162\341\372\237\273\127\335\277
\314\302\124\330\225\074\146\327\153\006\272\257\251\340\155\010
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\237\044\166\045\366\255\050\126\006\252\357\007\254\272\366\154
\344\045\061\175\210\200\072\170\106\370\171\341\070\340\023\347
\141\051\107\363\313\024\000\323\332\342\335\355\163\337\113\362
\143\344\046\330\165\320\115\103\024\220\026\224\107\001\377\241
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\343\157\310\116\340\107\046\261\342\234\174\112\061\345\144\021
\340\260\137\332\221\066\110\037\372\011\212\145\150\365\016\302
\237\357\270\152\317\167\376\022\355\066\332\021\066\255\031\152
\302\324\216\122\327\150\357\061

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "Autoridad Certificadora Raiz de la Secretaria de Economia"

Issuer: 1.2.840.113549.1.9.1=acrse@economia.gob.mx,O=Secretaria de Economia,OU=Direccion General de
Normatividad Mercantil,CN=Autoridad Certificadora Raiz de la Secretaria de Economia,STREET=Insurgentes Sur
1940,2.5.4.17=01030,C=MX,ST=Distrito Federal,L=Alvaro Obregon

Serial Number: 1 (0x1)

```
# Subject: 1.2.840.113549.1.9.1=acrse@economia.gob.mx,O=Secretaria de Economia,OU=Direccion General de
Normatividad Mercantil,CN=Autoridad Certificadora Raiz de la Secretaria de Economia,STREET=Insurgentes Sur
1940,2.5.4.17=01030,C=MX,ST=Distrito Federal,L=Alvaro Obregon
# Not Valid Before: Sun May 08 00:00:00 2005
# Not Valid After: Thu May 08 00:00:00 2025
# Fingerprint (MD5): 07:61:92:04:7e:a6:b9:cd:5e:6b:00:7a:e3:bf:1d:04
# Fingerprint (SHA1): 34:d4:99:42:6f:9f:c2:bb:27:b0:75:ba:b6:82:aa:e5:ef:fc:ba:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad Certificadora Raiz de la Secretaria de Economia"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\064\324\231\102\157\237\302\273\047\260\165\272\266\202\252\345
\357\374\272\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\007\141\222\004\176\246\271\315\136\153\000\172\343\277\035\004
END
CKA_ISSUER MULTILINE_OCTAL
\060\202\001\061\061\027\060\025\006\003\125\004\007\023\016\101
\154\166\141\162\157\040\117\142\162\145\147\157\156\061\031\060
\027\006\003\125\004\010\023\020\104\151\163\164\162\151\164\157
\040\106\145\144\145\162\141\154\061\013\060\011\006\003\125\004
\006\023\002\115\130\061\016\060\014\006\003\125\004\021\023\005
\060\061\060\063\060\061\035\060\033\006\003\125\004\011\023\024
\111\156\163\165\162\147\145\156\164\145\163\040\123\165\162\040
\061\071\064\060\061\102\060\100\006\003\125\004\003\023\071\101
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\157\142\056\155\170
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

# Microsoft Code Signing Only Certificate
# Certificate "Correo Uruguayo - Root CA"
# Issuer: CN=Correo Uruguayo - Root CA,OU=SERVICIOS ELECTRONICOS,O=ADMINISTRACION
NACIONAL DE CORREOS,C=UY
# Serial Number:ca:22:79:08:23:2a:f0:f5:82:b8:85:d3:63:dd:f1
# Subject: CN=Correo Uruguayo - Root CA,OU=SERVICIOS ELECTRONICOS,O=ADMINISTRACION
NACIONAL DE CORREOS,C=UY
# Not Valid Before: Mon Jul 14 16:52:15 2008
# Not Valid After: Tue Dec 31 02:59:59 2030
# Fingerprint (MD5): 24:6d:ab:d2:f2:ea:4a:66:ae:5b:bc:ae:50:ad:6e:56
# Fingerprint (SHA1): f9:dd:19:26:6b:20:43:f1:fe:4b:3d:cb:01:90:af:f1:1f:31:a6:9d
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Correo Uruguayo - Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\131\061
\053\060\051\006\003\125\004\012\014\042\101\104\115\111\116\111
\123\124\122\101\103\111\117\116\040\116\101\103\111\117\116\101
\114\040\104\105\040\103\117\122\122\105\117\123\061\037\060\035
\006\003\125\004\013\014\026\123\105\122\126\111\103\111\117\123
\040\105\114\105\103\124\122\117\116\111\103\117\123\061\042\060
\040\006\003\125\004\003\014\031\103\157\162\162\145\157\040\125
\162\165\147\165\141\171\157\040\055\040\122\157\157\164\040\103
\101
END
CKA_ID UTF8 "0"
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\053\060\051\006\003\125\004\012\014\042\101\104\115\111\116\111
\123\124\122\101\103\111\117\116\040\116\101\103\111\117\116\101
\114\040\104\105\040\103\117\122\122\105\117\123\061\037\060\035
\006\003\125\004\013\014\026\123\105\122\126\111\103\111\117\123
\040\105\114\105\103\124\122\117\116\111\103\117\123\061\042\060
\040\006\003\125\004\003\014\031\103\157\162\162\145\157\040\125
\162\165\147\165\141\171\157\040\055\040\122\157\157\164\040\103
\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\312\042\171\010\043\052\360\365\202\270\205\323\143
\335\361
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\032\060\202\004\002\240\003\002\001\002\002\020\000
\312\042\171\010\043\052\360\365\202\270\205\323\143\335\361\060

```


\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\177
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\122\101\103\111\117\116\040\116\101\103\111\117\116\101\114\040
\104\105\040\103\117\122\122\105\117\123\061\037\060\035\006\003
\125\004\013\014\026\123\105\122\126\111\103\111\117\123\040\105
\114\105\103\124\122\117\116\111\103\117\123\061\042\060\040\006
\003\125\004\003\014\031\103\157\162\162\145\157\040\125\162\165
\147\165\141\171\157\040\055\040\122\157\157\164\040\103\101\060
\036\027\015\060\070\060\067\061\064\061\066\065\062\061\065\132
\027\015\063\060\061\062\063\061\060\062\065\071\065\071\132\060
\177\061\013\060\011\006\003\125\004\006\023\002\125\131\061\053
\060\051\006\003\125\004\012\014\042\101\104\115\111\116\111\123
\124\122\101\103\111\117\116\040\116\101\103\111\117\116\101\114
\040\104\105\040\103\117\122\122\105\117\123\061\037\060\035\006
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\165\147\165\141\171\157\040\055\040\122\157\157\164\040\103\101
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\261\075\322\247\045\160\227\203\170\016\327\062\311\146\016
\170\043\344\052\033\354\303\357\123\205\203\273\312\317\176\352
\123\231\155\047\125\310\321\070\041\100\156\111\115\303\075\366
\011\053\006\031\103\251\230\311\001\116\364\252\200\060\007\125
\363\365\267\175\231\267\163\205\325\034\145\126\154\015\062\233
\010\016\064\141\052\100\011\204\067\303\146\355\015\114\234\014
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\273\223\265\167\230\154\362\310\340\041\132\043\344\102\247\223
\310\250\035\070\316\244\032\100\100\277\074\223\220\233\137\326
\224\301\042\133\106\327\305\000\025\325\217\306\367\336\013\257
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\110\176\262\315\007\075\033\355\024\220\164\363\335\064\037\174
\344\003\131\361\055\315\340\243\240\073\041\056\134\256\254\010
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\117\343\041\272\070\100\135\137\333\150\052\134\064\306\010\073
\366\174\056\250\215\304\267\246\255\331\233\277\031\101\016\110
\071\011\146\156\015\064\001\305\273\007\021\043\244\332\376\140
\226\050\107\334\217\147\233\023\257\175\171\016\170\315\300\214
\057\273\041\054\374\164\026\036\336\300\062\235\372\170\072\206
\272\076\311\170\012\000\321\344\340\311\022\342\133\334\353\273
\200\232\062\065\253\360\060\303\016\110\204\057\215\010\012\366
\054\214\115\062\200\105\125\010\333\315\015\250\277\010\172\270
\347\150\135\232\224\211\225\274\374\232\216\270\177\072\330\154
\325\364\030\254\151\342\244\301\013\263\037\243\202\237\363\212
\074\205\100\070\011\372\302\005\076\341\234\211\372\303\005\154
\010\217\135\121\364\177\273\304\363\154\001\275\075\117\304\031
\213\071\331\312\314\351\171\210\004\125\253\155\270\332\026\105

\145\071\025\005\030\373\013\054\163\001\355\224\122\345\175\014
\001\073\011\240\115\361\075\010\201\146\064\066\027\104\360\147
\363\133\362\005\266\041\230\130\331\364\241\067\331\157\346\357
\126\304\373\277\126\142\002\254\060\060\266\002\326\322\026\374
\116\352\207\103\232\150\135\210\243\221\106\050\053\277\071\025
\025\002\003\001\000\001\243\201\221\060\201\216\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006
\003\125\035\016\004\026\004\024\175\273\151\353\210\141\341\100
\317\107\043\144\000\206\242\146\153\334\204\225\060\114\006\003
\125\035\040\004\105\060\103\060\101\006\004\125\035\040\000\060
\071\060\067\006\010\053\006\001\005\005\007\002\001\026\053\150
\164\164\160\072\057\057\167\167\167\056\143\157\162\162\145\157
\056\143\157\155\056\165\171\057\143\157\162\162\145\157\143\145
\162\164\057\143\160\163\056\160\144\146\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\126\337
\023\211\276\142\267\016\201\041\163\244\324\067\312\355\267\057
\225\164\327\211\370\113\107\201\356\147\355\270\051\337\041\240
\374\124\147\147\310\127\054\133\241\012\165\170\041\041\312\240
\250\337\153\234\331\066\002\215\270\001\301\157\216\173\154\311
\244\262\305\106\251\312\114\002\201\372\243\173\235\075\110\346
\312\100\146\322\104\235\166\340\125\271\246\234\247\321\103\330
\365\240\264\235\370\367\345\246\246\102\363\002\062\131\106\162
\053\024\354\136\145\325\121\201\170\316\252\057\215\226\211\171
\152\373\017\310\133\317\264\256\220\266\137\343\174\142\154\267
\246\377\220\201\265\230\221\163\022\060\257\307\350\201\002\150
\163\051\273\130\165\075\267\326\103\325\256\115\362\102\271\360
\337\332\061\000\023\332\341\263\266\006\213\133\375\311\230\270
\242\023\321\272\217\301\212\032\236\017\377\202\276\004\202\345
\053\223\076\036\265\242\014\033\306\032\260\163\211\166\203\274
\216\073\273\027\155\024\303\213\276\175\025\046\265\251\234\027
\172\120\172\055\353\351\231\224\256\230\020\275\356\052\135\135
\326\216\064\133\254\036\207\140\153\230\307\207\217\323\234\262
\150\005\111\007\371\251\061\146\234\376\277\247\131\350\054\360
\066\324\362\250\031\202\300\236\247\071\371\261\230\064\243\037
\372\315\311\031\055\170\336\267\375\142\360\223\243\376\000\133
\326\012\344\363\176\174\227\050\341\005\354\005\064\105\023\377
\051\023\141\212\047\117\333\270\322\222\041\047\265\210\167\147
\250\176\317\044\074\207\010\004\063\163\217\013\266\206\370\317
\357\262\246\044\036\013\221\221\000\120\026\062\022\330\011\045
\332\143\116\335\333\055\327\347\004\153\343\143\037\251\376\251
\001\143\304\312\114\024\150\203\274\005\254\131\026\373\156\241
\007\157\273\113\276\155\230\110\166\045\173\112\021\226\124\010
\254\251\363\067\253\203\303\321\315\201\230\300\345\100\065\270
\237\221\347\157\346\113\040\026\212\123\173\254\072\321\230\065
\124\320\324\277\256\176\232\113\036\351\165\243\045\260\073\347
\145\277\117\225\364\035\275\304\272\311\115\201\121\302\077\132
\331\022\364\041\033\326\225\352\075\220\376\251\223\342

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Trust for "Correo Uruguayo - Root CA"
# Issuer: CN=Correo Uruguayo - Root CA,OU=SERVICIOS ELECTRONICOS,O=ADMINISTRACION
NACIONAL DE CORREOS,C=UY
# Serial Number:ca:22:79:08:23:2a:f0:f5:82:b8:85:d3:63:dd:f1
# Subject: CN=Correo Uruguayo - Root CA,OU=SERVICIOS ELECTRONICOS,O=ADMINISTRACION
NACIONAL DE CORREOS,C=UY
# Not Valid Before: Mon Jul 14 16:52:15 2008
# Not Valid After: Tue Dec 31 02:59:59 2030
# Fingerprint (MD5): 24:6d:ab:d2:f2:ea:4a:66:ae:5b:bc:ae:50:ad:6e:56
# Fingerprint (SHA1): f9:dd:19:26:6b:20:43:f1:fe:4b:3d:cb:01:90:af:f1:1f:31:a6:9d
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Correo Uruguayo - Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\371\335\031\046\153\040\103\361\376\113\075\313\001\220\257\361
\037\061\246\235
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\044\155\253\322\362\352\112\146\256\133\274\256\120\255\156\126
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\131\061
\053\060\051\006\003\125\004\012\014\042\101\104\115\111\116\111
\123\124\122\101\103\111\117\116\040\116\101\103\111\117\116\101
\114\040\104\105\040\103\117\122\122\105\117\123\061\037\060\035
\006\003\125\004\013\014\026\123\105\122\126\111\103\111\117\123
\040\105\114\105\103\124\122\117\116\111\103\117\123\061\042\060
\040\006\003\125\004\003\014\031\103\157\162\162\145\157\040\125
\162\165\147\165\141\171\157\040\055\040\122\157\157\164\040\103
\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\312\042\171\010\043\052\360\365\202\270\205\323\143
\335\361
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```
# Microsoft Code Signing Only Certificate
# Certificate "CNNIC ROOT"
# Issuer: CN=CNNIC ROOT,O=CNNIC,C=CN
# Serial Number:49:33:00:01
# Subject: CN=CNNIC ROOT,O=CNNIC,C=CN
# Not Valid Before: Mon Apr 16 07:09:14 2007
# Not Valid After: Fri Apr 16 07:09:14 2027
# Fingerprint (MD5): 21:bc:82:ab:49:c4:13:3b:4b:b2:2b:5c:6b:90:9c:19
# Fingerprint (SHA1): 8b:af:4c:9b:1d:f0:2a:92:f7:da:12:8e:b9:1b:ac:f4:98:60:4b:6f
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CNNIC ROOT"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\062\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\016\060\014\006\003\125\004\012\023\005\103\116\116\111\103\061
\023\060\021\006\003\125\004\003\023\012\103\116\116\111\103\040
\122\117\117\124
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\062\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\016\060\014\006\003\125\004\012\023\005\103\116\116\111\103\061
\023\060\021\006\003\125\004\003\023\012\103\116\116\111\103\040
\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\111\063\000\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\125\060\202\002\075\240\003\002\001\002\002\004\111
\063\000\001\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\062\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\016\060\014\006\003\125\004\012\023\005\103\116\116\111
\103\061\023\060\021\006\003\125\004\003\023\012\103\116\116\111
\103\040\122\117\117\124\060\036\027\015\060\067\060\064\061\066
\060\067\060\071\061\064\132\027\015\062\067\060\064\061\066\060
\067\060\071\061\064\132\060\062\061\013\060\011\006\003\125\004
\006\023\002\103\116\061\016\060\014\006\003\125\004\012\023\005
\103\116\116\111\103\061\023\060\021\006\003\125\004\003\023\012
\103\116\116\111\103\040\122\117\117\124\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\323\065\367\077\163
\167\255\350\133\163\027\302\321\157\355\125\274\156\352\350\244
\171\262\154\303\243\357\341\237\261\073\110\205\365\232\134\041
\042\020\054\305\202\316\332\343\232\156\067\341\207\054\334\271
```

\014\132\272\210\125\337\375\252\333\037\061\352\001\361\337\071
\001\301\023\375\110\122\041\304\125\337\332\330\263\124\166\272
\164\261\267\175\327\300\350\366\131\305\115\310\275\255\037\024
\332\337\130\104\045\062\031\052\307\176\176\216\256\070\260\060
\173\107\162\011\061\360\060\333\303\033\166\051\273\151\166\116
\127\371\033\144\242\223\126\267\157\231\156\333\012\004\234\021
\343\200\037\313\143\224\020\012\251\341\144\202\061\371\214\047
\355\246\231\000\366\160\223\030\370\241\064\206\243\335\172\302
\030\171\366\172\145\065\317\220\353\275\063\223\237\123\253\163
\073\346\233\064\040\057\035\357\251\035\143\032\240\200\333\003
\057\371\046\032\206\322\215\273\251\276\122\072\207\147\110\015
\277\264\240\330\046\276\043\137\163\067\177\046\346\222\004\243
\177\317\040\247\267\363\072\312\313\231\313\002\003\001\000\001
\243\163\060\161\060\021\006\011\140\206\110\001\206\370\102\001
\001\004\004\003\002\000\007\060\037\006\003\125\035\043\004\030
\060\026\200\024\145\362\061\255\052\367\367\335\122\226\012\307
\002\301\016\357\246\325\073\021\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\013\006\003\125\035\017
\004\004\003\002\001\376\060\035\006\003\125\035\016\004\026\004
\024\145\362\061\255\052\367\367\335\122\226\012\307\002\301\016
\357\246\325\073\021\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\113\065\356\314\344\256\277
\303\156\255\237\225\073\113\077\133\036\337\127\051\242\131\312
\070\342\271\032\377\236\346\156\062\335\036\256\352\065\267\365
\223\221\116\332\102\341\303\027\140\120\362\321\134\046\271\202
\267\352\155\344\234\204\347\003\171\027\257\230\075\224\333\307
\272\000\347\270\277\001\127\301\167\105\062\014\073\361\264\034
\010\260\375\121\240\241\335\232\035\023\066\232\155\267\307\074
\271\341\305\331\027\372\203\325\075\025\240\074\273\036\013\342
\310\220\077\250\206\014\374\371\213\136\205\313\117\133\113\142
\021\107\305\105\174\005\057\101\261\236\020\151\033\231\226\340
\125\171\373\116\206\231\270\224\332\206\070\152\223\243\347\313
\156\345\337\352\041\125\211\234\175\175\177\230\365\000\211\356
\343\204\300\134\226\265\305\106\352\106\340\205\125\266\033\311
\022\326\301\315\315\200\363\002\001\074\310\151\313\105\110\143
\330\224\320\354\205\016\073\116\021\145\364\202\214\246\075\256
\056\042\224\011\310\134\352\074\201\135\026\052\003\227\026\125
\011\333\212\101\202\236\146\233\021

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "CNNIC ROOT"

Issuer: CN=CNNIC ROOT,O=CNNIC,C=CN

Serial Number:49:33:00:01

Subject: CN=CNNIC ROOT,O=CNNIC,C=CN

```
# Not Valid Before: Mon Apr 16 07:09:14 2007
# Not Valid After: Fri Apr 16 07:09:14 2027
# Fingerprint (MD5): 21:bc:82:ab:49:c4:13:3b:4b:b2:2b:5c:6b:90:9c:19
# Fingerprint (SHA1): 8b:af:4c:9b:1d:f0:2a:92:f7:da:12:8e:b9:1b:ac:f4:98:60:4b:6f
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CNNIC ROOT"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\213\257\114\233\035\360\052\222\367\332\022\216\271\033\254\364
\230\140\113\157
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\041\274\202\253\111\304\023\073\113\262\053\134\153\220\234\031
END
CKA_ISSUER MULTILINE_OCTAL
\060\062\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\016\060\014\006\003\125\004\012\023\005\103\116\116\111\103\061
\023\060\021\006\003\125\004\003\023\012\103\116\116\111\103\040
\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\111\063\000\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Common Policy"
# Issuer: CN=Common Policy,OU=FBCA,O=U.S. Government,C=us
# Serial Number:29:36:47:aa:e3:8a:ac:86:4a:23:56:f2:ca:b7:61:af
# Subject: CN=Common Policy,OU=FBCA,O=U.S. Government,C=us
# Not Valid Before: Mon Oct 15 15:58:00 2007
# Not Valid After: Fri Oct 15 16:08:00 2027
# Fingerprint (MD5): f0:58:c5:03:82:67:17:ab:8f:da:03:10:27:8e:19:c2
# Fingerprint (SHA1): cb:44:a0:97:85:7c:45:fa:18:7e:d9:52:08:6c:b9:84:1f:2d:51:b5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Common Policy"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\165\163\061
\030\060\026\006\003\125\004\012\023\017\125\056\123\056\040\107
```

\157\166\145\162\156\155\145\156\164\061\015\060\013\006\003\125
\004\013\023\004\106\102\103\101\061\026\060\024\006\003\125\004
\003\023\015\103\157\155\155\157\156\040\120\157\154\151\143\171
END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\165\163\061
\030\060\026\006\003\125\004\012\023\017\125\056\123\056\040\107
\157\166\145\162\156\155\145\156\164\061\015\060\013\006\003\125
\004\013\023\004\106\102\103\101\061\026\060\024\006\003\125\004
\003\023\015\103\157\155\155\157\156\040\120\157\154\151\143\171
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\051\066\107\252\343\212\254\206\112\043\126\362\312\267
\141\257

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\241\060\202\002\211\240\003\002\001\002\002\020\051
\066\107\252\343\212\254\206\112\043\126\362\312\267\141\257\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\116
\061\013\060\011\006\003\125\004\006\023\002\165\163\061\030\060
\026\006\003\125\004\012\023\017\125\056\123\056\040\107\157\166
\145\162\156\155\145\156\164\061\015\060\013\006\003\125\004\013
\023\004\106\102\103\101\061\026\060\024\006\003\125\004\003\023
\015\103\157\155\155\157\156\040\120\157\154\151\143\171\060\036
\027\015\060\067\061\060\061\065\061\065\065\070\060\060\132\027
\015\062\067\061\060\061\065\061\066\060\070\060\060\132\060\116
\061\013\060\011\006\003\125\004\006\023\002\165\163\061\030\060
\026\006\003\125\004\012\023\017\125\056\123\056\040\107\157\166
\145\162\156\155\145\156\164\061\015\060\013\006\003\125\004\013
\023\004\106\102\103\101\061\026\060\024\006\003\125\004\003\023
\015\103\157\155\155\157\156\040\120\157\154\151\143\171\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\227
\215\275\063\047\344\255\133\373\170\275\057\107\107\156\307\170
\351\223\234\244\336\311\034\375\057\033\071\070\254\107\027\300
\176\167\051\000\073\003\037\150\017\315\115\245\356\167\270\054
\142\153\061\366\372\162\011\175\060\051\006\174\347\174\243\075
\204\030\212\035\256\054\222\250\037\350\136\117\215\216\353\077
\032\370\234\012\147\235\260\147\115\360\056\320\060\336\303\224
\260\240\317\056\012\064\177\124\011\323\066\275\244\111\127\122
\163\351\235\376\344\110\171\106\033\133\215\062\344\245\110\144
\363\042\015\222\235\010\025\277\140\074\203\367\107\042\045\042
\255\051\161\267\167\357\027\311\242\266\224\136\310\060\220\244
\024\110\134\126\127\013\101\114\005\324\052\114\077\256\022\233
\131\021\165\160\007\042\151\055\054\323\061\314\222\176\314\315
\244\176\224\107\252\234\011\010\366\113\257\122\350\152\100\221
\305\125\275\100\261\310\155\127\206\225\027\346\037\163\276\107

\056\076\213\114\027\271\271\045\034\245\122\027\066\010\131\300
\102\276\012\053\264\126\121\074\033\125\311\214\220\167\353\002
\003\001\000\001\243\173\060\171\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\057\130\227\330\251\005\230\245\126\037\373\331
\253\165\357\002\074\066\064\307\060\022\006\011\053\006\001\004
\001\202\067\025\001\004\005\002\003\001\000\001\060\043\006\011
\053\006\001\004\001\202\067\025\002\004\026\004\024\166\267\140
\226\335\024\126\051\254\165\205\323\160\143\301\274\107\206\034
\213\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\140\256\363\110\026\100\162\246\010\210\311
\274\107\054\044\113\135\240\221\163\355\145\170\220\360\147\220
\172\245\277\012\255\266\052\371\231\147\337\203\305\167\037\064
\011\070\371\176\236\101\340\110\140\376\342\252\135\207\210\352
\210\375\134\105\262\311\152\332\175\244\255\261\117\277\034\015
\237\036\232\300\325\024\163\070\053\212\170\100\156\060\367\142
\341\315\231\374\121\151\147\154\021\335\270\020\243\150\336\046
\245\126\375\066\154\067\230\154\373\356\174\074\154\153\160\077
\367\110\067\011\217\013\102\201\255\106\106\270\013\203\006\364
\033\070\240\177\117\315\013\357\203\211\207\227\034\212\060\147
\334\375\124\241\003\176\001\313\205\114\261\013\051\303\276\354
\174\341\077\017\011\122\074\057\247\232\110\376\067\351\021\006
\130\341\066\101\212\304\266\277\216\335\316\112\263\274\032\300
\315\372\032\231\322\161\233\372\317\274\362\304\124\243\210\065
\166\314\033\054\106\157\014\264\321\303\141\166\222\164\021\352
\113\200\215\034\211\021\213\354\133\377\027\311\110\374\347\340
\006\021\342\204\136

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Common Policy"
Issuer: CN=Common Policy,OU=FBCA,O=U.S. Government,C=us
Serial Number:29:36:47:aa:e3:8a:ac:86:4a:23:56:f2:ca:b7:61:af
Subject: CN=Common Policy,OU=FBCA,O=U.S. Government,C=us
Not Valid Before: Mon Oct 15 15:58:00 2007
Not Valid After: Fri Oct 15 16:08:00 2027
Fingerprint (MD5): f0:58:c5:03:82:67:17:ab:8f:da:03:10:27:8e:19:c2
Fingerprint (SHA1): cb:44:a0:97:85:7c:45:fa:18:7e:d9:52:08:6c:b9:84:1f:2d:51:b5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Common Policy"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\313\104\240\227\205\174\105\372\030\176\331\122\010\154\271\204
\037\055\121\265

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\360\130\305\003\202\147\027\253\217\332\003\020\047\216\031\302
END

CKA_ISSUER MULTILINE_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\165\163\061
\030\060\026\006\003\125\004\012\023\017\125\056\123\056\040\107
\157\166\145\162\156\155\145\156\164\061\015\060\013\006\003\125
\004\013\023\004\106\102\103\101\061\026\060\024\006\003\125\004
\003\023\015\103\157\155\155\157\156\040\120\157\154\151\143\171
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\051\066\107\252\343\212\254\206\112\043\126\362\312\267
\141\257

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Macao Post eSignTrust Root Certification Authority"

Issuer: CN=Macao Post eSignTrust Root Certification Authority,O=Macao Post,C=MO

Serial Number:43:11:5a:96:1f:65:5a:d6:f0:33:12:fd:ed:d0:b9:75

Subject: CN=Macao Post eSignTrust Root Certification Authority,O=Macao Post,C=MO

Not Valid Before: Thu Jan 30 00:00:00 2003

Not Valid After: Tue Jan 29 23:59:59 2013

Fingerprint (MD5): 6d:38:c4:9b:22:24:4c:a3:a8:b3:a0:93:45:e1:57:fa

Fingerprint (SHA1): 89:c3:2e:6b:52:4e:4d:65:38:8b:9e:ce:dc:63:71:34:ed:41:93:a3

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Macao Post eSignTrust Root Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\137\061\013\060\011\006\003\125\004\006\023\002\115\117\061
\023\060\021\006\003\125\004\012\023\012\115\141\143\141\157\040
\120\157\163\164\061\073\060\071\006\003\125\004\003\023\062\115
\141\143\141\157\040\120\157\163\164\040\145\123\151\147\156\124
\162\165\163\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\137\061\013\060\011\006\003\125\004\006\023\002\115\117\061
\023\060\021\006\003\125\004\012\023\012\115\141\143\141\157\040
\120\157\163\164\061\073\060\071\006\003\125\004\003\023\062\115
\141\143\141\157\040\120\157\163\164\040\145\123\151\147\156\124
\162\165\163\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\103\021\132\226\037\145\132\326\360\063\022\375\355\320
\271\165

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\145\060\202\002\115\240\003\002\001\002\002\020\103
\021\132\226\037\145\132\326\360\063\022\375\355\320\271\165\060
\015\006\011\052\206\110\206\367\015\001\001\004\005\000\060\137
\061\013\060\011\006\003\125\004\006\023\002\115\117\061\023\060
\021\006\003\125\004\012\023\012\115\141\143\141\157\040\120\157
\163\164\061\073\060\071\006\003\125\004\003\023\062\115\141\143
\141\157\040\120\157\163\164\040\145\123\151\147\156\124\162\165
\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060
\036\027\015\060\063\060\061\063\060\060\060\060\060\060\132
\027\015\061\063\060\061\062\071\062\063\065\071\065\071\132\060
\137\061\013\060\011\006\003\125\004\006\023\002\115\117\061\023
\060\021\006\003\125\004\012\023\012\115\141\143\141\157\040\120
\157\163\164\061\073\060\071\006\003\125\004\003\023\062\115\141
\143\141\157\040\120\157\163\164\040\145\123\151\147\156\124\162
\165\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\242\034\266\270\270\261\315\124\111\203\256\072\307\255\204
\320\135\377\225\253\365\377\001\033\136\357\040\076\275\200\040
\111\054\150\262\203\061\354\225\055\156\111\262\173\277\144\237
\127\055\325\042\153\356\127\227\164\207\352\373\120\315\162\347
\044\055\160\124\274\244\342\052\205\265\002\371\247\140\266\162
\131\353\121\254\106\112\374\247\165\373\004\324\000\377\332\014
\316\313\223\017\062\171\166\326\046\340\315\162\015\113\352\046
\217\113\174\326\343\142\150\210\046\320\115\267\232\047\233\300
\233\266\022\301\233\354\004\321\065\332\047\276\060\342\175\003
\316\106\070\010\157\341\367\236\054\016\272\012\061\327\302\152
\104\206\147\321\350\111\223\024\300\314\136\221\247\373\126\272
\201\000\070\154\322\231\301\277\134\350\244\355\112\234\352\342
\122\275\343\371\213\370\104\346\304\100\101\315\357\000\114\271
\302\251\374\001\364\356\376\260\221\017\200\161\266\345\221\150
\242\345\147\327\350\345\350\243\316\164\254\136\027\255\073\021
\104\027\136\145\166\262\042\115\270\013\073\351\077\211\151\365

```
\263\002\003\001\000\001\243\035\060\033\060\014\006\003\125\035
\023\004\005\060\003\001\001\377\060\013\006\003\125\035\017\004
\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001
\001\004\005\000\003\202\001\001\000\240\224\121\001\330\314\373
\027\176\334\235\176\301\210\262\134\027\317\260\306\044\311\064
\260\006\145\231\023\124\105\207\027\175\301\310\056\141\064\356
\306\155\303\115\152\251\036\253\075\043\024\342\005\010\230\125
\002\016\274\151\213\327\317\117\137\045\320\147\271\126\076\113
\353\103\202\015\327\050\053\313\357\021\232\360\332\144\151\160
\342\230\052\000\206\157\230\352\113\016\232\234\215\274\252\117
\270\375\157\373\123\044\163\257\324\231\274\365\156\314\226\076
\326\135\327\064\065\151\171\261\321\312\165\311\300\204\275\056
\161\245\032\201\221\374\033\211\302\062\107\062\174\150\301\273
\124\342\041\200\154\366\356\154\306\007\226\136\075\300\271\152
\063\304\005\160\251\154\236\325\154\336\306\365\223\147\157\225
\011\300\150\345\370\343\341\062\344\243\015\151\241\015\252\100
\300\343\204\241\313\375\061\056\320\006\224\066\350\240\041\377
\164\335\021\067\111\046\121\105\117\221\022\040\126\362\277\001
\374\331\361\027\156\232\370\134\031\234\064\042\304\046\321\205
\010\204\322\010\003\110\312\030\006
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "Macao Post eSignTrust Root Certification Authority"
# Issuer: CN=Macao Post eSignTrust Root Certification Authority,O=Macao Post,C=MO
# Serial Number:43:11:5a:96:1f:65:5a:d6:f0:33:12:fd:ed:d0:b9:75
# Subject: CN=Macao Post eSignTrust Root Certification Authority,O=Macao Post,C=MO
# Not Valid Before: Thu Jan 30 00:00:00 2003
# Not Valid After: Tue Jan 29 23:59:59 2013
# Fingerprint (MD5): 6d:38:c4:9b:22:24:4c:a3:a8:b3:a0:93:45:e1:57:fa
# Fingerprint (SHA1): 89:c3:2e:6b:52:4e:4d:65:38:8b:9e:ce:dc:63:71:34:ed:41:93:a3
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Macao Post eSignTrust Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\211\303\056\153\122\116\115\145\070\213\236\316\334\143\161\064
\355\101\223\243
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\155\070\304\233\042\044\114\243\250\263\240\223\105\341\127\372
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\115\117\061
```

```
\023\060\021\006\003\125\004\012\023\012\115\141\143\141\157\040
\120\157\163\164\061\073\060\071\006\003\125\004\003\023\062\115
\141\143\141\157\040\120\157\163\164\040\145\123\151\147\156\124
\162\165\163\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\103\021\132\226\037\145\132\326\360\063\022\375\355\320
\271\165
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Staat der Nederlanden Root CA - G2"

Issuer: CN=Staat der Nederlanden Root CA - G2,O=Staat der Nederlanden,C=NL

Serial Number:98:96:8c

Subject: CN=Staat der Nederlanden Root CA - G2,O=Staat der Nederlanden,C=NL

Not Valid Before: Wed Mar 26 11:18:17 2008

Not Valid After: Wed Mar 25 11:03:10 2020

Fingerprint (MD5): 7c:a5:0f:f8:5b:9a:7d:6d:30:ae:54:5a:e3:42:a2:8a

Fingerprint (SHA1): 59:af:82:79:91:86:c7:b4:75:07:cb:cf:03:57:46:eb:04:dd:b7:16

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\062
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\000\230\226\214

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\312\060\202\003\262\240\003\002\001\002\002\004\000
\230\226\214\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\116
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\061\053\060\051\006\003\125\004\003\014\042\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\040\122\157\157\164\040\103\101\040\055\040\107\062\060\036
\027\015\060\070\060\063\062\066\061\061\061\070\061\067\132\027
\015\062\060\060\063\062\065\061\061\060\063\061\060\132\060\132
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\036\060
\034\006\003\125\004\012\014\025\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\061\053\060
\051\006\003\125\004\003\014\042\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\040\122\157
\157\164\040\103\101\040\055\040\107\062\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\305\131\347\157\165
\252\076\113\234\265\270\254\236\013\344\371\331\312\253\135\217
\265\071\020\202\327\257\121\340\073\341\000\110\152\317\332\341
\006\103\021\231\252\024\045\022\255\042\350\000\155\103\304\251
\270\345\037\211\113\147\275\141\110\357\375\322\340\140\210\345
\271\030\140\050\303\167\053\255\260\067\252\067\336\144\131\052
\106\127\344\113\271\370\067\174\325\066\347\200\301\266\363\324
\147\233\226\350\316\327\306\012\123\320\153\111\226\363\243\013
\005\167\110\367\045\345\160\254\060\024\040\045\343\177\165\132
\345\110\370\116\173\003\007\004\372\202\141\207\156\360\073\304
\244\307\320\365\164\076\245\135\032\010\362\233\045\322\366\254
\004\046\076\125\072\142\050\245\173\262\060\257\370\067\302\321
\272\326\070\375\364\357\111\060\067\231\046\041\110\205\001\251
\345\026\347\334\220\125\337\017\350\070\315\231\067\041\117\135
\365\042\157\152\305\022\026\140\027\125\362\145\146\246\247\060
\221\070\301\070\035\206\004\204\272\032\045\170\136\235\257\314
\120\140\326\023\207\122\355\143\037\155\145\175\302\025\030\164
\312\341\176\144\051\214\162\330\026\023\175\013\111\112\361\050
\033\040\164\153\305\075\335\260\252\110\011\075\056\202\224\315
\032\145\331\053\210\232\231\274\030\176\237\356\175\146\174\076
\275\224\270\201\316\315\230\060\170\301\157\147\320\276\137\340
\150\355\336\342\261\311\054\131\170\222\252\337\053\140\143\362
\345\136\271\343\312\372\177\120\206\076\242\064\030\014\011\150
\050\021\034\344\341\271\134\076\107\272\062\077\030\314\133\204
\365\363\153\164\304\162\164\341\343\213\240\112\275\215\146\057
\352\255\065\332\040\323\210\202\141\360\022\042\266\274\320\325
\244\354\257\124\210\045\044\074\247\155\261\162\051\077\076\127

\246\177\125\257\156\046\306\376\347\314\100\134\121\104\201\012
\170\336\112\316\125\277\035\325\331\267\126\357\360\166\377\013
\171\265\257\275\373\251\151\221\106\227\150\200\024\066\035\263
\177\273\051\230\066\245\040\372\202\140\142\063\244\354\326\272
\007\247\156\305\317\024\246\347\326\222\064\330\201\365\374\035
\135\252\134\036\366\243\115\073\270\367\071\002\003\001\000\001
\243\201\227\060\201\224\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\122\006\003\125\035\040\004\113
\060\111\060\107\006\004\125\035\040\000\060\077\060\075\006\010
\053\006\001\005\005\007\002\001\026\061\150\164\164\160\072\057
\057\167\167\167\056\160\153\151\157\166\145\162\150\145\151\144
\056\156\154\057\160\157\154\151\143\151\145\163\057\162\157\157
\164\055\160\157\154\151\143\171\055\107\062\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125
\035\016\004\026\004\024\221\150\062\207\025\035\211\342\265\361
\254\066\050\064\215\013\174\142\210\353\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\250\101
\112\147\052\222\201\202\120\156\341\327\330\263\071\073\363\002
\025\011\120\121\357\055\275\044\173\210\206\073\371\264\274\222
\011\226\271\366\300\253\043\140\006\171\214\021\116\121\322\171
\200\063\373\235\110\276\354\101\103\201\037\176\107\100\034\345
\172\010\312\252\213\165\255\024\304\302\350\146\074\202\007\247
\346\047\202\133\030\346\017\156\331\120\076\212\102\030\051\306
\264\126\374\126\020\240\005\027\275\014\043\177\364\223\355\234
\032\121\276\335\105\101\277\221\044\264\037\214\351\137\317\173
\041\231\237\225\237\071\072\106\034\154\371\315\173\234\220\315
\050\251\307\251\125\273\254\142\064\142\065\023\113\024\072\125
\203\271\206\215\222\246\306\364\007\045\124\314\026\127\022\112
\202\170\310\024\331\027\202\046\055\135\040\037\171\256\376\324
\160\026\026\225\203\330\065\071\377\122\135\165\034\026\305\023
\125\317\107\314\165\145\122\112\336\360\260\247\344\012\226\013
\373\255\302\342\045\204\262\335\344\275\176\131\154\233\360\360
\330\347\312\362\351\227\070\176\211\276\314\373\071\027\141\077
\162\333\072\221\330\145\001\031\035\255\120\244\127\012\174\113
\274\234\161\163\052\105\121\031\205\314\216\375\107\247\164\225
\035\250\321\257\116\027\261\151\046\302\252\170\127\133\305\115
\247\345\236\005\027\224\312\262\137\240\111\030\215\064\351\046
\154\110\036\252\150\222\005\341\202\163\132\233\334\007\133\010
\155\175\235\327\215\041\331\374\024\040\252\302\105\337\077\347
\000\262\121\344\302\370\005\271\171\032\214\064\363\236\133\344
\067\133\153\112\337\054\127\212\100\132\066\272\335\165\104\010
\067\102\160\014\376\334\136\041\240\243\212\300\220\234\150\332
\120\346\105\020\107\170\266\116\322\145\311\303\067\337\341\102
\143\260\127\067\105\055\173\212\234\277\005\352\145\125\063\367
\071\020\305\050\052\041\172\033\212\304\044\371\077\025\310\232
\025\040\365\125\142\226\355\155\223\120\274\344\252\170\255\331
\313\012\145\207\246\146\301\304\201\243\167\072\130\036\013\356
\203\213\235\036\322\122\244\314\035\157\260\230\155\224\061\265

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\370\161\012\334\271\374\175\062\140\346\353\257\212\001
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Trust for "Staat der Nederlanden Root CA - G2"
# Issuer: CN=Staat der Nederlanden Root CA - G2,O=Staat der Nederlanden,C=NL
# Serial Number:98:96:8c
# Subject: CN=Staat der Nederlanden Root CA - G2,O=Staat der Nederlanden,C=NL
# Not Valid Before: Wed Mar 26 11:18:17 2008
# Not Valid After: Wed Mar 25 11:03:10 2020
# Fingerprint (MD5): 7c:a5:0f:f8:5b:9a:7d:6d:30:ae:54:5a:e3:42:a2:8a
# Fingerprint (SHA1): 59:af:82:79:91:86:c7:b4:75:07:cb:cf:03:57:46:eb:04:dd:b7:16
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\131\257\202\171\221\206\307\264\165\007\313\317\003\127\106\353
\004\335\267\026
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\174\245\017\370\133\232\175\155\060\256\124\132\343\102\242\212
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\000\230\226\214
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "NetLock Platina (Class Platinum) Ftanúsítvány"
# Issuer: CN=NetLock Platina (Class Platinum) Ftanúsítvány,OU=Tanúsítványkiadók (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Serial Number:49:41:2d:ec:00:10

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# Subject: CN=NetLock Platina (Class Platinum) Ftanúsítvány,OU=Tanúsítványkiadók (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Not Valid Before: Thu Dec 11 15:12:44 2008
# Not Valid After: Wed Dec 06 15:12:44 2028
# Fingerprint (MD5): d5:97:88:da:64:16:e7:1d:66:4a:a6:ea:37:fc:7a:dc
# Fingerprint (SHA1): ec:93:de:08:3c:93:d9:33:a9:86:b3:d5:cd:e2:5a:cb:2f:ee:cf:8e
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Platina (Class Platinum) Ftanúsítvány"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\255\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\073\060\071\006\003\125\004\003\014\062\116\145
\164\114\157\143\153\040\120\154\141\164\151\156\141\040\050\103
\154\141\163\163\040\120\154\141\164\151\156\165\155\051\040\106
\305\221\164\141\156\303\272\163\303\255\164\166\303\241\156\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\255\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\073\060\071\006\003\125\004\003\014\062\116\145
\164\114\157\143\153\040\120\154\141\164\151\156\141\040\050\103
\154\141\163\163\040\120\154\141\164\151\156\165\155\051\040\106
\305\221\164\141\156\303\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\111\101\055\354\000\020
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\041\060\202\004\011\240\003\002\001\002\002\006\111
\101\055\354\000\020\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\060\201\255\061\013\060\011\006\003\125\004\006
\023\002\110\125\061\021\060\017\006\003\125\004\007\014\010\102
\165\144\141\160\145\163\164\061\025\060\023\006\003\125\004\012
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\014\014\116\145\164\114\157\143\153\040\113\146\164\056\061\067
\060\065\006\003\125\004\013\014\056\124\141\156\303\272\163\303
\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\051\061\073\060\071\006\003\125\004\003
\014\062\116\145\164\114\157\143\153\040\120\154\141\164\151\156
\141\040\050\103\154\141\163\163\040\120\154\141\164\151\156\165
\155\051\040\106\305\221\164\141\156\303\272\163\303\255\164\166
\303\241\156\171\060\036\027\015\060\070\061\062\061\061\061\065
\061\062\064\064\132\027\015\062\070\061\062\060\066\061\065\061
\062\064\064\132\060\201\255\061\013\060\011\006\003\125\004\006
\023\002\110\125\061\021\060\017\006\003\125\004\007\014\010\102
\165\144\141\160\145\163\164\061\025\060\023\006\003\125\004\012
\014\014\116\145\164\114\157\143\153\040\113\146\164\056\061\067
\060\065\006\003\125\004\013\014\056\124\141\156\303\272\163\303
\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\051\061\073\060\071\006\003\125\004\003
\014\062\116\145\164\114\157\143\153\040\120\154\141\164\151\156
\141\040\050\103\154\141\163\163\040\120\154\141\164\151\156\165
\155\051\040\106\305\221\164\141\156\303\272\163\303\255\164\166
\303\241\156\171\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\315\362\356\304\032\172\353\164\051\114\266
\275\344\326\012\027\154\145\342\146\075\304\321\274\014\266\132
\326\053\160\137\055\314\041\321\131\020\344\261\023\275\366\314
\042\225\326\154\106\116\221\062\263\353\365\254\313\004\001\117
\166\335\123\076\170\237\371\136\274\265\202\023\106\312\020\343
\035\055\151\053\224\062\020\163\041\253\251\070\305\343\156\023
\144\325\143\251\355\011\146\354\212\157\211\215\021\206\320\365
\277\062\226\013\165\160\365\050\130\102\136\254\151\264\365\374
\221\071\056\242\221\100\321\074\124\101\207\043\144\120\110\171
\150\113\150\223\113\162\353\200\151\263\112\034\220\276\262\101
\243\245\315\027\300\321\032\151\177\002\030\112\265\142\207\046
\127\055\154\250\054\041\071\365\227\136\233\232\246\370\347\114
\171\304\173\073\126\334\172\370\264\130\316\166\012\256\042\125
\353\217\307\204\144\173\275\153\312\225\117\330\276\061\023\277
\215\241\012\053\325\171\267\365\166\255\332\121\134\201\107\142
\250\252\377\317\123\340\064\161\317\015\045\123\251\236\143\107
\257\205\221\370\317\031\021\345\116\371\317\355\343\065\005\001
\042\003\317\232\174\352\035\121\132\313\375\163\075\071\013\061
\353\304\073\312\205\052\021\024\000\240\033\201\242\011\210\110
\363\174\242\144\241\354\147\264\130\207\360\024\352\251\276\245
\042\101\115\354\275\244\016\350\075\207\367\057\252\316\065\206
\117\060\127\222\215\066\256\170\326\375\030\374\327\045\036\317
\172\374\031\375\240\077\162\027\066\010\101\077\227\066\225\014
\211\225\161\105\372\204\326\324\040\140\263\105\012\362\267\225
\075\013\345\244\303\270\022\362\221\154\351\155\140\203\366\105

\021\005\272\346\107\203\331\221\342\156\341\273\106\153\110\033
\274\306\373\317\176\336\054\273\220\204\356\266\047\071\347\215
\242\061\017\337\201\267\054\154\000\342\261\330\052\027\134\033
\036\107\211\113\027\121\024\100\100\117\304\071\030\062\302\200
\140\066\345\172\107\147\366\250\005\124\301\135\226\240\037\266
\210\122\014\002\276\215\125\176\024\113\303\242\001\356\234\212
\101\135\371\137\226\221\011\216\264\344\265\305\004\337\326\066
\255\131\264\262\327\002\003\000\363\221\243\105\060\103\060\022
\006\003\125\035\023\001\001\377\004\010\060\006\001\001\377\002
\001\004\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\035\006\003\125\035\016\004\026\004\024\346\241\023
\203\376\227\113\362\330\377\061\241\247\164\063\211\316\136\177
\244\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\002\001\000\151\204\102\300\343\136\023\141\227\040\111
\361\364\026\205\245\237\244\021\010\045\304\143\206\217\360\113
\257\263\051\365\007\127\032\142\307\033\105\156\257\135\026\267
\301\320\144\203\073\227\365\103\266\105\220\361\146\052\203\044
\052\377\210\351\172\013\371\302\133\172\257\143\367\011\170\206
\110\131\064\136\233\152\020\116\361\156\225\211\066\112\150\320
\157\233\340\176\117\267\065\017\343\171\261\005\257\047\174\252
\211\012\103\336\372\014\357\331\127\057\050\161\315\151\153\122
\102\311\212\060\105\131\241\314\372\131\112\217\367\326\335\104
\245\263\056\133\021\030\342\262\265\347\021\123\070\376\202\114
\323\163\276\145\222\032\072\250\322\322\252\274\324\276\155\066
\122\377\153\324\322\265\033\067\363\027\102\361\056\247\325\220
\154\164\235\164\365\372\137\042\033\323\334\165\250\265\377\362
\032\321\274\053\000\134\074\305\270\206\010\124\111\242\234\043
\373\357\246\215\160\364\102\122\115\033\040\000\201\370\240\270
\364\164\043\234\276\364\271\016\354\036\152\330\145\112\025\165
\361\167\133\156\330\261\346\017\264\226\270\035\372\206\310\222
\156\213\351\175\337\242\016\325\361\361\174\256\112\343\146\277
\135\374\133\357\110\262\236\151\307\175\220\240\125\266\224\160
\201\271\012\275\211\165\123\354\204\251\003\245\337\121\231\010
\320\164\014\002\326\163\162\006\173\213\273\135\252\116\374\147
\147\330\216\020\003\031\055\067\072\324\167\251\072\034\235\300
\171\173\154\051\167\062\115\112\213\060\210\302\347\066\316\150
\243\232\230\206\371\211\025\236\277\252\121\175\361\120\106\124
\017\002\056\134\237\343\336\127\063\025\376\030\222\141\250\322
\051\005\135\145\104\036\233\343\357\373\334\005\337\025\253\246
\330\013\244\163\262\114\072\340\236\324\263\152\345\072\016\012
\360\116\317\170\201\037\276\251\230\157\261\107\121\175\102\063
\066\263\246\251\002\122\005\164\176\052\154\324\252\222\126\260
\076\073\043\130\261\215\065\247\023\217\147\036\161\025\246\263
\265\003\206\270\040\146\300\110\157\271\254\324\112\003\125\262
\067\337\004\335\042\014\123\206\052\112\052\241\301\070\076\074
\345\074\337\165\227

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "NetLock Platina (Class Platinum) Ftanúsítvány"

Issuer: CN=NetLock Platina (Class Platinum) Ftanúsítvány,OU=Tanúsítványkiadók (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

Serial Number:49:41:2d:ec:00:10

Subject: CN=NetLock Platina (Class Platinum) Ftanúsítvány,OU=Tanúsítványkiadók (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

Not Valid Before: Thu Dec 11 15:12:44 2008

Not Valid After: Wed Dec 06 15:12:44 2028

Fingerprint (MD5): d5:97:88:da:64:16:e7:1d:66:4a:a6:ea:37:fc:7a:dc

Fingerprint (SHA1): ec:93:de:08:3c:93:d9:33:a9:86:b3:d5:cd:e2:5a:cb:2f:ee:cf:8e

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "NetLock Platina (Class Platinum) Ftanúsítvány"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\354\223\336\010\074\223\331\063\251\206\263\325\315\342\132\313
\057\356\317\216

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\325\227\210\332\144\026\347\035\146\112\246\352\067\374\172\334

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\255\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\073\060\071\006\003\125\004\003\014\062\116\145
\164\114\157\143\153\040\120\154\141\164\151\156\141\040\050\103
\154\141\163\163\040\120\154\141\164\151\156\165\155\051\040\106
\305\221\164\141\156\303\272\163\303\255\164\166\303\241\156\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\006\111\101\055\354\000\020

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

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# Certificate "AC Raíz Certicámara S.A."
# Issuer: CN=AC Raíz Certicámara S.A.,O=Sociedad Cameral de Certificación Digital - Certicámara S.A.,C=CO
# Serial Number:07:7e:52:93:7b:e0:15:e3:57:f0:69:8c:cb:ec:0c
# Subject: CN=AC Raíz Certicámara S.A.,O=Sociedad Cameral de Certificación Digital - Certicámara S.A.,C=CO
# Not Valid Before: Mon Nov 27 20:46:29 2006
# Not Valid After: Tue Apr 02 21:42:02 2030
# Fingerprint (MD5): 93:2a:3e:f6:fd:23:69:0d:71:20:d4:2b:47:99:2b:a6
# Fingerprint (SHA1): cb:a1:c5:f8:b0:e3:5e:b8:b9:45:12:d3:f9:34:a2:e9:06:10:d3:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC Raíz Certicámara S.A."
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\103\117\061
\107\060\105\006\003\125\004\012\014\076\123\157\143\151\145\144
\141\144\040\103\141\155\145\162\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\303\263\156\040\104\151\147
\151\164\141\154\040\055\040\103\145\162\164\151\143\303\241\155
\141\162\141\040\123\056\101\056\061\043\060\041\006\003\125\004
\003\014\032\101\103\040\122\141\303\255\172\040\103\145\162\164
\151\143\303\241\155\141\162\141\040\123\056\101\056
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\103\117\061
\107\060\105\006\003\125\004\012\014\076\123\157\143\151\145\144
\141\144\040\103\141\155\145\162\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\303\263\156\040\104\151\147
\151\164\141\154\040\055\040\103\145\162\164\151\143\303\241\155
\141\162\141\040\123\056\101\056\061\043\060\041\006\003\125\004
\003\014\032\101\103\040\122\141\303\255\172\040\103\145\162\164
\151\143\303\241\155\141\162\141\040\123\056\101\056
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\007\176\122\223\173\340\025\343\127\360\151\214\313\354
\014
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\146\060\202\004\116\240\003\002\001\002\002\017\007
\176\122\223\173\340\025\343\127\360\151\214\313\354\014\060\015
\006\011\052\206\110\206\367\015\001\001\005\005\000\060\173\061
\013\060\011\006\003\125\004\006\023\002\103\117\061\107\060\105
\006\003\125\004\012\014\076\123\157\143\151\145\144\141\144\040
\103\141\155\145\162\141\154\040\144\145\040\103\145\162\164\151
\146\151\143\141\143\151\303\263\156\040\104\151\147\151\164\141
\154\040\055\040\103\145\162\164\151\143\303\241\155\141\162\141
```

\040\123\056\101\056\061\043\060\041\006\003\125\004\003\014\032
\101\103\040\122\141\303\255\172\040\103\145\162\164\151\143\303
\241\155\141\162\141\040\123\056\101\056\060\036\027\015\060\066
\061\061\062\067\062\060\064\066\062\071\132\027\015\063\060\060
\064\060\062\062\061\064\062\060\062\132\060\173\061\013\060\011
\006\003\125\004\006\023\002\103\117\061\107\060\105\006\003\125
\004\012\014\076\123\157\143\151\145\144\141\144\040\103\141\155
\145\162\141\154\040\144\145\040\103\145\162\164\151\146\151\143
\141\143\151\303\263\156\040\104\151\147\151\164\141\154\040\055
\040\103\145\162\164\151\143\303\241\155\141\162\141\040\123\056
\101\056\061\043\060\041\006\003\125\004\003\014\032\101\103\040
\122\141\303\255\172\040\103\145\162\164\151\143\303\241\155\141
\162\141\040\123\056\101\056\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\253\153\211\243\123\314\110\043
\010\373\303\317\121\226\010\056\270\010\172\155\074\220\027\206
\251\351\355\056\023\064\107\262\320\160\334\311\074\320\215\312
\356\113\027\253\320\205\260\247\043\004\313\250\242\374\345\165
\333\100\312\142\211\217\120\236\001\075\046\133\030\204\034\313
\174\067\267\175\354\323\177\163\031\260\152\262\330\210\212\055
\105\164\250\367\263\270\300\324\332\315\042\211\164\115\132\025
\071\163\030\164\117\265\353\231\247\301\036\210\264\302\223\220
\143\227\363\247\247\022\262\011\042\007\063\331\221\315\016\234
\037\016\040\307\356\273\063\215\217\302\322\130\247\137\375\145
\067\342\210\302\330\217\206\165\136\371\055\247\207\063\362\170
\067\057\213\274\035\206\067\071\261\224\362\330\274\112\234\203
\030\132\006\374\363\324\324\272\214\025\011\045\360\371\266\215
\004\176\027\022\063\153\127\110\114\117\333\046\036\353\314\220
\347\213\371\150\174\160\017\243\052\320\072\070\337\067\227\342
\133\336\200\141\323\200\330\221\203\102\132\114\004\211\150\021
\074\254\137\150\200\101\314\140\102\316\015\132\052\014\017\233
\060\300\246\360\206\333\253\111\327\227\155\110\213\371\003\300
\122\147\233\022\367\302\362\056\230\145\102\331\326\232\343\320
\031\061\014\255\207\325\127\002\172\060\350\206\046\373\217\043
\212\124\207\344\277\074\356\353\303\165\110\137\036\071\157\201
\142\154\305\055\304\027\124\031\267\067\215\234\067\221\310\366
\013\325\352\143\157\203\254\070\302\363\077\336\232\373\341\043
\141\360\310\046\313\066\310\241\363\060\217\244\243\242\241\335
\123\263\336\360\232\062\037\203\221\171\060\301\251\037\123\233
\123\242\025\123\077\335\235\263\020\073\110\175\211\017\374\355
\003\365\373\045\144\165\016\027\031\015\217\000\026\147\171\172
\100\374\055\131\007\331\220\372\232\255\075\334\200\212\346\134
\065\242\147\114\021\153\261\370\200\144\000\055\157\042\141\305
\254\113\046\345\132\020\202\233\244\203\173\064\367\236\211\221
\040\227\216\267\102\307\146\303\320\351\244\326\365\040\215\304
\303\225\254\104\012\235\133\163\074\046\075\057\112\276\247\311
\247\020\036\373\237\120\151\363\002\003\001\000\001\243\201\346
\060\201\343\060\017\006\003\125\035\023\001\001\377\004\005\060

\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\321
\011\320\351\327\316\171\164\124\371\072\060\263\364\155\054\003
\003\033\150\060\201\240\006\003\125\035\040\004\201\230\060\201
\225\060\201\222\006\004\125\035\040\000\060\201\211\060\053\006
\010\053\006\001\005\005\007\002\001\026\037\150\164\164\160\072
\057\057\167\167\167\056\143\145\162\164\151\143\141\155\141\162
\141\056\143\157\155\057\144\160\143\057\060\132\006\010\053\006
\001\005\005\007\002\002\060\116\032\114\114\151\155\151\164\141
\143\151\157\156\145\163\040\144\145\040\147\141\162\141\156\164
\355\141\163\040\144\145\040\145\163\164\145\040\143\145\162\164
\151\146\151\143\141\144\157\040\163\145\040\160\165\145\144\145
\156\040\145\156\143\157\156\164\162\141\162\040\145\156\040\154
\141\040\104\120\103\056\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\002\001\000\134\224\265\270\105\221
\115\216\141\037\003\050\017\123\174\346\244\131\251\263\212\172
\305\260\377\010\174\054\243\161\034\041\023\147\241\225\022\100
\065\203\203\217\164\333\063\134\360\111\166\012\201\122\335\111
\324\232\062\063\357\233\247\313\165\345\172\313\227\022\220\134
\272\173\305\233\337\273\071\043\310\377\230\316\012\115\042\001
\110\007\176\212\300\325\040\102\224\104\357\277\167\242\211\147
\110\033\100\003\005\241\211\354\317\142\343\075\045\166\146\277
\046\267\273\042\276\157\377\071\127\164\272\172\311\001\225\301
\225\121\350\253\054\370\261\206\040\351\077\313\065\133\322\027
\351\052\376\203\023\027\100\356\210\142\145\133\325\073\140\351
\173\074\270\311\325\177\066\002\045\252\150\302\061\025\267\060
\145\353\177\035\110\171\261\317\071\342\102\200\026\323\365\223
\043\374\114\227\311\132\067\154\174\042\330\112\315\322\216\066
\203\071\221\220\020\310\361\311\065\176\077\270\323\201\306\040
\144\032\266\120\302\041\244\170\334\320\057\073\144\223\164\360
\226\220\361\357\373\011\132\064\100\226\360\066\022\301\243\164
\214\223\176\101\336\167\213\354\206\331\322\017\077\055\321\314
\100\242\211\146\110\036\040\263\234\043\131\163\251\104\163\274
\044\171\220\126\067\263\306\051\176\243\017\361\051\071\357\176
\134\050\062\160\065\254\332\270\310\165\146\374\233\114\071\107
\216\033\157\233\115\002\124\042\063\357\141\272\236\051\204\357
\116\113\063\107\166\227\152\313\176\137\375\025\246\236\102\103
\133\146\132\212\210\015\367\026\271\077\121\145\053\146\152\213
\321\070\122\242\326\106\021\372\374\232\034\164\236\217\227\013
\002\117\144\306\365\150\323\113\055\377\244\067\036\213\077\277
\104\276\141\106\241\204\075\010\047\114\201\040\167\211\010\352
\147\100\136\154\010\121\137\064\132\214\226\150\315\327\367\211
\302\034\323\062\000\257\122\313\323\140\133\052\072\107\176\153
\060\063\241\142\051\177\112\271\341\055\347\024\043\016\016\030
\107\341\171\374\025\125\320\261\374\045\161\143\165\063\034\043
\053\257\134\331\355\107\167\140\016\073\017\036\322\300\334\144
\005\211\374\170\326\134\054\046\103\251

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "AC Raíz Certicámara S.A."

Issuer: CN=AC Raíz Certicámara S.A.,O=Sociedad Cameral de Certificación Digital - Certicámara S.A.,C=CO

Serial Number:07:7e:52:93:7b:e0:15:e3:57:f0:69:8c:cb:ec:0c

Subject: CN=AC Raíz Certicámara S.A.,O=Sociedad Cameral de Certificación Digital - Certicámara S.A.,C=CO

Not Valid Before: Mon Nov 27 20:46:29 2006

Not Valid After: Tue Apr 02 21:42:02 2030

Fingerprint (MD5): 93:2a:3e:f6:fd:23:69:0d:71:20:d4:2b:47:99:2b:a6

Fingerprint (SHA1): cb:a1:c5:f8:b0:e3:5e:b8:b9:45:12:d3:f9:34:a2:e9:06:10:d3:36

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "AC Raíz Certicámara S.A."

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\313\241\305\370\260\343\136\270\271\105\022\323\371\064\242\351
\006\020\323\066

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\223\052\076\366\375\043\151\015\161\040\324\053\107\231\053\246

END

CKA_ISSUER MULTILINE_OCTAL

\060\173\061\013\060\011\006\003\125\004\006\023\002\103\117\061
\107\060\105\006\003\125\004\012\014\076\123\157\143\151\145\144
\141\144\040\103\141\155\145\162\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\303\263\156\040\104\151\147
\151\164\141\154\040\055\040\103\145\162\164\151\143\303\241\155
\141\162\141\040\123\056\101\056\061\043\060\041\006\003\125\004
\003\014\032\101\103\040\122\141\303\255\172\040\103\145\162\164
\151\143\303\241\155\141\162\141\040\123\056\101\056

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\017\007\176\122\223\173\340\025\343\127\360\151\214\313\354
\014

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Cisco Root CA 2048"

Issuer: CN=Cisco Root CA 2048,O=Cisco Systems

Serial Number:5f:f8:7b:28:2b:54:dc:8d:42:a3:15:b5:68:c9:ad:ff

```
# Subject: CN=Cisco Root CA 2048,O=Cisco Systems
# Not Valid Before: Fri May 14 20:17:12 2004
# Not Valid After: Mon May 14 20:25:42 2029
# Fingerprint (MD5): be:39:5a:be:07:8a:b1:12:17:25:cc:1d:46:34:3c:b2
# Fingerprint (SHA1): de:99:0c:ed:99:e0:43:1f:60:ed:c3:93:7e:7c:d5:bf:0e:d9:e5:fa
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Cisco Root CA 2048"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\065\061\026\060\024\006\003\125\004\012\023\015\103\151\163
\143\157\040\123\171\163\164\145\155\163\061\033\060\031\006\003
\125\004\003\023\022\103\151\163\143\157\040\122\157\157\164\040
\103\101\040\062\060\064\070
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\065\061\026\060\024\006\003\125\004\012\023\015\103\151\163
\143\157\040\123\171\163\164\145\155\163\061\033\060\031\006\003
\125\004\003\023\022\103\151\163\143\157\040\122\157\157\164\040
\103\101\040\062\060\064\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\370\173\050\053\124\334\215\102\243\025\265\150\311
\255\377
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\103\060\202\002\053\240\003\002\001\002\002\020\137
\370\173\050\053\124\334\215\102\243\025\265\150\311\255\377\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\065
\061\026\060\024\006\003\125\004\012\023\015\103\151\163\143\157
\040\123\171\163\164\145\155\163\061\033\060\031\006\003\125\004
\003\023\022\103\151\163\143\157\040\122\157\157\164\040\103\101
\040\062\060\064\070\060\036\027\015\060\064\060\065\061\064\062
\060\061\067\061\062\132\027\015\062\071\060\065\061\064\062\060
\062\065\064\062\132\060\065\061\026\060\024\006\003\125\004\012
\023\015\103\151\163\143\157\040\123\171\163\164\145\155\163\061
\033\060\031\006\003\125\004\003\023\022\103\151\163\143\157\040
\122\157\157\164\040\103\101\040\062\060\064\070\060\202\001\040
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\015\000\060\202\001\010\002\202\001\001\000\260\232\271
\253\247\257\012\167\247\342\161\266\264\146\142\224\170\210\107
\306\142\125\204\100\062\277\300\253\056\245\034\161\326\274\156
\173\250\252\272\156\322\025\210\110\105\235\242\374\203\320\314
\271\214\340\046\150\160\112\170\337\041\027\236\364\141\005\311
\025\310\317\026\332\065\141\211\224\103\250\204\250\061\230\170
```


\233\271\116\157\054\123\022\154\315\035\255\053\044\273\061\304
\053\377\203\104\157\266\075\044\167\011\352\277\052\250\037\152
\126\366\040\017\021\124\227\201\165\247\045\316\131\152\202\145
\357\267\352\347\342\215\165\213\156\362\335\117\246\136\142\234
\317\020\012\144\320\116\155\316\053\314\133\365\140\245\047\107
\215\151\364\177\316\033\160\336\160\033\040\326\156\315\246\001
\250\074\022\322\251\077\240\153\136\273\216\040\213\172\221\343
\265\150\356\240\347\304\001\164\250\123\013\053\112\232\017\145
\022\016\202\115\216\143\375\357\353\233\032\333\123\246\023\140
\257\302\175\327\307\154\027\045\324\163\373\107\144\120\201\200
\224\114\341\277\256\113\034\337\222\355\056\005\337\002\001\003
\243\121\060\117\060\013\006\003\125\035\017\004\004\003\002\001
\206\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\035\006\003\125\035\016\004\026\004\024\047\363\310
\025\036\156\232\002\011\026\255\053\240\211\140\137\332\173\057
\252\060\020\006\011\053\006\001\004\001\202\067\025\001\004\003
\002\001\000\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\003\202\001\001\000\235\235\204\204\243\101\251\174\167
\014\267\123\312\116\104\120\142\357\124\174\323\165\027\034\350
\340\306\110\113\266\376\114\072\031\201\126\260\126\356\031\226
\142\252\132\243\144\301\366\116\124\063\306\167\376\305\034\272
\345\135\045\312\365\360\223\232\203\021\056\346\313\370\164\105
\376\347\005\270\253\347\337\313\113\341\067\204\332\271\213\227
\160\036\360\342\213\327\260\330\016\235\261\151\326\052\221\173
\251\111\117\176\346\216\225\330\203\047\074\325\150\111\016\324
\235\366\056\353\247\276\353\060\244\254\037\104\374\225\253\063
\006\373\175\140\012\336\264\212\143\260\234\251\362\244\271\123
\001\207\320\150\244\047\177\253\377\351\372\311\100\070\210\147
\264\071\306\204\157\127\311\123\333\272\216\356\300\103\262\370
\011\203\156\377\146\317\076\357\027\263\130\030\045\011\064\136
\343\313\326\024\266\354\362\222\157\164\344\057\201\052\325\222
\221\340\340\227\074\062\150\005\205\113\321\367\127\342\122\035
\223\032\124\237\005\160\300\112\161\140\036\103\013\140\036\376
\243\316\201\031\341\013\065

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "Cisco Root CA 2048"

Issuer: CN=Cisco Root CA 2048,O=Cisco Systems

Serial Number:5f:f8:7b:28:2b:54:dc:8d:42:a3:15:b5:68:c9:ad:ff

Subject: CN=Cisco Root CA 2048,O=Cisco Systems

Not Valid Before: Fri May 14 20:17:12 2004

Not Valid After: Mon May 14 20:25:42 2029

Fingerprint (MD5): be:39:5a:be:07:8a:b1:12:17:25:cc:1d:46:34:3c:b2

Fingerprint (SHA1): de:99:0c:ed:99:e0:43:1f:60:ed:c3:93:7e:7c:d5:bf:0e:d9:e5:fa

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Cisco Root CA 2048"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\336\231\014\355\231\340\103\037\140\355\303\223\176\174\325\277
\016\331\345\372
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\276\071\132\276\007\212\261\022\027\045\314\035\106\064\074\262
END
CKA_ISSUER MULTILINE_OCTAL
\060\065\061\026\060\024\006\003\125\004\012\023\015\103\151\163
\143\157\040\123\171\163\164\145\155\163\061\033\060\031\006\003
\125\004\003\023\022\103\151\163\143\157\040\122\157\157\164\040
\103\101\040\062\060\064\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\370\173\050\053\124\334\215\102\243\025\265\150\311
\255\377
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "CA Disig"
# Issuer: CN=CA Disig,O=Disig a.s.,L=Bratislava,C=SK
# Serial Number: 1 (0x1)
# Subject: CN=CA Disig,O=Disig a.s.,L=Bratislava,C=SK
# Not Valid Before: Wed Mar 22 01:39:34 2006
# Not Valid After: Tue Mar 22 01:39:34 2016
# Fingerprint (MD5): 3f:45:96:39:e2:50:87:f7:bb:fe:98:0c:3c:20:98:e6
# Fingerprint (SHA1): 2a:c8:d5:8b:57:ce:bf:2f:49:af:f2:fc:76:8f:51:14:62:90:7a:41
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\021\060\017\006\003\125
\004\003\023\010\103\101\040\104\151\163\151\147
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\112\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\021\060\017\006\003\125
\004\003\023\010\103\101\040\104\151\163\151\147

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\017\060\202\002\367\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\112\061\013\060\011\006\003\125\004\006\023\002\123\113\061\023
\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163\154
\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104\151
\163\151\147\040\141\056\163\056\061\021\060\017\006\003\125\004
\003\023\010\103\101\040\104\151\163\151\147\060\036\027\015\060
\066\060\063\062\062\060\061\063\071\063\064\132\027\015\061\066
\060\063\062\062\060\061\063\071\063\064\132\060\112\061\013\060
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040
\141\056\163\056\061\021\060\017\006\003\125\004\003\023\010\103
\101\040\104\151\163\151\147\060\202\001\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060
\202\001\012\002\202\001\001\000\222\366\061\301\175\210\375\231
\001\251\330\173\362\161\165\361\061\306\363\165\146\372\121\050
\106\204\227\170\064\274\154\374\274\105\131\210\046\030\112\304
\067\037\241\112\104\275\343\161\004\365\104\027\342\077\374\110
\130\157\134\236\172\011\272\121\067\042\043\146\103\041\260\074
\144\242\370\152\025\016\077\353\121\341\124\251\335\006\231\327
\232\074\124\213\071\003\077\017\305\316\306\353\203\162\002\250
\037\161\363\055\370\165\010\333\142\114\350\372\316\371\347\152
\037\266\153\065\202\272\342\217\026\222\175\005\014\154\106\003
\135\300\355\151\277\072\301\212\240\350\216\331\271\105\050\207
\010\354\264\312\025\276\202\335\265\104\213\055\255\206\014\150
\142\155\205\126\362\254\024\143\072\306\321\231\254\064\170\126
\113\317\266\255\077\214\212\327\004\345\343\170\114\365\206\252
\365\217\372\075\154\161\243\055\312\147\353\150\173\156\063\251
\014\202\050\250\114\152\041\100\025\040\014\046\133\203\302\251
\026\025\300\044\202\135\053\026\255\312\143\366\164\000\260\337
\103\304\020\140\126\147\143\105\002\003\001\000\001\243\201\377
\060\201\374\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\215
\262\111\150\235\162\010\045\271\300\047\365\120\223\126\110\106

\161\371\217\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\066\006\003\125\035\021\004\057\060\055\201\023
\143\141\157\160\145\162\141\164\157\162\100\144\151\163\151\147
\056\163\153\206\026\150\164\164\160\072\057\057\167\167\167\056
\144\151\163\151\147\056\163\153\057\143\141\060\146\006\003\125
\035\037\004\137\060\135\060\055\240\053\240\051\206\047\150\164
\164\160\072\057\057\167\167\167\056\144\151\163\151\147\056\163
\153\057\143\141\057\143\162\154\057\143\141\137\144\151\163\151
\147\056\143\162\154\060\054\240\052\240\050\206\046\150\164\164
\160\072\057\057\143\141\056\144\151\163\151\147\056\163\153\057
\143\141\057\143\162\154\057\143\141\137\144\151\163\151\147\056
\143\162\154\060\032\006\003\125\035\040\004\023\060\021\060\017
\006\015\053\201\036\221\223\346\012\000\000\000\001\001\001\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\001\001\000\135\064\164\141\114\257\073\330\377\237\155\130\066
\034\075\013\201\015\022\053\106\020\200\375\347\074\047\320\172
\310\251\266\176\164\060\063\243\072\212\173\164\300\171\171\102
\223\155\377\261\051\024\202\253\041\214\057\027\371\077\046\057
\365\131\306\357\200\006\267\232\111\051\354\316\176\161\074\152
\020\101\300\366\323\232\262\174\132\221\234\300\254\133\310\115
\136\367\341\123\377\103\167\374\236\113\147\154\327\363\203\321
\240\340\177\045\337\270\230\013\232\062\070\154\060\240\363\377
\010\025\063\367\120\112\173\076\243\076\040\251\334\057\126\200
\012\355\101\120\260\311\364\354\262\343\046\104\000\016\157\236
\006\274\042\226\123\160\145\304\120\012\106\153\244\057\047\201
\022\047\023\137\020\241\166\316\212\173\067\352\303\071\141\003
\225\230\072\347\154\210\045\010\374\171\150\015\207\175\142\370
\264\137\373\305\330\114\275\130\274\077\103\133\324\036\001\115
\074\143\276\043\357\214\315\132\120\270\150\124\371\012\231\063
\021\000\341\236\302\106\167\202\365\131\006\214\041\114\207\011
\315\345\250

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "CA Disig"
Issuer: CN=CA Disig,O=Disig a.s.,L=Bratislava,C=SK
Serial Number: 1 (0x1)
Subject: CN=CA Disig,O=Disig a.s.,L=Bratislava,C=SK
Not Valid Before: Wed Mar 22 01:39:34 2006
Not Valid After: Tue Mar 22 01:39:34 2016
Fingerprint (MD5): 3f:45:96:39:e2:50:87:f7:bb:fe:98:0c:3c:20:98:e6
Fingerprint (SHA1): 2a:c8:d5:8b:57:ce:bf:2f:49:af:f2:fc:76:8f:51:14:62:90:7a:41
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\052\310\325\213\127\316\277\057\111\257\362\374\166\217\121\024
\142\220\172\101
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\077\105\226\071\342\120\207\367\273\376\230\014\074\040\230\346
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\021\060\017\006\003\125
\004\003\023\010\103\101\040\104\151\163\151\147
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "InfoNotary CSP Root"
# Issuer: C=BG+1.2.840.113549.1.9.1=csp@infonotary.com+OU=InfoNotary CSP Root+DC=root-
ca+O=InfoNotary PLC+CN=InfoNotary CSP Root
# Serial Number: 1a:af:92:6c:8f:93:af:60
# Subject: C=BG+1.2.840.113549.1.9.1=csp@infonotary.com+OU=InfoNotary CSP Root+DC=root-
ca+O=InfoNotary PLC+CN=InfoNotary CSP Root
# Not Valid Before: Mon Mar 06 17:33:05 2006
# Not Valid After: Fri Mar 06 17:33:05 2026
# Fingerprint (MD5): e2:d8:f8:67:f4:50:94:35:fc:5e:05:fc:82:22:95:c3
# Fingerprint (SHA1): 04:46:c8:bb:9a:69:83:c9:5c:8a:2e:54:64:68:7c:11:15:aa:b7:4a
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "InfoNotary CSP Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\225\061\201\222\060\011\006\003\125\004\006\014\002\102
\107\060\025\006\003\125\004\012\014\016\111\156\146\157\116\157
\164\141\162\171\040\120\114\103\060\025\006\012\011\222\046\211
\223\362\054\144\001\031\026\007\162\157\157\164\055\143\141\060
\032\006\003\125\004\003\014\023\111\156\146\157\116\157\164\141
\162\171\040\103\123\120\040\122\157\157\164\060\032\006\003\125

```

\004\013\014\023\111\156\146\157\116\157\164\141\162\171\040\103
\123\120\040\122\157\157\164\060\037\006\011\052\206\110\206\367
\015\001\011\001\026\022\143\163\160\100\151\156\146\157\156\157
\164\141\162\171\056\143\157\155

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\225\061\201\222\060\011\006\003\125\004\006\014\002\102
\107\060\025\006\003\125\004\012\014\016\111\156\146\157\116\157
\164\141\162\171\040\120\114\103\060\025\006\012\011\222\046\211
\223\362\054\144\001\031\026\007\162\157\157\164\055\143\141\060
\032\006\003\125\004\003\014\023\111\156\146\157\116\157\164\141
\162\171\040\103\123\120\040\122\157\157\164\060\032\006\003\125
\004\013\014\023\111\156\146\157\116\157\164\141\162\171\040\103
\123\120\040\122\157\157\164\060\037\006\011\052\206\110\206\367
\015\001\011\001\026\022\143\163\160\100\151\156\146\157\156\157
\164\141\162\171\056\143\157\155

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\032\257\222\154\217\223\257\140

END

CKA_VALUE MULTILINE_OCTAL

\060\202\007\304\060\202\005\254\240\003\002\001\002\002\010\032
\257\222\154\217\223\257\140\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\201\225\061\201\222\060\011\006\003
\125\004\006\014\002\102\107\060\025\006\003\125\004\012\014\016
\111\156\146\157\116\157\164\141\162\171\040\120\114\103\060\025
\006\012\011\222\046\211\223\362\054\144\001\031\026\007\162\157
\157\164\055\143\141\060\032\006\003\125\004\003\014\023\111\156
\146\157\116\157\164\141\162\171\040\103\123\120\040\122\157\157
\164\060\032\006\003\125\004\013\014\023\111\156\146\157\116\157
\164\141\162\171\040\103\123\120\040\122\157\157\164\060\037\006
\011\052\206\110\206\367\015\001\011\001\026\022\143\163\160\100
\151\156\146\157\156\157\164\141\162\171\056\143\157\155\060\042
\030\017\062\060\060\066\060\063\060\066\061\067\063\063\060\065
\132\030\017\062\060\062\066\060\063\060\066\061\067\063\063\060
\065\132\060\201\225\061\201\222\060\011\006\003\125\004\006\014
\002\102\107\060\025\006\003\125\004\012\014\016\111\156\146\157
\116\157\164\141\162\171\040\120\114\103\060\025\006\012\011\222
\046\211\223\362\054\144\001\031\026\007\162\157\157\164\055\143
\141\060\032\006\003\125\004\003\014\023\111\156\146\157\116\157
\164\141\162\171\040\103\123\120\040\122\157\157\164\060\032\006
\003\125\004\013\014\023\111\156\146\157\116\157\164\141\162\171
\040\103\123\120\040\122\157\157\164\060\037\006\011\052\206\110
\206\367\015\001\011\001\026\022\143\163\160\100\151\156\146\157
\156\157\164\141\162\171\056\143\157\155\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\234\315\244\136\037

\244\176\010\202\117\200\166\301\047\214\107\026\140\237\163\254
\311\221\177\055\020\154\073\224\111\234\102\063\137\224\361\203
\041\011\221\367\222\267\017\070\105\213\224\007\112\253\376\077
\066\065\133\321\325\122\070\102\106\350\107\307\112\120\063\310
\344\340\163\266\220\232\272\243\210\070\323\053\102\300\156\337
\242\023\027\362\117\271\347\362\041\335\145\372\246\375\122\302
\140\262\313\117\067\275\257\047\216\151\153\062\100\123\131\365
\362\061\166\210\006\155\150\237\060\274\267\201\034\216\147\143
\303\005\145\367\063\366\131\251\253\263\212\107\013\024\023\307
\066\335\042\373\370\104\064\065\101\050\300\201\272\116\265\161
\023\257\003\250\111\012\056\244\233\141\167\153\035\044\322\245
\361\055\321\107\136\202\377\110\203\260\025\230\107\336\166\373
\117\116\300\277\124\111\146\274\117\001\321\174\072\145\376\305
\254\160\133\305\025\033\162\245\175\246\133\073\027\303\276\303
\077\135\022\177\147\055\166\107\014\213\277\026\043\265\203\162
\315\200\315\350\272\257\136\150\063\070\324\220\355\156\322\351
\126\004\044\241\371\276\154\136\312\236\043\040\222\053\232\015
\113\115\343\242\110\217\276\355\252\016\214\276\251\070\160\271
\020\177\062\135\200\047\132\003\340\324\107\063\045\132\166\251
\203\331\230\100\355\177\165\002\357\356\141\221\254\061\076\200
\323\064\113\360\302\116\065\060\111\136\267\051\350\175\041\260
\377\052\171\234\064\061\031\146\063\040\141\032\057\260\202\325
\261\147\123\220\015\235\052\227\050\156\267\146\077\032\177\246
\304\232\150\226\346\146\133\172\067\337\132\167\025\340\331\343
\174\263\262\320\325\150\333\076\035\130\037\216\312\230\164\143
\277\324\175\066\150\356\320\057\244\052\362\210\057\167\303\022
\077\215\250\045\054\004\151\130\246\313\264\071\361\210\320\246
\336\226\316\163\102\106\323\243\371\361\330\216\212\235\156\212
\300\122\117\105\267\160\376\034\173\075\015\226\334\371\220\226
\155\306\030\241\102\302\266\334\331\043\037\227\223\233\017\031
\371\260\267\077\045\164\275\202\123\354\015\057\155\326\077\122
\057\330\166\320\045\275\320\271\365\275\017\002\003\001\000\001
\243\202\002\020\060\202\002\014\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\104\006\010\053\006\001\005
\005\007\001\001\004\070\060\066\060\064\006\010\053\006\001\005
\005\007\060\001\206\050\150\164\164\160\072\057\057\157\143\163
\160\056\151\156\146\157\156\157\164\141\162\171\056\143\157\155
\057\162\145\163\160\157\156\144\145\162\056\143\147\151\060\126
\006\010\053\006\001\005\005\007\001\013\004\112\060\110\060\106
\006\010\053\006\001\005\005\007\060\005\206\072\154\144\141\160
\072\057\057\154\144\141\160\056\151\156\146\157\156\157\164\141
\162\171\056\143\157\155\057\144\143\075\162\157\157\164\055\143
\141\054\144\143\075\151\156\146\157\156\157\164\141\162\171\054
\144\143\075\143\157\155\060\201\252\006\003\125\035\040\004\201
\242\060\201\237\060\157\006\011\053\006\001\004\001\201\255\000
\001\060\142\060\072\006\010\053\006\001\005\005\007\002\001\026
\056\150\164\164\160\072\057\057\162\145\160\157\163\151\164\157
\162\171\056\151\156\146\157\156\157\164\141\162\171\056\143\157

\155\057\143\160\163\057\161\143\160\163\056\150\164\155\154\060
\044\006\010\053\006\001\005\005\007\002\002\060\030\032\026\111
\156\146\157\116\157\164\141\162\171\040\103\123\120\040\122\157
\157\164\040\103\101\060\054\006\011\053\006\001\004\001\201\255
\000\000\060\037\060\035\006\010\053\006\001\005\005\007\002\001
\026\021\150\164\164\160\072\057\057\167\167\167\056\143\162\143
\056\142\147\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\177\006\003\125\035\021\004\170\060\166\244
\164\060\162\061\160\060\013\006\003\125\004\021\014\004\061\060
\060\060\060\014\006\003\125\004\007\014\005\123\157\146\151\141
\060\023\006\003\125\004\024\014\014\053\063\065\071\062\071\070
\067\065\067\061\067\060\033\006\006\125\004\012\144\001\001\014
\021\061\063\061\062\067\066\070\062\067\072\102\125\114\123\124
\101\124\060\041\006\011\052\206\110\206\367\015\001\011\010\014
\024\061\066\040\111\166\141\156\040\126\141\163\157\166\040\123
\164\162\145\145\164\060\035\006\003\125\035\016\004\026\004\024
\335\324\116\147\103\077\323\352\142\350\332\211\156\216\073\156
\013\273\225\237\060\015\006\011\052\206\110\206\367\015\001\001
\005\005\000\003\202\002\001\000\030\233\374\015\301\370\161\254
\324\314\024\265\047\011\301\130\112\064\100\346\233\145\312\340
\361\213\122\075\226\176\211\036\336\250\025\372\335\224\056\203
\306\066\135\033\041\251\066\016\134\075\111\210\014\123\041\135
\037\155\111\066\157\234\120\353\333\144\317\211\272\257\136\255
\024\104\207\142\357\060\174\300\226\337\160\071\313\073\121\356
\053\374\010\005\207\126\315\063\045\340\200\032\340\246\347\015
\103\114\000\043\103\126\242\016\031\124\342\215\321\015\026\271
\132\157\233\167\345\034\251\203\213\050\361\341\062\166\137\107
\260\232\066\352\262\157\335\206\061\130\376\006\151\260\303\140
\246\373\330\050\324\010\335\361\156\116\032\275\315\267\254\276
\042\207\026\111\261\070\000\325\214\103\051\347\051\153\053\022
\142\131\252\103\360\264\162\210\070\326\002\137\037\332\044\222
\215\215\174\374\037\175\070\220\130\013\037\034\267\034\273\066
\047\055\132\034\307\061\335\264\053\235\275\107\241\061\267\011
\021\342\315\157\247\156\364\270\243\051\217\363\140\277\247\035
\340\117\227\045\045\012\060\111\307\376\172\071\104\324\323\145
\357\210\135\377\331\356\123\071\274\072\104\250\061\073\045\227
\173\232\277\321\335\153\342\327\022\152\373\062\273\321\330\216
\363\226\263\217\220\352\170\130\301\012\333\245\045\276\212\003
\037\345\222\322\274\177\244\162\344\353\126\172\251\372\174\270
\361\240\277\046\376\112\064\317\045\252\144\304\273\173\355\030
\345\114\054\157\101\145\355\340\273\075\054\165\125\157\344\025
\006\305\113\154\223\366\017\125\314\223\165\205\141\046\003\322
\314\225\313\172\020\040\047\126\172\277\165\130\334\365\015\226
\331\112\007\204\330\042\233\020\321\326\006\156\026\007\003\263
\257\171\343\240\027\272\270\103\010\102\235\074\073\047\314\174
\021\324\176\061\363\146\121\002\021\162\072\243\351\162\275\225
\135\241\025\177\107\023\071\225\262\265\256\366\361\141\164\060
\170\307\146\001\323\262\160\227\010\311\015\044\364\104\052\160


```
\246\235\057\022\144\006\156\212\215\040\343\176\332\361\124\277
\015\024\254\051\276\175\177\177\271\153\105\002\121\147\025\131
\242\016\041\047\311\202\147\061
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "InfoNotary CSP Root"

Issuer: C=BG+1.2.840.113549.1.9.1=csp@infonotary.com+OU=InfoNotary CSP Root+DC=root-ca+O=InfoNotary PLC+CN=InfoNotary CSP Root

Serial Number: 1a:af:92:6c:8f:93:af:60

Subject: C=BG+1.2.840.113549.1.9.1=csp@infonotary.com+OU=InfoNotary CSP Root+DC=root-ca+O=InfoNotary PLC+CN=InfoNotary CSP Root

Not Valid Before: Mon Mar 06 17:33:05 2006

Not Valid After: Fri Mar 06 17:33:05 2026

Fingerprint (MD5): e2:d8:f8:67:f4:50:94:35:fc:5e:05:fc:82:22:95:c3

Fingerprint (SHA1): 04:46:c8:bb:9a:69:83:c9:5c:8a:2e:54:64:68:7c:11:15:aa:b7:4a

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "InfoNotary CSP Root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\004\106\310\273\232\151\203\311\134\212\056\124\144\150\174\021
\025\252\267\112
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\342\330\370\147\364\120\224\065\374\136\005\374\202\042\225\303
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\225\061\201\222\060\011\006\003\125\004\006\014\002\102
\107\060\025\006\003\125\004\012\014\016\111\156\146\157\116\157
\164\141\162\171\040\120\114\103\060\025\006\012\011\222\046\211
\223\362\054\144\001\031\026\007\162\157\157\164\055\143\141\060
\032\006\003\125\004\003\014\023\111\156\146\157\116\157\164\141
\162\171\040\103\123\120\040\122\157\157\164\060\032\006\003\125
\004\013\014\023\111\156\146\157\116\157\164\141\162\171\040\103
\123\120\040\122\157\157\164\060\037\006\011\052\206\110\206\367
\015\001\011\001\026\022\143\163\160\100\151\156\146\157\156\157
\164\141\162\171\056\143\157\155
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\032\257\222\154\217\223\257\140
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Certificate "UCA Global Root"
Issuer: CN=UCA Global Root,O=UniTrust,C=CN
Serial Number: 8 (0x8)
Subject: CN=UCA Global Root,O=UniTrust,C=CN
Not Valid Before: Tue Jan 01 00:00:00 2008
Not Valid After: Thu Dec 31 00:00:00 2037
Fingerprint (MD5): c1:d9:51:c0:84:b8:6a:75:e8:2f:d7:d6:5f:7e:ac:46
Fingerprint (SHA1): 0b:97:2c:9e:a6:e7:cc:58:d9:3b:20:bf:71:ec:41:2e:72:09:fa:bf

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\072\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\023\010\125\156\151\124\162\165
\163\164\061\030\060\026\006\003\125\004\003\023\017\125\103\101
\040\107\154\157\142\141\154\040\122\157\157\164
END

CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\072\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\023\010\125\156\151\124\162\165
\163\164\061\030\060\026\006\003\125\004\003\023\017\125\103\101
\040\107\154\157\142\141\154\040\122\157\157\164
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\010
END

CKA_VALUE MULTILINE_OCTAL
\060\202\005\222\060\202\003\172\240\003\002\001\002\002\001\010
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\072\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021
\060\017\006\003\125\004\012\023\010\125\156\151\124\162\165\163
\164\061\030\060\026\006\003\125\004\003\023\017\125\103\101\040
\107\154\157\142\141\154\040\122\157\157\164\060\036\027\015\060
\070\060\061\060\061\060\060\060\060\060\060\132\027\015\063\067
\061\062\063\061\060\060\060\060\060\060\132\060\072\061\013\060
\011\006\003\125\004\006\023\002\103\116\061\021\060\017\006\003
\125\004\012\023\010\125\156\151\124\162\165\163\164\061\030\060
\026\006\003\125\004\003\023\017\125\103\101\040\107\154\157\142
\141\154\040\122\157\157\164\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060

\202\002\012\002\202\002\001\000\332\263\345\006\120\077\366\163
\367\304\062\277\106\245\045\142\063\207\260\150\376\247\337\210
\003\143\175\002\226\375\353\207\311\356\342\010\273\235\273\273
\344\101\217\307\060\211\017\155\044\300\004\154\024\224\201\115
\240\015\164\146\363\360\205\257\370\144\031\336\271\351\201\223
\320\050\205\231\107\102\112\054\074\070\047\112\314\377\371\154
\031\327\265\363\357\233\256\133\064\006\327\217\242\023\006\234
\212\204\102\325\263\243\220\150\155\201\220\356\115\204\354\114
\160\116\055\336\044\071\316\031\000\103\223\170\371\010\206\035
\103\321\364\162\274\005\300\147\372\300\121\322\311\205\007\044
\256\071\036\172\315\101\322\066\253\141\352\053\253\360\040\125
\231\074\155\055\034\056\056\165\226\330\162\227\340\014\312\151
\163\356\165\053\025\011\340\216\155\273\332\023\377\106\250\350
\000\014\254\007\057\035\271\272\271\321\240\367\231\236\164\134
\031\005\146\061\317\076\052\122\376\157\237\363\271\275\371\301
\201\365\067\332\056\114\201\045\135\366\331\224\232\323\065\213
\040\050\067\137\121\353\175\142\307\251\223\321\371\320\064\313
\251\047\046\054\050\220\222\073\125\143\267\027\016\124\163\253
\257\174\354\072\253\160\063\254\041\373\042\046\263\206\254\043
\251\327\177\155\313\010\040\362\257\100\365\377\104\107\161\335
\047\335\023\050\241\352\166\071\371\020\240\240\115\100\244\047
\262\131\025\053\154\055\044\267\044\143\170\367\103\030\172\017
\115\021\343\350\254\207\102\215\347\130\161\244\253\156\242\300
\227\174\273\343\023\113\312\333\273\153\010\371\151\264\004\162
\325\303\106\271\167\352\377\272\373\351\360\072\014\065\366\217
\017\256\006\204\026\335\224\125\324\357\312\047\267\003\074\305
\034\046\052\365\074\250\245\225\233\206\361\212\211\147\370\307
\014\146\261\355\101\277\202\246\000\150\072\042\064\356\036\353
\345\157\211\164\117\152\252\152\250\127\147\122\324\040\141\301
\316\123\313\375\044\177\137\046\337\241\010\151\226\240\236\376
\111\103\342\323\352\332\304\361\210\061\041\156\034\341\315\363
\165\016\040\104\026\314\175\163\164\065\105\054\073\201\324\040
\354\266\011\214\076\110\262\111\002\003\001\000\001\243\201\242
\060\201\237\060\013\006\003\125\035\017\004\004\003\002\001\006
\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060\143
\006\003\125\035\045\004\134\060\132\006\010\053\006\001\005\005
\007\003\001\006\010\053\006\001\005\005\007\003\002\006\010\053
\006\001\005\005\007\003\003\006\010\053\006\001\005\005\007\003
\004\006\010\053\006\001\005\005\007\003\005\006\010\053\006\001
\005\005\007\003\006\006\010\053\006\001\005\005\007\003\007\006
\010\053\006\001\005\005\007\003\010\006\010\053\006\001\005\005
\007\003\011\060\035\006\003\125\035\016\004\026\004\024\331\303
\323\370\200\222\147\314\135\322\072\242\327\161\242\264\304\070
\200\055\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\003\202\002\001\000\320\210\171\312\010\252\367\013\064\240
\116\011\302\351\176\065\110\211\160\204\043\057\121\303\053\057
\136\333\123\153\133\165\010\052\124\272\062\016\325\306\161\205
\261\227\111\200\366\204\320\360\272\267\161\224\310\171\153\246

\305\104\350\102\242\255\045\055\127\057\346\326\061\051\372\031
\211\124\051\176\267\176\107\066\151\055\156\062\274\324\165\332
\102\163\270\116\345\203\100\163\262\135\337\324\104\163\246\142
\013\333\252\156\005\214\310\177\106\117\071\205\220\235\274\033
\124\051\254\245\327\376\345\130\126\127\155\054\231\241\111\041
\325\141\306\214\141\341\165\044\301\001\335\055\033\066\303\057
\022\314\013\326\170\213\165\200\351\101\271\210\261\312\074\251
\026\306\116\025\343\162\066\366\324\240\101\205\257\212\145\160
\115\265\104\020\120\354\355\337\155\346\331\306\300\022\361\113
\072\057\163\351\074\251\356\033\252\057\065\245\233\237\115\305
\064\204\137\046\024\151\263\043\261\211\162\024\370\351\115\121
\042\003\377\112\206\304\034\350\173\171\012\333\107\045\201\176
\374\064\204\254\131\270\130\103\344\075\103\011\124\164\302\320
\375\331\357\156\131\367\162\140\231\166\157\365\047\247\273\203
\244\112\201\354\051\201\364\167\113\341\102\022\125\324\206\052
\022\266\360\125\233\001\056\335\366\250\343\031\303\316\107\057
\300\170\141\030\132\307\145\374\235\106\133\127\334\174\016\273
\226\203\020\174\125\030\011\004\256\321\367\213\052\076\240\346
\120\326\060\066\327\347\213\070\123\354\111\104\340\317\244\337
\361\123\173\213\132\266\366\021\220\113\326\165\363\376\002\363
\051\257\360\043\162\175\024\355\251\135\337\172\201\236\233\222
\042\374\036\370\001\105\101\227\307\153\001\141\276\063\150\362
\240\145\204\146\274\340\052\244\150\323\161\354\307\010\336\243
\303\311\066\112\064\361\027\342\200\257\040\041\223\224\036\346
\025\323\124\142\361\265\070\057\343\314\271\147\004\251\272\345
\356\371\020\156\313\056\176\023\257\222\024\376\363\047\163\173
\070\374\163\155\271\271\210\366\156\214\013\365\374\377\011\016
\263\055\136\173\165\343\222\044\342\346\341\130\076\113\050\003
\165\153\030\233\107\014

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "UCA Global Root"
Issuer: CN=UCA Global Root,O=UniTrust,C=CN
Serial Number: 8 (0x8)
Subject: CN=UCA Global Root,O=UniTrust,C=CN
Not Valid Before: Tue Jan 01 00:00:00 2008
Not Valid After: Thu Dec 31 00:00:00 2037
Fingerprint (MD5): c1:d9:51:c0:84:b8:6a:75:e8:2f:d7:d6:5f:7e:ac:46
Fingerprint (SHA1): 0b:97:2c:9e:a6:e7:cc:58:d9:3b:20:bf:71:ec:41:2e:72:09:fa:bf
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global Root"

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\013\227\054\236\246\347\314\130\331\073\040\277\161\354\101\056
\162\011\372\277
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\301\331\121\300\204\270\152\165\350\057\327\326\137\176\254\106
END
CKA_ISSUER MULTILINE_OCTAL
\060\072\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\023\010\125\156\151\124\162\165
\163\164\061\030\060\026\006\003\125\004\003\023\017\125\103\101
\040\107\154\157\142\141\154\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\010
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "UCA Root"
# Issuer: CN=UCA Root,O=UniTrust,C=CN
# Serial Number: 9 (0x9)
# Subject: CN=UCA Root,O=UniTrust,C=CN
# Not Valid Before: Thu Jan 01 00:00:00 2004
# Not Valid After: Mon Dec 31 00:00:00 2029
# Fingerprint (MD5): 8f:91:e7:ee:e3:fc:da:86:ca:fc:dc:70:ed:b7:b7:0c
# Fingerprint (SHA1): 82:50:be:d5:a2:14:43:3a:66:37:7c:bc:10:ef:83:f6:69:da:3a:67
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\063\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\023\010\125\156\151\124\162\165
\163\164\061\021\060\017\006\003\125\004\003\023\010\125\103\101
\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\063\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\023\010\125\156\151\124\162\165
\163\164\061\021\060\017\006\003\125\004\003\023\010\125\103\101
\040\122\157\157\164
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\011

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\204\060\202\002\154\240\003\002\001\002\002\001\011
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\063\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021
\060\017\006\003\125\004\012\023\010\125\156\151\124\162\165\163
\164\061\021\060\017\006\003\125\004\003\023\010\125\103\101\040
\122\157\157\164\060\036\027\015\060\064\060\061\060\061\060\060
\060\060\060\060\132\027\015\062\071\061\062\063\061\060\060\060
\060\060\060\132\060\063\061\013\060\011\006\003\125\004\006\023
\002\103\116\061\021\060\017\006\003\125\004\012\023\010\125\156
\151\124\162\165\163\164\061\021\060\017\006\003\125\004\003\023
\010\125\103\101\040\122\157\157\164\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\263\135\007\312\206\046
\175\153\342\373\070\011\016\314\202\302\152\032\000\242\025\137
\326\351\324\001\267\126\003\001\131\217\365\070\151\044\166\302
\136\053\305\366\053\277\257\373\101\375\017\132\374\253\327\203
\160\115\060\230\321\236\262\166\273\222\326\273\351\020\050\151
\050\066\104\350\361\054\327\130\174\044\326\177\002\072\360\201
\153\141\140\077\364\063\336\155\345\352\050\122\117\374\251\035
\143\174\013\272\352\256\304\150\106\344\336\217\301\247\262\266
\130\132\155\035\054\331\214\072\267\210\313\205\324\367\350\003
\136\375\262\115\120\350\326\037\377\256\002\077\213\117\226\041
\074\233\327\045\311\035\077\373\230\261\131\344\360\251\073\257
\263\315\205\054\342\140\106\314\157\216\240\353\360\064\305\361
\102\030\140\256\022\355\106\165\034\345\330\251\226\132\276\336
\132\326\170\147\226\133\223\167\120\362\156\033\336\226\121\112
\246\326\113\103\165\041\146\215\167\354\002\204\166\134\104\020
\266\035\141\154\344\243\040\175\267\215\272\017\221\165\307\215
\337\274\002\140\250\051\250\275\075\103\002\003\001\000\001\243
\201\242\060\201\237\060\013\006\003\125\035\017\004\004\003\002
\001\006\060\014\006\003\125\035\023\004\005\060\003\001\001\377
\060\143\006\003\125\035\045\004\134\060\132\006\010\053\006\001
\005\005\007\003\001\006\010\053\006\001\005\005\007\003\002\006
\010\053\006\001\005\005\007\003\003\006\010\053\006\001\005\005
\007\003\004\006\010\053\006\001\005\005\007\003\005\006\010\053
\006\001\005\005\007\003\006\006\010\053\006\001\005\005\007\003
\007\006\010\053\006\001\005\005\007\003\010\006\010\053\006\001
\005\005\007\003\011\060\035\006\003\125\035\016\004\026\004\024
\333\037\065\363\153\114\377\102\061\144\233\315\273\132\036\035
\110\020\267\356\060\015\006\011\052\206\110\206\367\015\001\001
\005\005\000\003\202\001\001\000\070\154\267\210\361\255\372\130
\067\164\321\350\160\336\234\047\131\313\344\025\327\240\303\140
\327\210\200\004\305\060\114\075\324\032\353\006\136\131\107\346

```
\274\146\313\340\010\374\350\065\354\142\175\312\300\332\301\170
\257\345\106\157\373\211\202\043\217\366\327\123\146\125\240\336
\045\022\073\161\066\026\125\022\166\373\075\370\124\133\061\272
\000\006\370\175\125\345\247\166\203\252\134\112\227\246\052\050
\337\275\306\154\013\043\225\216\063\177\036\136\100\037\023\124
\054\234\345\265\016\335\027\050\256\153\001\323\122\051\365\042
\037\220\071\364\334\142\150\360\074\206\107\354\270\005\105\273
\267\014\226\224\306\147\313\043\161\320\216\164\042\326\101\353
\003\250\266\352\276\304\001\022\265\263\135\100\166\006\040\324
\144\270\051\106\006\212\316\037\223\232\020\356\373\252\132\264
\334\057\325\053\313\366\327\005\204\230\005\221\013\204\367\075
\372\326\371\172\372\054\025\352\066\202\103\267\267\270\343\363
\161\001\355\103\103\242\005\105\303\050\005\007\065\343\001\245
\070\036\200\324\327\303\331\336
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "UCA Root"
```

```
# Issuer: CN=UCA Root,O=UniTrust,C=CN
```

```
# Serial Number: 9 (0x9)
```

```
# Subject: CN=UCA Root,O=UniTrust,C=CN
```

```
# Not Valid Before: Thu Jan 01 00:00:00 2004
```

```
# Not Valid After: Mon Dec 31 00:00:00 2029
```

```
# Fingerprint (MD5): 8f:91:e7:ee:e3:fc:da:86:ca:fc:dc:70:ed:b7:b7:0c
```

```
# Fingerprint (SHA1): 82:50:be:d5:a2:14:43:3a:66:37:7c:bc:10:ef:83:f6:69:da:3a:67
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "UCA Root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\202\120\276\325\242\024\103\072\146\067\174\274\020\357\203\366
\151\332\072\147
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\217\221\347\356\343\374\332\206\312\374\334\160\355\267\267\014
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\063\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\023\010\125\156\151\124\162\165
\163\164\061\021\060\017\006\003\125\004\003\023\010\125\103\101
\040\122\157\157\164
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\011
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "DigiNotar Root CA"
# Issuer: 1.2.840.113549.1.9.1=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Serial Number:0c:76:da:9c:91:0c:4e:2c:9e:fe:15:d0:58:93:3c:4c
# Subject: 1.2.840.113549.1.9.1=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Not Valid Before: Wed May 16 17:19:36 2007
# Not Valid After: Mon Mar 31 18:19:21 2025
# Fingerprint (MD5): 7a:79:54:4d:07:92:3b:5b:ff:41:f0:0e:c7:39:a2:98
# Fingerprint (SHA1): c0:60:ed:44:cb:d8:81:bd:0e:f8:6c:0b:a2:87:dd:cf:81:67:47:8c
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiNotar Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\166\332\234\221\014\116\054\236\376\025\320\130\223
\074\114
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\212\060\202\003\162\240\003\002\001\002\002\020\014
\166\332\234\221\014\116\054\236\376\025\320\130\223\074\114\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\137

```


\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022\060
\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164\141
\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147\151
\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040\060
\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156
\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154\060
\036\027\015\060\067\060\065\061\066\061\067\061\071\063\066\132
\027\015\062\065\060\063\063\061\061\070\061\071\062\061\132\060
\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022
\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164
\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147
\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040
\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151
\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\254\260\130\301\000\275\330\041\010\013\053\232\376\156\126
\060\005\237\033\167\220\020\101\134\303\015\207\021\167\216\201
\361\312\174\351\214\152\355\070\164\065\273\332\337\371\273\300
\011\067\264\226\163\201\175\063\032\230\071\367\223\157\225\177
\075\271\261\165\207\272\121\110\350\213\160\076\225\004\305\330
\266\303\026\331\210\260\261\207\035\160\332\206\264\017\024\213
\172\317\020\321\164\066\242\022\173\167\206\112\171\346\173\337
\002\021\150\245\116\206\256\064\130\233\044\023\170\126\042\045
\036\001\213\113\121\161\373\202\314\131\226\151\210\132\150\123
\305\271\015\002\067\313\113\274\146\112\220\176\052\013\005\007
\355\026\137\125\220\165\330\106\311\033\203\342\010\276\361\043
\314\231\035\326\052\017\203\040\025\130\047\202\056\372\342\042
\302\111\261\271\001\201\152\235\155\235\100\167\150\166\116\041
\052\155\204\100\205\116\166\231\174\202\363\363\267\002\131\324
\046\001\033\216\337\255\123\006\321\256\030\335\342\262\072\313
\327\210\070\216\254\133\051\271\031\323\230\371\030\003\317\110
\202\206\146\013\033\151\017\311\353\070\210\172\046\032\005\114
\222\327\044\324\226\362\254\122\055\243\107\325\122\366\077\376
\316\204\006\160\246\252\076\242\362\266\126\064\030\127\242\344
\201\155\347\312\360\152\323\307\221\153\002\203\101\174\025\357
\153\232\144\136\343\320\074\345\261\353\173\135\206\373\313\346
\167\111\315\243\145\334\367\271\234\270\344\013\137\223\317\314
\060\032\062\034\316\034\143\225\245\371\352\341\164\213\236\351
\053\251\060\173\240\030\037\016\030\013\345\133\251\323\321\154
\036\007\147\217\221\113\251\212\274\322\146\252\223\001\210\262
\221\372\061\134\325\246\301\122\010\011\315\012\143\242\323\042
\246\350\241\331\071\006\227\365\156\215\002\220\214\024\173\077
\200\315\033\234\272\304\130\162\043\257\266\126\237\306\172\102
\063\051\007\077\202\311\346\037\005\015\315\114\050\066\213\323
\310\076\034\306\210\357\136\356\211\144\351\035\353\332\211\176
\062\246\151\321\335\314\210\237\321\320\311\146\041\334\006\147
\305\224\172\232\155\142\114\175\314\340\144\200\262\236\107\216

\243\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125
\035\016\004\026\004\024\210\150\277\340\216\065\304\073\070\153
\142\367\050\073\204\201\310\014\327\115\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\073\002
\215\313\074\060\350\156\240\255\362\163\263\137\236\045\023\004
\005\323\366\343\213\273\013\171\316\123\336\344\226\305\321\257
\163\274\325\303\320\100\125\174\100\177\315\033\137\011\325\362
\174\237\150\035\273\135\316\172\071\302\214\326\230\173\305\203
\125\250\325\175\100\312\340\036\367\211\136\143\135\241\023\302
\135\212\266\212\174\000\363\043\303\355\205\137\161\166\360\150
\143\252\105\041\071\110\141\170\066\334\361\103\223\324\045\307
\362\200\145\341\123\002\165\121\374\172\072\357\067\253\204\050
\127\014\330\324\324\231\126\154\343\242\376\131\204\264\061\350
\063\370\144\224\224\121\227\253\071\305\113\355\332\335\200\013
\157\174\051\015\304\216\212\162\015\347\123\024\262\140\101\075
\204\221\061\150\075\047\104\333\345\336\364\372\143\105\310\114
\076\230\365\077\101\272\116\313\067\015\272\146\230\361\335\313
\237\134\367\124\066\202\153\054\274\023\141\227\102\370\170\273
\314\310\242\237\312\360\150\275\153\035\262\337\215\157\007\235
\332\216\147\307\107\036\312\271\277\052\102\221\267\143\123\146
\361\102\243\341\364\132\115\130\153\265\344\244\063\255\134\160
\035\334\340\362\353\163\024\221\232\003\301\352\000\145\274\007
\374\317\022\021\042\054\256\240\275\072\340\242\052\330\131\351
\051\323\030\065\244\254\021\137\031\265\265\033\377\042\112\134
\306\172\344\027\357\040\251\247\364\077\255\212\247\232\004\045
\235\016\312\067\346\120\375\214\102\051\004\232\354\271\317\113
\162\275\342\010\066\257\043\057\142\345\312\001\323\160\333\174
\202\043\054\026\061\014\306\066\007\220\172\261\037\147\130\304
\073\130\131\211\260\214\214\120\263\330\206\313\150\243\304\012
\347\151\113\040\316\301\036\126\113\225\251\043\150\330\060\330
\303\353\260\125\121\315\345\375\053\270\365\273\021\237\123\124
\366\064\031\214\171\011\066\312\141\027\045\027\013\202\230\163
\014\167\164\303\325\015\307\250\022\114\307\247\124\161\107\056
\054\032\175\311\343\053\073\110\336\047\204\247\143\066\263\175
\217\240\144\071\044\015\075\173\207\257\146\134\164\033\113\163
\262\345\214\360\206\231\270\345\305\337\204\301\267\353

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "DigiNotar Root CA"

Issuer: 1.2.840.113549.1.9.1=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

Serial Number:0c:76:da:9c:91:0c:4e:2c:9e:fe:15:d0:58:93:3c:4c

Subject: 1.2.840.113549.1.9.1=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

```

# Not Valid Before: Wed May 16 17:19:36 2007
# Not Valid After: Mon Mar 31 18:19:21 2025
# Fingerprint (MD5): 7a:79:54:4d:07:92:3b:5b:ff:41:f0:0e:c7:39:a2:98
# Fingerprint (SHA1): c0:60:ed:44:cb:d8:81:bd:0e:f8:6c:0b:a2:87:dd:cf:81:67:47:8c
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiNotar Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\300\140\355\104\313\330\201\275\016\370\154\013\242\207\335\317
\201\147\107\214
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\172\171\124\115\007\222\073\133\377\101\360\016\307\071\242\230
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\166\332\234\221\014\116\054\236\376\025\320\130\223
\074\114
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Starfield Services Root Certificate Authority"
# Issuer: CN=Starfield Services Root Certificate
Authority,OU=http://certificates.starfieldtech.com/repository/,O=Starfield Technologies\,
Inc.,L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Starfield Services Root Certificate
Authority,OU=http://certificates.starfieldtech.com/repository/,O=Starfield Technologies\,
Inc.,L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Mon Jun 02 00:00:00 2008
# Not Valid After: Mon Dec 31 23:59:59 2029
# Fingerprint (MD5): cf:8f:3b:62:a3:ca:ca:71:1b:a3:e1:cb:48:57:35:1f
# Fingerprint (SHA1): 5d:00:38:60:f0:02:ed:82:9d:ea:a4:18:68:f7:88:18:6d:62:12:7f
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\317\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\072
\060\070\006\003\125\004\013\023\061\150\164\164\160\072\057\057
\143\145\162\164\151\146\151\143\141\164\145\163\056\163\164\141
\162\146\151\145\154\144\164\145\143\150\056\143\157\155\057\162
\145\160\157\163\151\164\157\162\171\057\061\066\060\064\006\003
\125\004\003\023\055\123\164\141\162\146\151\145\154\144\040\123
\145\162\166\151\143\145\163\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\317\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\072
\060\070\006\003\125\004\013\023\061\150\164\164\160\072\057\057
\143\145\162\164\151\146\151\143\141\164\145\163\056\163\164\141
\162\146\151\145\154\144\164\145\143\150\056\143\157\155\057\162
\145\160\157\163\151\164\157\162\171\057\061\066\060\064\006\003
\125\004\003\023\055\123\164\141\162\146\151\145\154\144\040\123
\145\162\166\151\143\145\163\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\176\060\202\003\146\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\317\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023
```

\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\072\060
\070\006\003\125\004\013\023\061\150\164\164\160\072\057\057\143
\145\162\164\151\146\151\143\141\164\145\163\056\163\164\141\162
\146\151\145\154\144\164\145\143\150\056\143\157\155\057\162\145
\160\157\163\151\164\157\162\171\057\061\066\060\064\006\003\125
\004\003\023\055\123\164\141\162\146\151\145\154\144\040\123\145
\162\166\151\143\145\163\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\060\036\027\015\060\070\060\066\060\062\060\060\060\060
\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065\071
\132\060\201\317\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172
\157\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143
\157\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061
\072\060\070\006\003\125\004\013\023\061\150\164\164\160\072\057
\057\143\145\162\164\151\146\151\143\141\164\145\163\056\163\164
\141\162\146\151\145\154\144\164\145\143\150\056\143\157\155\057
\162\145\160\157\163\151\164\157\162\171\057\061\066\060\064\006
\003\125\004\003\023\055\123\164\141\162\146\151\145\154\144\040
\123\145\162\166\151\143\145\163\040\122\157\157\164\040\103\145
\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162
\151\164\171\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\362\314\126\052\115\346\026\067\132\227\352\155
\065\070\321\020\233\333\270\334\251\004\011\225\063\056\011\305
\000\173\032\170\102\217\310\364\005\216\376\322\150\203\036\116
\231\315\027\333\107\076\120\363\211\322\347\334\230\373\005\370
\252\326\143\364\124\115\301\161\003\260\037\033\166\263\032\064
\060\163\361\050\062\140\203\375\264\234\327\266\322\042\067\174
\031\252\073\336\023\020\151\156\134\006\323\157\243\362\146\132
\166\102\110\257\200\321\124\131\075\324\271\324\333\355\271\253
\071\231\364\356\142\253\341\170\162\173\330\070\215\100\266\314
\334\022\000\160\103\205\151\330\030\343\312\127\162\237\264\337
\077\374\042\250\102\122\365\167\133\231\360\126\055\046\160\026
\066\022\302\047\236\127\246\174\320\043\361\171\334\243\223\130
\050\070\075\237\255\066\103\356\067\373\370\371\103\255\310\126
\362\224\022\136\102\353\163\270\023\015\313\246\325\206\271\252
\050\152\124\003\241\077\017\051\353\011\000\350\077\136\242\177
\027\075\241\053\370\276\320\165\035\244\204\343\253\027\145\006
\122\000\257\261\002\003\001\000\001\243\143\060\141\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\264\306\177\032\103\314\233
\165\135\057\304\113\362\213\230\020\351\361\121\020\060\037\006
\003\125\035\043\004\030\060\026\200\024\264\306\177\032\103\314

```
\233\165\135\057\304\113\362\213\230\020\351\361\121\020\060\015
\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001
\001\000\254\200\273\304\045\005\013\130\244\344\176\051\176\257
\274\073\354\055\300\104\056\371\221\340\322\073\062\047\220\055
\366\200\011\134\302\253\145\044\332\070\020\106\304\111\322\375
\232\253\050\110\167\210\306\351\157\321\107\221\325\065\117\024
\011\250\133\100\007\035\174\161\126\313\211\102\324\277\141\300
\042\367\056\337\253\363\162\103\213\100\350\224\353\260\046\332
\321\023\323\253\320\066\055\056\072\225\263\167\056\025\071\030
\014\151\272\252\200\355\361\123\116\063\233\150\004\342\240\060
\056\327\321\135\324\246\146\235\204\346\347\273\074\211\273\066
\235\374\027\251\075\125\053\212\373\233\304\114\204\377\337\322
\276\151\033\164\260\250\366\352\260\234\262\051\164\201\114\150
\072\232\177\163\045\071\365\023\340\146\221\151\324\127\113\267
\356\255\105\340\054\303\210\323\276\224\111\211\037\377\160\325
\133\155\071\023\260\035\313\230\346\147\143\015\143\366\373\303
\327\141\162\203\210\077\160\176\123\311\236\211\124\326\117\177
\175\161\271\256\361\140\213\167\140\354\370\277\372\152\243\234
\001\042
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "Starfield Services Root Certificate Authority"
# Issuer: CN=Starfield Services Root Certificate
Authority,OU=http://certificates.starfieldtech.com/repository/,O=Starfield Technologies\,
Inc.,L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Starfield Services Root Certificate
Authority,OU=http://certificates.starfieldtech.com/repository/,O=Starfield Technologies\,
Inc.,L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Mon Jun 02 00:00:00 2008
# Not Valid After: Mon Dec 31 23:59:59 2029
# Fingerprint (MD5): cf:8f:3b:62:a3:ca:ca:71:1b:a3:e1:cb:48:57:35:1f
# Fingerprint (SHA1): 5d:00:38:60:f0:02:ed:82:9d:ea:a4:18:68:f7:88:18:6d:62:12:7f
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\135\000\070\140\360\002\355\202\235\352\244\030\150\367\210\030
\155\142\022\177
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\317\217\073\142\243\312\312\161\033\243\341\313\110\127\065\037
```

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\317\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\072
\060\070\006\003\125\004\013\023\061\150\164\164\160\072\057\057
\143\145\162\164\151\146\151\143\141\164\145\163\056\163\164\141
\162\146\151\145\154\144\164\145\143\150\056\143\157\155\057\162
\145\160\157\163\151\164\157\162\171\057\061\066\060\064\006\003
\125\004\003\023\055\123\164\141\162\146\151\145\154\144\040\123
\145\162\166\151\143\145\163\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "I.CA - Qualified root certificate"

Issuer: O=První certifikační autorita, a.s.,CN=I.CA - Qualified root certificate,C=CZ

Serial Number:9d:2a:60

Subject: O=První certifikační autorita, a.s.,CN=I.CA - Qualified root certificate,C=CZ

Not Valid Before: Tue Apr 01 00:00:00 2008

Not Valid After: Sun Apr 01 00:00:00 2018

Fingerprint (MD5): 48:d1:1e:62:78:01:c2:6e:43:69:a4:2c:ee:13:0a:b5

Fingerprint (SHA1): 64:90:2a:d7:27:7a:f3:e3:2c:d8:cc:1d:c7:9d:e1:fd:7f:80:69:ea

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "I.CA - Qualified root certificate"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\150\061\013\060\011\006\003\125\004\006\023\002\103\132\061
\052\060\050\006\003\125\004\003\014\041\111\056\103\101\040\055
\040\121\165\141\154\151\146\151\145\144\040\162\157\157\164\040
\143\145\162\164\151\146\151\143\141\164\145\061\055\060\053\006
\003\125\004\012\014\044\120\162\166\156\303\255\040\143\145\162
\164\151\146\151\153\141\304\215\156\303\255\040\141\165\164\157
\162\151\164\141\054\040\141\056\163\056

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\150\061\013\060\011\006\003\125\004\006\023\002\103\132\061
\052\060\050\006\003\125\004\003\014\041\111\056\103\101\040\055
\040\121\165\141\154\151\146\151\145\144\040\162\157\157\164\040
\143\145\162\164\151\146\151\143\141\164\145\061\055\060\053\006
\003\125\004\012\014\044\120\162\166\156\303\255\040\143\145\162
\164\151\146\151\153\141\304\215\156\303\255\040\141\165\164\157
\162\151\164\141\054\040\141\056\163\056

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\000\235\052\140

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\071\060\202\003\041\240\003\002\001\002\002\004\000
\235\052\140\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\150\061\013\060\011\006\003\125\004\006\023\002\103
\132\061\052\060\050\006\003\125\004\003\014\041\111\056\103\101
\040\055\040\121\165\141\154\151\146\151\145\144\040\162\157\157
\164\040\143\145\162\164\151\146\151\143\141\164\145\061\055\060
\053\006\003\125\004\012\014\044\120\162\166\156\303\255\040\143
\145\162\164\151\146\151\153\141\304\215\156\303\255\040\141\165
\164\157\162\151\164\141\054\040\141\056\163\056\060\036\027\015
\060\070\060\064\060\061\060\060\060\060\060\060\132\027\015\061
\070\060\064\060\061\060\060\060\060\060\060\132\060\150\061\013
\060\011\006\003\125\004\006\023\002\103\132\061\052\060\050\006
\003\125\004\003\014\041\111\056\103\101\040\055\040\121\165\141
\154\151\146\151\145\144\040\162\157\157\164\040\143\145\162\164
\151\146\151\143\141\164\145\061\055\060\053\006\003\125\004\012
\014\044\120\162\166\156\303\255\040\143\145\162\164\151\146\151
\153\141\304\215\156\303\255\040\141\165\164\157\162\151\164\141
\054\040\141\056\163\056\060\202\001\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\253\010\210\244\360\164\362\237\370
\333\326\167\215\060\031\076\246\305\307\212\305\275\335\346\002
\256\216\075\120\165\270\257\175\066\253\376\365\355\010\147\264
\000\212\230\301\003\143\210\121\362\033\066\211\164\132\055\310
\304\202\304\077\271\210\375\154\375\072\035\025\005\104\225\200
\032\246\206\313\041\165\220\205\134\260\160\000\207\064\250\321
\037\111\375\154\070\155\152\254\270\105\237\274\024\327\146\324
\041\343\047\012\215\165\340\132\057\012\113\264\347\176\163\243
\052\275\160\361\221\206\010\217\277\220\204\034\207\251\365\231
\045\045\224\301\343\156\007\301\113\007\133\124\374\064\313\106
\067\234\305\241\040\316\246\254\207\251\203\074\070\117\300\100
\363\351\377\233\327\071\166\344\023\043\165\265\377\241\102\256
\134\206\117\305\116\103\266\231\013\122\123\040\250\263\302\114
\323\000\054\025\322\131\154\012\237\041\265\163\026\171\036\206

\045\356\032\373\223\236\255\143\361\114\342\166\061\136\067\357
\374\320\251\066\344\371\021\351\172\374\120\347\101\043\003\064
\270\175\272\016\317\335\123\002\003\001\000\001\243\201\352\060
\201\347\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\201\244\006\003\125\035\040\004\201\234\060\201
\231\060\201\226\006\014\053\006\001\004\001\201\270\110\001\004
\000\001\060\201\205\060\201\202\006\010\053\006\001\005\005\007
\002\002\060\166\032\164\124\145\156\164\157\040\143\145\162\164
\151\146\151\153\141\164\040\152\145\040\166\171\144\141\156\040
\152\141\153\157\040\153\166\141\154\151\146\151\153\157\166\141
\156\171\040\163\171\163\164\145\155\157\166\171\040\143\145\162
\164\151\146\151\153\141\164\040\166\040\163\157\165\154\141\144
\165\040\163\145\040\172\141\153\157\156\145\155\040\062\062\067
\057\062\060\060\060\040\123\142\056\040\166\040\160\154\141\164
\156\145\155\040\172\156\145\156\151\056\060\035\006\003\125\035
\016\004\026\004\024\150\235\176\326\304\045\071\373\073\240\067
\326\117\334\214\321\172\360\126\131\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\001\001\000\162\365\274
\006\215\322\054\226\362\202\333\130\173\107\360\100\144\345\056
\033\357\372\340\372\323\361\162\110\001\104\362\210\364\336\230
\201\123\204\347\175\116\107\347\061\067\126\256\263\301\060\157
\306\253\110\203\365\230\123\122\151\052\050\301\100\145\353\145
\347\264\060\013\360\253\016\245\022\045\277\364\120\135\277\243
\176\345\321\164\370\012\050\256\102\234\260\024\122\304\240\140
\135\367\105\027\102\272\102\055\233\222\373\156\224\263\160\107
\040\010\235\123\360\260\255\275\251\204\132\335\007\052\014\315
\053\155\141\050\337\073\222\050\354\121\201\177\121\174\216\056
\177\235\351\274\301\064\075\213\255\201\255\361\036\164\146\103
\074\101\115\270\056\063\117\261\072\036\333\022\337\066\216\161
\377\127\143\261\326\217\264\075\206\022\152\317\102\060\264\223
\026\352\231\352\002\133\376\010\356\262\117\160\277\063\000\347
\172\112\070\241\362\110\221\246\036\313\043\262\070\235\360\056
\111\242\311\210\126\145\145\216\072\147\105\214\214\013\342\252
\261\113\007\377\261\037\272\024\317\162\372\247\170

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "I.CA - Qualified root certificate"
Issuer: O=První certifikační autorita, a.s.,CN=I.CA - Qualified root certificate,C=CZ
Serial Number:9d:2a:60
Subject: O=První certifikační autorita, a.s.,CN=I.CA - Qualified root certificate,C=CZ
Not Valid Before: Tue Apr 01 00:00:00 2008
Not Valid After: Sun Apr 01 00:00:00 2018
Fingerprint (MD5): 48:d1:1e:62:78:01:c2:6e:43:69:a4:2c:ee:13:0a:b5

```

# Fingerprint (SHA1): 64:90:2a:d7:27:7a:f3:e3:2c:d8:cc:1d:c7:9d:e1:fd:7f:80:69:ea
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "I.CA - Qualified root certificate"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\144\220\052\327\047\172\363\343\054\330\314\035\307\235\341\375
\177\200\151\352
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\110\321\036\142\170\001\302\156\103\151\244\054\356\023\012\265
END
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\103\132\061
\052\060\050\006\003\125\004\003\014\041\111\056\103\101\040\055
\040\121\165\141\154\151\146\151\145\144\040\162\157\157\164\040
\143\145\162\164\151\146\151\143\141\164\145\061\055\060\053\006
\003\125\004\012\014\044\120\162\166\156\303\255\040\143\145\162
\164\151\146\151\153\141\304\215\156\303\255\040\141\165\164\157
\162\151\164\141\054\040\141\056\163\056
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\000\235\052\140
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "I.CA - Standard root certificate"
# Issuer: O=Prvni certifikacni autorita a.s.,CN=I.CA - Standard root certificate,C=CZ
# Serial Number:13:d6:20
# Subject: O=Prvni certifikacni autorita a.s.,CN=I.CA - Standard root certificate,C=CZ
# Not Valid Before: Tue Apr 01 00:00:00 2008
# Not Valid After: Sun Apr 01 00:00:00 2018
# Fingerprint (MD5): 04:68:e9:24:7e:41:ce:d7:6c:44:16:30:70:3d:dd:b9
# Fingerprint (SHA1): ab:16:dd:14:4e:cd:c0:fc:4b:aa:b6:2e:cf:04:08:89:6f:de:52:b7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "I.CA - Standard root certificate"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\103\132\061
\051\060\047\006\003\125\004\003\023\040\111\056\103\101\040\055

```

\040\123\164\141\156\144\141\162\144\040\162\157\157\164\040\143
\145\162\164\151\146\151\143\141\164\145\061\051\060\047\006\003
\125\004\012\023\040\120\162\166\156\151\040\143\145\162\164\151
\146\151\153\141\143\156\151\040\141\165\164\157\162\151\164\141
\040\141\056\163\056

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\103\132\061
\051\060\047\006\003\125\004\003\023\040\111\056\103\101\040\055
\040\123\164\141\156\144\141\162\144\040\162\157\157\164\040\143
\145\162\164\151\146\151\143\141\164\145\061\051\060\047\006\003
\125\004\012\023\040\120\162\166\156\151\040\143\145\162\164\151
\146\151\153\141\143\156\151\040\141\165\164\157\162\151\164\141
\040\141\056\163\056

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\023\326\040

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\056\060\202\003\026\240\003\002\001\002\002\003\023
\326\040\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\143\061\013\060\011\006\003\125\004\006\023\002\103\132
\061\051\060\047\006\003\125\004\003\023\040\111\056\103\101\040
\055\040\123\164\141\156\144\141\162\144\040\162\157\157\164\040
\143\145\162\164\151\146\151\143\141\164\145\061\051\060\047\006
\003\125\004\012\023\040\120\162\166\156\151\040\143\145\162\164
\151\146\151\153\141\143\156\151\040\141\165\164\157\162\151\164
\141\040\141\056\163\056\060\036\027\015\060\070\060\064\060\061
\060\060\060\060\060\060\132\027\015\061\070\060\064\060\061\060
\060\060\060\060\060\132\060\143\061\013\060\011\006\003\125\004
\006\023\002\103\132\061\051\060\047\006\003\125\004\003\023\040
\111\056\103\101\040\055\040\123\164\141\156\144\141\162\144\040
\162\157\157\164\040\143\145\162\164\151\146\151\143\141\164\145
\061\051\060\047\006\003\125\004\012\023\040\120\162\166\156\151
\040\143\145\162\164\151\146\151\153\141\143\156\151\040\141\165
\164\157\162\151\164\141\040\141\056\163\056\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\321\055\025\304
\071\114\152\241\304\345\363\053\264\375\251\026\351\270\121\217
\067\221\331\247\323\227\220\266\160\151\207\365\257\131\322\142
\101\130\325\363\225\215\002\025\372\146\234\301\041\024\330\037
\255\372\052\154\164\126\241\142\341\361\260\255\270\376\322\243
\340\221\241\265\256\123\255\215\244\015\017\131\140\227\052\374
\243\056\163\065\043\163\314\250\246\241\024\155\277\211\303\204
\070\363\144\131\314\061\363\340\371\047\140\012\074\101\005\157
\132\122\360\217\156\122\156\354\136\210\157\340\100\214\041\107
\127\042\351\070\156\346\372\363\044\264\256\257\057\163\077\200

\325\062\217\214\331\204\031\330\140\316\333\151\215\076\257\002
\257\256\336\257\120\365\317\346\263\141\030\304\340\335\360\116
\112\146\015\172\163\040\267\344\324\223\206\107\141\330\117\312
\072\216\253\302\077\306\042\027\243\135\235\040\306\305\016\044
\151\310\246\175\146\006\315\106\346\063\341\103\164\223\365\203
\142\322\260\105\042\001\244\166\275\353\121\223\130\154\372\032
\241\237\165\200\332\330\000\342\361\210\115\077\002\003\001\000
\001\243\201\352\060\201\347\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004
\026\004\024\353\067\244\276\271\157\140\027\373\323\377\055\140
\341\004\036\257\317\306\323\060\201\244\006\003\125\035\040\004
\201\234\060\201\231\060\201\226\006\014\053\006\001\004\001\201
\270\110\001\001\000\001\060\201\205\060\201\202\006\010\053\006
\001\005\005\007\002\002\060\166\032\164\124\145\156\164\157\040
\143\145\162\164\151\146\151\153\141\164\040\152\145\040\166\171
\144\141\156\040\152\141\153\157\040\153\166\141\154\151\146\151
\153\157\166\141\156\171\040\163\171\163\164\145\155\157\166\171
\040\143\145\162\164\151\146\151\153\141\164\040\166\040\163\157
\165\154\141\144\165\040\163\145\040\172\141\153\157\156\145\155
\040\062\062\067\057\062\060\060\060\040\123\142\056\040\166\040
\160\154\141\164\156\145\155\040\172\156\145\156\151\056\060\015
\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001
\001\000\027\042\130\252\057\030\125\002\241\114\066\111\067\113
\233\163\272\256\143\066\016\213\053\204\105\067\314\372\340\147
\367\240\163\152\147\150\126\274\141\250\064\232\050\272\146\054
\141\233\213\034\370\004\160\214\206\343\101\357\224\171\015\335
\064\207\004\356\265\236\061\153\071\364\176\130\345\362\260\004
\115\251\127\045\111\340\013\325\344\354\175\016\076\073\001\340
\214\374\122\220\223\346\362\260\253\365\061\167\314\321\311\103
\202\253\017\056\264\371\230\256\076\343\104\364\244\003\151\125
\332\134\216\333\301\271\254\344\230\325\166\025\106\241\056\132
\014\042\140\240\302\353\160\177\161\003\260\150\323\061\144\315
\352\313\113\125\211\202\076\134\146\313\032\010\230\107\302\336
\331\056\070\114\005\375\055\214\372\343\042\045\271\222\375\326
\262\055\312\242\064\234\337\111\357\325\204\001\054\222\377\005
\101\012\147\306\102\153\236\313\330\237\220\274\015\017\020\175
\307\146\275\352\163\007\340\030\352\121\201\264\105\100\074\017
\241\042\067\025\001\205\251\056\174\016\137\135\316\152\223\276
\331\276

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "I.CA - Standard root certificate"

Issuer: O=Prvni certifikacni autorita a.s.,CN=I.CA - Standard root certificate,C=CZ

```
# Serial Number:13:d6:20
# Subject: O=Prvni certifikacni autorita a.s.,CN=I.CA - Standard root certificate,C=CZ
# Not Valid Before: Tue Apr 01 00:00:00 2008
# Not Valid After: Sun Apr 01 00:00:00 2018
# Fingerprint (MD5): 04:68:e9:24:7e:41:ce:d7:6c:44:16:30:70:3d:dd:b9
# Fingerprint (SHA1): ab:16:dd:14:4e:cd:c0:fc:4b:aa:b6:2e:cf:04:08:89:6f:de:52:b7
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "I.CA - Standard root certificate"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\253\026\335\024\116\315\300\374\113\252\266\056\317\004\010\211
\157\336\122\267
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\004\150\351\044\176\101\316\327\154\104\026\060\160\075\335\271
END
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\103\132\061
\051\060\047\006\003\125\004\003\023\040\111\056\103\101\040\055
\040\123\164\141\156\144\141\162\144\040\162\157\157\164\040\143
\145\162\164\151\146\151\143\141\164\145\061\051\060\047\006\003
\125\004\012\023\040\120\162\166\156\151\040\143\145\162\164\151
\146\151\153\141\143\156\151\040\141\165\164\157\162\151\164\141
\040\141\056\163\056
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\023\326\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "e-Guven Kok Elektronik Sertifika Hizmet Saglayicisi"
# Issuer: CN=e-Guven Kok Elektronik Sertifika Hizmet Saglayicisi,O=Elektronik Bilgi Guvenligi A.S.,C=TR
# Serial Number:44:99:8d:3c:c0:03:27:bd:9c:76:95:b9:ea:db:ac:b5
# Subject: CN=e-Guven Kok Elektronik Sertifika Hizmet Saglayicisi,O=Elektronik Bilgi Guvenligi A.S.,C=TR
# Not Valid Before: Thu Jan 04 11:32:48 2007
# Not Valid After: Wed Jan 04 11:32:48 2017
# Fingerprint (MD5): 3d:41:29:cb:1e:aa:11:74:cd:5d:b0:62:af:b0:43:5b
# Fingerprint (SHA1): dd:e1:d2:a9:01:80:2e:1d:87:5e:84:b3:80:7e:4b:b1:fd:99:41:34
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

CKA_LABEL UTF8 "e-Guven Kok Elektronik Sertifika Hizmet Saglayicisi"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\165\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\050\060\046\006\003\125\004\012\023\037\105\154\145\153\164\162
\157\156\151\153\040\102\151\154\147\151\040\107\165\166\145\156
\154\151\147\151\040\101\056\123\056\061\074\060\072\006\003\125
\004\003\023\063\145\055\107\165\166\145\156\040\113\157\153\040
\105\154\145\153\164\162\157\156\151\153\040\123\145\162\164\151
\146\151\153\141\040\110\151\172\155\145\164\040\123\141\147\154
\141\171\151\143\151\163\151

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\165\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\050\060\046\006\003\125\004\012\023\037\105\154\145\153\164\162
\157\156\151\153\040\102\151\154\147\151\040\107\165\166\145\156
\154\151\147\151\040\101\056\123\056\061\074\060\072\006\003\125
\004\003\023\063\145\055\107\165\166\145\156\040\113\157\153\040
\105\154\145\153\164\162\157\156\151\153\040\123\145\162\164\151
\146\151\153\141\040\110\151\172\155\145\164\040\123\141\147\154
\141\171\151\143\151\163\151

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\104\231\215\074\300\003\047\275\234\166\225\271\352\333
\254\265

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\266\060\202\002\236\240\003\002\001\002\002\020\104
\231\215\074\300\003\047\275\234\166\225\271\352\333\254\265\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\165
\061\013\060\011\006\003\125\004\006\023\002\124\122\061\050\060
\046\006\003\125\004\012\023\037\105\154\145\153\164\162\157\156
\151\153\040\102\151\154\147\151\040\107\165\166\145\156\154\151
\147\151\040\101\056\123\056\061\074\060\072\006\003\125\004\003
\023\063\145\055\107\165\166\145\156\040\113\157\153\040\105\154
\145\153\164\162\157\156\151\153\040\123\145\162\164\151\146\151
\153\141\040\110\151\172\155\145\164\040\123\141\147\154\141\171
\151\143\151\163\151\060\036\027\015\060\067\060\061\060\064\061
\061\063\062\064\070\132\027\015\061\067\060\061\060\064\061\061
\063\062\064\070\132\060\165\061\013\060\011\006\003\125\004\006
\023\002\124\122\061\050\060\046\006\003\125\004\012\023\037\105
\154\145\153\164\162\157\156\151\153\040\102\151\154\147\151\040
\107\165\166\145\156\154\151\147\151\040\101\056\123\056\061\074
\060\072\006\003\125\004\003\023\063\145\055\107\165\166\145\156
\040\113\157\153\040\105\154\145\153\164\162\157\156\151\153\040
\123\145\162\164\151\146\151\153\141\040\110\151\172\155\145\164
\040\123\141\147\154\141\171\151\143\151\163\151\060\202\001\042

\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\303\022\040
\236\260\136\000\145\215\116\106\273\200\134\351\054\006\227\325
\363\162\311\160\271\347\113\145\200\301\113\276\176\074\327\124
\061\224\336\325\022\272\123\026\002\352\130\143\357\133\330\363
\355\052\032\252\161\110\243\334\020\055\137\137\353\134\113\234
\226\010\102\045\050\021\314\212\132\142\001\120\325\353\011\123
\057\370\303\217\376\263\374\375\235\242\343\137\175\276\355\013
\340\140\353\151\354\063\355\330\215\373\022\111\203\000\311\213
\227\214\073\163\052\062\263\022\367\271\115\362\364\115\155\307
\346\326\046\067\010\362\331\375\153\134\243\345\110\134\130\274
\102\276\003\132\201\272\034\065\014\000\323\365\043\176\161\060
\010\046\070\334\045\021\107\055\363\272\043\020\245\277\274\002
\367\103\136\307\376\260\067\120\231\173\017\223\316\346\103\054
\303\176\015\362\034\103\146\140\313\141\061\107\207\243\117\256
\275\126\154\114\274\274\370\005\312\144\364\351\064\241\054\265
\163\341\302\076\350\310\311\064\045\010\134\363\355\246\307\224
\237\255\210\103\045\327\341\071\140\376\254\071\131\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\237\356\104\263\224\325\372\221\117\056\331\125\232\004
\126\333\055\304\333\245\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\001\001\000\177\137\271\123\133\143
\075\165\062\347\372\304\164\032\313\106\337\106\151\034\122\317
\252\117\302\150\353\377\200\251\121\350\075\142\167\211\075\012
\165\071\361\156\135\027\207\157\150\005\301\224\154\331\135\337
\332\262\131\313\245\020\212\312\314\071\315\237\353\116\336\122
\377\014\360\364\222\251\362\154\123\253\233\322\107\240\037\164
\367\233\232\361\057\025\237\172\144\060\030\007\074\052\017\147
\312\374\017\211\141\235\145\245\074\345\274\023\133\010\333\343
\377\355\273\006\273\152\006\261\172\117\145\306\202\375\036\234
\213\265\015\356\110\273\270\275\252\010\264\373\243\174\313\237
\315\220\166\134\206\226\170\127\012\146\371\130\032\235\375\227
\051\140\336\021\246\220\034\031\034\356\001\226\042\064\064\056
\221\371\267\304\047\321\173\346\277\373\200\104\132\026\345\353
\340\324\012\070\274\344\221\343\325\353\134\301\254\337\033\152
\174\236\345\165\322\266\227\207\333\314\207\053\103\072\204\010
\257\253\074\333\367\074\146\061\206\260\235\123\171\355\370\043
\336\102\343\055\202\361\017\345\372\227

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "e-Guven Kok Elektronik Sertifika Hizmet Saglayicisi"

Issuer: CN=e-Guven Kok Elektronik Sertifika Hizmet Saglayicisi,O=Elektronik Bilgi Guvenligi A.S.,C=TR

```
# Serial Number:44:99:8d:3c:c0:03:27:bd:9c:76:95:b9:ea:db:ac:b5
# Subject: CN=e-Guven Kok Elektronik Sertifika Hizmet Saglayicisi,O=Elektronik Bilgi Guvenligi A.S.,C=TR
# Not Valid Before: Thu Jan 04 11:32:48 2007
# Not Valid After: Wed Jan 04 11:32:48 2017
# Fingerprint (MD5): 3d:41:29:cb:1e:aa:11:74:cd:5d:b0:62:af:b0:43:5b
# Fingerprint (SHA1): dd:e1:d2:a9:01:80:2e:1d:87:5e:84:b3:80:7e:4b:b1:fd:99:41:34
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Guven Kok Elektronik Sertifika Hizmet Saglayicisi"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\335\341\322\251\001\200\056\035\207\136\204\263\200\176\113\261
\375\231\101\064
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\075\101\051\313\036\252\021\164\315\135\260\142\257\260\103\133
END
CKA_ISSUER MULTILINE_OCTAL
\060\165\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\050\060\046\006\003\125\004\012\023\037\105\154\145\153\164\162
\157\156\151\153\040\102\151\154\147\151\040\107\165\166\145\156
\154\151\147\151\040\101\056\123\056\061\074\060\072\006\003\125
\004\003\023\063\145\055\107\165\166\145\156\040\113\157\153\040
\105\154\145\153\164\162\157\156\151\153\040\123\145\162\164\151
\146\151\153\141\040\110\151\172\155\145\164\040\123\141\147\154
\141\171\151\143\151\163\151
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\104\231\215\074\300\003\047\275\234\166\225\271\352\333
\254\265
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Japanese Government"
# Issuer: OU=ApplicationCA,O=Japanese Government,C=JP
# Serial Number: 49 (0x31)
# Subject: OU=ApplicationCA,O=Japanese Government,C=JP
# Not Valid Before: Wed Dec 12 15:00:00 2007
# Not Valid After: Tue Dec 12 15:00:00 2017
# Fingerprint (MD5): 7e:23:4e:5b:a7:a5:b4:25:e9:00:07:74:11:62:ae:d6
# Fingerprint (SHA1): 7f:8a:b0:cf:d0:51:87:6a:66:f3:36:0f:47:c8:8d:8c:d3:35:fc:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```



```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Japanese Government"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\034\060\032\006\003\125\004\012\023\023\112\141\160\141\156\145
\163\145\040\107\157\166\145\162\156\155\145\156\164\061\026\060
\024\006\003\125\004\013\023\015\101\160\160\154\151\143\141\164
\151\157\156\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\034\060\032\006\003\125\004\012\023\023\112\141\160\141\156\145
\163\145\040\107\157\166\145\162\156\155\145\156\164\061\026\060
\024\006\003\125\004\013\023\015\101\160\160\154\151\143\141\164
\151\157\156\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\061
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\240\060\202\002\210\240\003\002\001\002\002\001\061
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\103\061\013\060\011\006\003\125\004\006\023\002\112\120\061\034
\060\032\006\003\125\004\012\023\023\112\141\160\141\156\145\163
\145\040\107\157\166\145\162\156\155\145\156\164\061\026\060\024
\006\003\125\004\013\023\015\101\160\160\154\151\143\141\164\151
\157\156\103\101\060\036\027\015\060\067\061\062\061\062\061\065
\060\060\060\060\132\027\015\061\067\061\062\061\062\061\065\060
\060\060\060\132\060\103\061\013\060\011\006\003\125\004\006\023
\002\112\120\061\034\060\032\006\003\125\004\012\023\023\112\141
\160\141\156\145\163\145\040\107\157\166\145\162\156\155\145\156
\164\061\026\060\024\006\003\125\004\013\023\015\101\160\160\154
\151\143\141\164\151\157\156\103\101\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\247\155\340\164\116\207
\217\245\006\336\150\242\333\206\231\113\144\015\161\360\012\005
\233\216\252\341\314\056\322\152\073\301\172\264\227\141\215\212
\276\306\232\234\006\264\206\121\344\067\016\164\170\176\137\212
\177\224\244\327\107\010\375\120\132\126\344\150\254\050\163\240
\173\351\177\030\222\100\117\055\235\365\256\104\110\163\066\006
\236\144\054\073\064\043\333\134\046\344\161\171\217\324\156\171
\042\271\223\301\312\315\301\126\355\210\152\327\240\071\041\004
\127\054\242\365\274\107\101\117\136\064\042\225\265\037\051\155
\136\112\363\115\162\276\101\126\040\207\374\351\120\107\327\060
\024\356\134\214\125\272\131\215\207\374\043\336\223\320\004\214
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\375\357\155\275\320\172\311\245\072\152\162\063\306\112\015\005
\027\052\055\173\261\247\330\326\360\276\364\077\352\016\050\155
\101\141\043\166\170\303\270\145\244\363\132\256\314\302\252\331
\347\130\336\266\176\235\205\156\237\052\012\157\237\003\051\060
\227\050\035\274\267\317\124\051\116\121\061\371\047\266\050\046
\376\242\143\346\101\026\360\063\230\107\002\003\001\000\001\243
\201\236\060\201\233\060\035\006\003\125\035\016\004\026\004\024
\124\132\313\046\077\161\314\224\106\015\226\123\352\153\110\320
\223\376\102\165\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\131\006\003\125\035\021\004\122\060\120\244
\116\060\114\061\013\060\011\006\003\125\004\006\023\002\112\120
\061\030\060\026\006\003\125\004\012\014\017\346\227\245\346\234
\254\345\233\275\346\224\277\345\272\234\061\043\060\041\006\003
\125\004\013\014\032\343\202\242\343\203\227\343\203\252\343\202
\261\343\203\274\343\202\267\343\203\247\343\203\263\103\101\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\071\152\104\166\167\070\072\354\243\147\106\017
\371\213\006\250\373\152\220\061\316\176\354\332\321\211\174\172
\353\056\014\275\231\062\347\260\044\326\303\377\365\262\210\011
\207\054\343\124\341\243\246\262\010\013\300\205\250\310\322\234
\161\366\035\237\140\374\070\063\023\341\236\334\013\137\332\026
\120\051\173\057\160\221\017\231\272\064\064\215\225\164\305\176
\170\251\146\135\275\312\041\167\102\020\254\146\046\075\336\221
\253\375\025\360\157\355\154\137\020\370\363\026\366\003\212\217
\247\022\021\014\313\375\077\171\301\234\375\142\356\243\317\124
\014\321\053\137\027\076\343\076\277\300\053\076\011\233\376\210
\246\176\264\222\027\374\043\224\201\275\156\247\305\214\302\353
\021\105\333\370\101\311\226\166\352\160\137\171\022\153\344\243
\007\132\005\357\047\111\317\041\237\212\114\011\160\146\251\046
\301\053\021\116\063\322\016\374\326\154\322\016\062\144\150\377
\255\005\170\137\003\035\250\343\220\254\044\340\017\100\247\113
\256\213\050\267\202\312\030\007\346\267\133\164\351\040\031\177
\262\033\211\124

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Japanese Government"
Issuer: OU=ApplicationCA,O=Japanese Government,C=JP
Serial Number: 49 (0x31)
Subject: OU=ApplicationCA,O=Japanese Government,C=JP
Not Valid Before: Wed Dec 12 15:00:00 2007
Not Valid After: Tue Dec 12 15:00:00 2017
Fingerprint (MD5): 7e:23:4e:5b:a7:a5:b4:25:e9:00:07:74:11:62:ae:d6
Fingerprint (SHA1): 7f:8a:b0:cf:d0:51:87:6a:66:f3:36:0f:47:c8:8d:8c:d3:35:fc:74

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Japanese Government"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\177\212\260\317\320\121\207\152\146\363\066\017\107\310\215\214
\323\065\374\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\176\043\116\133\247\245\264\045\351\000\007\164\021\142\256\326
END
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\034\060\032\006\003\125\004\012\023\023\112\141\160\141\156\145
\163\145\040\107\157\166\145\162\156\155\145\156\164\061\026\060
\024\006\003\125\004\013\023\015\101\160\160\154\151\143\141\164
\151\157\156\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\061
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "AdminCA-CD-T01"
# Issuer: CN=AdminCA-CD-T01,OU=Certification Authorities,OU=Services,O=admin,C=CH
# Serial Number: 1 (0x1)
# Subject: CN=AdminCA-CD-T01,OU=Certification Authorities,OU=Services,O=admin,C=CH
# Not Valid Before: Wed Jan 25 13:36:19 2006
# Not Valid After: Mon Jan 25 12:36:19 2016
# Fingerprint (MD5): 5b:9e:fd:3b:60:35:ea:68:8e:52:fe:13:19:14:4a:a3
# Fingerprint (SHA1): 6b:81:44:6a:5c:dd:f4:74:a0:f8:00:ff:be:69:fd:0d:b6:28:75:16
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AdminCA-CD-T01"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\016\060\014\006\003\125\004\012\023\005\141\144\155\151\156\061
\021\060\017\006\003\125\004\013\023\010\123\145\162\166\151\143
\145\163\061\042\060\040\006\003\125\004\013\023\031\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157

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\162\151\164\151\145\163\061\027\060\025\006\003\125\004\003\023
\016\101\144\155\151\156\103\101\055\103\104\055\124\060\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\016\060\014\006\003\125\004\012\023\005\141\144\155\151\156\061
\021\060\017\006\003\125\004\013\023\010\123\145\162\166\151\143
\145\163\061\042\060\040\006\003\125\004\013\023\031\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\151\145\163\061\027\060\025\006\003\125\004\003\023
\016\101\144\155\151\156\103\101\055\103\104\055\124\060\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\115\060\202\003\065\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061\016
\060\014\006\003\125\004\012\023\005\141\144\155\151\156\061\021
\060\017\006\003\125\004\013\023\010\123\145\162\166\151\143\145
\163\061\042\060\040\006\003\125\004\013\023\031\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\151\145\163\061\027\060\025\006\003\125\004\003\023\016
\101\144\155\151\156\103\101\055\103\104\055\124\060\061\060\036
\027\015\060\066\060\061\062\065\061\062\063\066\061\071\132\027
\015\061\066\060\061\062\065\061\062\063\066\061\071\132\060\155
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\016\060
\014\006\003\125\004\012\023\005\141\144\155\151\156\061\021\060
\017\006\003\125\004\013\023\010\123\145\162\166\151\143\145\163
\061\042\060\040\006\003\125\004\013\023\031\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\151\145\163\061\027\060\025\006\003\125\004\003\023\016\101
\144\155\151\156\103\101\055\103\104\055\124\060\061\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\322\064
\045\061\231\251\054\070\125\370\143\121\365\060\050\110\331\136
\046\004\001\343\020\027\044\102\320\177\237\362\110\307\350\024
\016\014\232\062\252\141\164\044\007\243\006\076\344\012\301\037
\127\105\024\217\177\255\157\251\277\030\076\307\143\106\150\051
\157\041\301\161\107\171\267\103\174\105\176\260\105\225\047\074
\305\276\154\040\250\331\132\200\123\205\305\156\171\134\332\001
\312\151\251\264\301\324\355\154\024\327\022\113\364\211\342\007
\177\020\237\027\025\352\112\304\253\353\102\044\027\375\277\305
\272\300\201\137\320\017\234\207\223\242\036\361\367\200\125\154
\042\345\113\132\026\253\156\340\270\205\022\035\220\063\054\154
\073\054\365\071\313\312\316\103\066\203\316\367\267\050\204\356

\074\314\201\223\376\133\015\355\211\271\066\027\337\236\351\227
\242\007\176\323\054\351\225\266\370\051\232\274\054\341\370\210
\254\123\127\021\204\226\005\132\324\115\271\374\325\116\073\311
\154\316\201\376\137\020\163\364\355\264\125\345\003\202\314\051
\275\366\243\142\232\306\313\350\041\273\235\076\374\011\002\003
\001\000\001\243\201\367\060\201\364\060\022\006\003\125\035\023
\001\001\377\004\010\060\006\001\001\377\002\001\000\060\201\256
\006\003\125\035\040\004\201\246\060\201\243\060\201\240\006\010
\140\205\164\001\021\003\025\001\060\201\223\060\110\006\010\053
\006\001\005\005\007\002\002\060\074\032\072\124\150\151\163\040
\151\163\040\164\150\145\040\101\144\155\151\156\103\101\055\103
\104\055\124\060\061\040\103\145\162\164\151\146\151\143\141\164
\145\040\120\162\141\143\164\151\143\145\040\123\164\141\164\145
\155\145\156\164\056\060\107\006\010\053\006\001\005\005\007\002
\001\026\073\150\164\164\160\072\057\057\167\167\167\056\160\153
\151\056\141\144\155\151\156\056\143\150\057\160\157\154\151\143
\171\057\103\120\123\137\062\137\061\066\137\067\065\066\137\061
\137\061\067\137\063\137\062\061\137\061\056\160\144\146\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\052\304\151\012\241\306\125
\306\003\156\160\316\206\201\263\244\017\252\031\333\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\237\176\172\155\273\254\214\216\140\224\145\321\103\120\321
\277\155\152\101\375\022\342\315\306\037\046\146\355\312\235\072
\101\145\170\316\364\002\260\123\372\103\217\344\331\273\256\124
\200\027\045\140\022\111\201\164\350\073\263\333\145\134\051\124
\311\346\105\236\236\224\021\204\124\162\050\317\067\300\365\125
\243\121\053\243\310\120\346\351\014\024\023\320\057\244\001\374
\106\367\076\057\333\324\364\113\024\370\262\000\035\013\374\120
\027\053\371\360\132\175\154\371\373\243\013\212\300\247\062\010
\175\127\113\050\277\006\236\027\024\102\345\054\346\242\200\026
\116\377\017\235\074\034\370\025\302\122\165\230\324\370\026\211
\320\115\347\050\010\307\225\050\116\346\213\201\111\231\332\047
\075\351\372\171\060\331\154\250\337\253\072\033\020\212\321\166
\344\110\376\071\212\170\210\033\201\146\303\006\144\242\166\005
\312\224\047\264\166\361\332\202\373\265\104\020\143\103\303\243
\306\306\004\307\017\313\361\266\217\347\134\212\246\121\226\311
\337\200\314\265\321\040\263\103\323\024\307\335\261\120\155\225
\172

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "AdminCA-CD-T01"

Issuer: CN=AdminCA-CD-T01,OU=Certification Authorities,OU=Services,O=admin,C=CH

Serial Number: 1 (0x1)

```
# Subject: CN=AdminCA-CD-T01,OU=Certification Authorities,OU=Services,O=admin,C=CH
# Not Valid Before: Wed Jan 25 13:36:19 2006
# Not Valid After: Mon Jan 25 12:36:19 2016
# Fingerprint (MD5): 5b:9e:fd:3b:60:35:ea:68:8e:52:fe:13:19:14:4a:a3
# Fingerprint (SHA1): 6b:81:44:6a:5c:dd:f4:74:a0:f8:00:ff:be:69:fd:0d:b6:28:75:16
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AdminCA-CD-T01"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\153\201\104\152\134\335\364\164\240\370\000\377\276\151\375\015
\266\050\165\026
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\133\236\375\073\140\065\352\150\216\122\376\023\031\024\112\243
END
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\016\060\014\006\003\125\004\012\023\005\141\144\155\151\156\061
\021\060\017\006\003\125\004\013\023\010\123\145\162\166\151\143
\145\163\061\042\060\040\006\003\125\004\013\023\031\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\151\145\163\061\027\060\025\006\003\125\004\003\023
\016\101\144\155\151\156\103\101\055\103\104\055\124\060\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Admin-Root-CA"
# Issuer: CN=Admin-Root-CA,OU=Certification Authorities,OU=Services,O=admin,C=ch
# Serial Number:3b:f3:81:d0
# Subject: CN=Admin-Root-CA,OU=Certification Authorities,OU=Services,O=admin,C=ch
# Not Valid Before: Thu Nov 15 08:51:07 2001
# Not Valid After: Wed Nov 10 07:51:07 2021
# Fingerprint (MD5): f3:7e:3a:13:dc:74:63:06:74:1a:3c:38:32:8c:fb:a9
# Fingerprint (SHA1): 25:3f:77:5b:0e:77:97:ab:64:5f:15:91:55:97:c3:9e:26:36:31:d1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Admin-Root-CA"
```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\016\060\014\006\003\125\004\012\023\005\141\144\155\151\156\061
\021\060\017\006\003\125\004\013\023\010\123\145\162\166\151\143
\145\163\061\042\060\040\006\003\125\004\013\023\031\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\151\145\163\061\026\060\024\006\003\125\004\003\023
\015\101\144\155\151\156\055\122\157\157\164\055\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\016\060\014\006\003\125\004\012\023\005\141\144\155\151\156\061
\021\060\017\006\003\125\004\013\023\010\123\145\162\166\151\143
\145\163\061\042\060\040\006\003\125\004\013\023\031\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\151\145\163\061\026\060\024\006\003\125\004\003\023
\015\101\144\155\151\156\055\122\157\157\164\055\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\073\363\201\320

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\125\060\202\004\075\240\003\002\001\002\002\004\073
\363\201\320\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\154\061\013\060\011\006\003\125\004\006\023\002\143
\150\061\016\060\014\006\003\125\004\012\023\005\141\144\155\151
\156\061\021\060\017\006\003\125\004\013\023\010\123\145\162\166
\151\143\145\163\061\042\060\040\006\003\125\004\013\023\031\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\151\145\163\061\026\060\024\006\003\125\004
\003\023\015\101\144\155\151\156\055\122\157\157\164\055\103\101
\060\036\027\015\060\061\061\061\061\065\060\070\065\061\060\067
\132\027\015\062\061\061\061\061\060\060\067\065\061\060\067\132
\060\154\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\016\060\014\006\003\125\004\012\023\005\141\144\155\151\156\061
\021\060\017\006\003\125\004\013\023\010\123\145\162\166\151\143
\145\163\061\042\060\040\006\003\125\004\013\023\031\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\151\145\163\061\026\060\024\006\003\125\004\003\023
\015\101\144\155\151\156\055\122\157\157\164\055\103\101\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\313
\340\257\104\024\042\376\152\027\111\362\135\235\317\134\002\142
\013\200\271\132\277\250\125\063\173\243\022\044\136\114\157\073
\101\211\116\203\075\237\263\225\046\064\246\314\022\364\314\235
\207\136\075\014\015\027\057\205\046\076\052\046\131\163\241\250

\274\073\353\345\106\270\363\131\173\040\261\136\100\001\155\272
\147\263\153\353\357\305\342\371\065\335\014\152\006\266\232\050
\232\160\263\100\051\166\300\161\106\021\153\103\257\345\126\101
\373\346\034\071\203\115\267\366\242\261\146\311\250\015\262\360
\167\276\066\301\040\047\062\271\314\327\132\312\366\027\101\066
\115\373\273\125\201\143\234\223\136\203\153\177\270\025\167\162
\174\175\115\011\153\131\225\346\355\060\253\104\106\331\025\001
\245\133\211\145\266\340\050\331\050\010\225\176\010\043\262\042
\350\337\045\114\074\150\367\156\347\113\307\220\375\204\101\046
\276\134\203\072\327\043\171\267\032\370\007\031\202\132\151\130
\305\377\210\162\053\307\276\370\323\055\063\167\247\026\022\250
\213\041\306\102\256\172\144\257\362\263\300\355\167\344\151\002
\003\001\000\001\243\202\001\375\060\202\001\371\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\201\231
\006\003\125\035\040\004\201\221\060\201\216\060\201\213\006\010
\140\205\164\001\021\003\001\000\060\177\060\053\006\010\053\006
\001\005\005\007\002\002\060\037\032\035\124\150\151\163\040\151
\163\040\164\150\145\040\101\144\155\151\156\055\122\157\157\164
\055\103\101\040\103\120\123\060\120\006\010\053\006\001\005\005
\007\002\001\026\104\150\164\164\160\072\057\057\167\167\167\056
\151\156\146\157\162\155\141\164\151\153\056\141\144\155\151\156
\056\143\150\057\120\113\111\057\154\151\156\153\163\057\103\120
\123\137\062\137\061\066\137\067\065\066\137\061\137\061\067\137
\063\137\061\137\060\056\160\144\146\060\177\006\003\125\035\037
\004\170\060\166\060\164\240\162\240\160\244\156\060\154\061\026
\060\024\006\003\125\004\003\023\015\101\144\155\151\156\055\122
\157\157\164\055\103\101\061\042\060\040\006\003\125\004\013\023
\031\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\151\145\163\061\021\060\017\006\003
\125\004\013\023\010\123\145\162\166\151\143\145\163\061\016\060
\014\006\003\125\004\012\023\005\141\144\155\151\156\061\013\060
\011\006\003\125\004\006\023\002\143\150\060\035\006\003\125\035
\016\004\026\004\024\202\237\372\043\163\040\361\227\213\262\114
\115\276\102\305\177\146\315\144\350\060\201\231\006\003\125\035
\043\004\201\221\060\201\216\200\024\202\237\372\043\163\040\361
\227\213\262\114\115\276\102\305\177\146\315\144\350\241\160\244
\156\060\154\061\013\060\011\006\003\125\004\006\023\002\143\150
\061\016\060\014\006\003\125\004\012\023\005\141\144\155\151\156
\061\021\060\017\006\003\125\004\013\023\010\123\145\162\166\151
\143\145\163\061\042\060\040\006\003\125\004\013\023\031\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\151\145\163\061\026\060\024\006\003\125\004\003
\023\015\101\144\155\151\156\055\122\157\157\164\055\103\101\202
\004\073\363\201\320\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\170\117\172\134\046\021\247
\056\256\232\103\312\134\065\202\106\176\310\066\217\172\146\265
\251\062\010\034\014\344\156\241\361\310\301\324\344\200\347\214

\275\143\261\014\337\362\271\076\302\013\161\100\151\106\243\154
\364\133\017\015\041\104\307\052\053\075\032\013\300\240\301\314
\210\312\034\077\254\122\266\366\147\315\114\155\304\276\043\375
\101\053\004\156\167\245\026\170\351\233\134\043\317\201\032\006
\041\143\152\334\051\121\262\072\371\233\367\135\261\055\365\004
\027\006\177\234\350\067\205\055\356\061\274\056\001\370\304\353
\153\216\064\305\071\071\366\224\230\273\037\016\036\021\057\250
\214\007\012\110\242\214\152\231\205\064\267\052\141\205\170\032
\051\151\037\235\045\120\121\004\312\027\303\071\070\007\161\347
\321\230\233\325\321\030\025\226\274\342\363\311\147\053\361\011
\262\316\234\364\103\046\001\372\127\153\220\251\261\276\350\065
\325\151\377\360\071\025\116\274\137\360\317\073\364\276\043\077
\105\146\304\264\226\135\276\217\015\336\307\155\011\102\363\211
\371\361\077\365\164\117\337\270\145

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "Admin-Root-CA"

Issuer: CN=Admin-Root-CA,OU=Certification Authorities,OU=Services,O=admin,C=ch

Serial Number:3b:f3:81:d0

Subject: CN=Admin-Root-CA,OU=Certification Authorities,OU=Services,O=admin,C=ch

Not Valid Before: Thu Nov 15 08:51:07 2001

Not Valid After: Wed Nov 10 07:51:07 2021

Fingerprint (MD5): f3:7e:3a:13:dc:74:63:06:74:1a:3c:38:32:8c:fb:a9

Fingerprint (SHA1): 25:3f:77:5b:0e:77:97:ab:64:5f:15:91:55:97:c3:9e:26:36:31:d1

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Admin-Root-CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\045\077\167\133\016\167\227\253\144\137\025\221\125\227\303\236
\046\066\061\321

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\363\176\072\023\334\164\143\006\164\032\074\070\062\214\373\251

END

CKA_ISSUER MULTILINE_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\016\060\014\006\003\125\004\012\023\005\141\144\155\151\156\061
\021\060\017\006\003\125\004\013\023\010\123\145\162\166\151\143
\145\163\061\042\060\040\006\003\125\004\013\023\031\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\151\145\163\061\026\060\024\006\003\125\004\003\023
\015\101\144\155\151\156\055\122\157\157\164\055\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\073\363\201\320

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "TÜBTAK UEKAE Kök Sertifika Hizmet Salaycs - Sürüm 3"

Issuer: CN=TÜBTAK UEKAE Kök Sertifika Hizmet Salaycs - Sürüm 3,OU=Kamu Sertifikasyon

Merkezi,OU=Ulusal Elektronik ve Kriptoloji Aratırma Enstitüsü - UEKAE,O=Türkiye Bilimsel ve Teknolojik Aratırma Kurumu - TÜBTAK,L=Gebze - Kocaeli,C=TR

Serial Number: 17 (0x11)

Subject: CN=TÜBTAK UEKAE Kök Sertifika Hizmet Salaycs - Sürüm 3,OU=Kamu Sertifikasyon

Merkezi,OU=Ulusal Elektronik ve Kriptoloji Aratırma Enstitüsü - UEKAE,O=Türkiye Bilimsel ve Teknolojik Aratırma Kurumu - TÜBTAK,L=Gebze - Kocaeli,C=TR

Not Valid Before: Fri Aug 24 11:37:07 2007

Not Valid After: Mon Aug 21 11:37:07 2017

Fingerprint (MD5): ed:41:f5:8c:50:c5:2b:9c:73:e6:ee:6c:eb:c2:a8:26

Fingerprint (SHA1): 1b:4b:39:61:26:27:6b:64:91:a2:68:6d:d7:02:43:21:2d:1f:1d:96

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TÜBTAK UEKAE Kök Sertifika Hizmet Salaycs - Sürüm 3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\202\001\053\061\013\060\011\006\003\125\004\006\023\002\124

\122\061\030\060\026\006\003\125\004\007\014\017\107\145\142\172

\145\040\055\040\113\157\143\141\145\154\151\061\107\060\105\006

\003\125\004\012\014\076\124\303\274\162\153\151\171\145\040\102

\151\154\151\155\163\145\154\040\166\145\040\124\145\153\156\157

\154\157\152\151\153\040\101\162\141\305\237\164\304\261\162\155

\141\040\113\165\162\165\155\165\040\055\040\124\303\234\102\304

\260\124\101\113\061\110\060\106\006\003\125\004\013\014\077\125

\154\165\163\141\154\040\105\154\145\153\164\162\157\156\151\153

\040\166\145\040\113\162\151\160\164\157\154\157\152\151\040\101

\162\141\305\237\164\304\261\162\155\141\040\105\156\163\164\151

\164\303\274\163\303\274\040\055\040\125\105\113\101\105\061\043

\060\041\006\003\125\004\013\014\032\113\141\155\165\040\123\145

\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153

\145\172\151\061\112\060\110\006\003\125\004\003\014\101\124\303

\234\102\304\260\124\101\113\040\125\105\113\101\105\040\113\303

\266\153\040\123\145\162\164\151\146\151\153\141\040\110\151\172

\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304\261

\163\304\261\040\055\040\123\303\274\162\303\274\155\040\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\202\001\053\061\013\060\011\006\003\125\004\006\023\002\124
\122\061\030\060\026\006\003\125\004\007\014\017\107\145\142\172
\145\040\055\040\113\157\143\141\145\154\151\061\107\060\105\006
\003\125\004\012\014\076\124\303\274\162\153\151\171\145\040\102
\151\154\151\155\163\145\154\040\166\145\040\124\145\153\156\157
\154\157\152\151\153\040\101\162\141\305\237\164\304\261\162\155
\141\040\113\165\162\165\155\165\040\055\040\124\303\234\102\304
\260\124\101\113\061\110\060\106\006\003\125\004\013\014\077\125
\154\165\163\141\154\040\105\154\145\153\164\162\157\156\151\153
\040\166\145\040\113\162\151\160\164\157\154\157\152\151\040\101
\162\141\305\237\164\304\261\162\155\141\040\105\156\163\164\151
\164\303\274\163\303\274\040\055\040\125\105\113\101\105\061\043
\060\041\006\003\125\004\013\014\032\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\061\112\060\110\006\003\125\004\003\014\101\124\303
\234\102\304\260\124\101\113\040\125\105\113\101\105\040\113\303
\266\153\040\123\145\162\164\151\146\151\153\141\040\110\151\172
\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304\261
\163\304\261\040\055\040\123\303\274\162\303\274\155\040\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\021

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\027\060\202\003\377\240\003\002\001\002\002\001\021
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\202\001\053\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\014\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\107\060\105\006\003
\125\004\012\014\076\124\303\274\162\153\151\171\145\040\102\151
\154\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154
\157\152\151\153\040\101\162\141\305\237\164\304\261\162\155\141
\040\113\165\162\165\155\165\040\055\040\124\303\234\102\304\260
\124\101\113\061\110\060\106\006\003\125\004\013\014\077\125\154
\165\163\141\154\040\105\154\145\153\164\162\157\156\151\153\040
\166\145\040\113\162\151\160\164\157\154\157\152\151\040\101\162
\141\305\237\164\304\261\162\155\141\040\105\156\163\164\151\164
\303\274\163\303\274\040\055\040\125\105\113\101\105\061\043\060
\041\006\003\125\004\013\014\032\113\141\155\165\040\123\145\162
\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145
\172\151\061\112\060\110\006\003\125\004\003\014\101\124\303\234
\102\304\260\124\101\113\040\125\105\113\101\105\040\113\303\266
\153\040\123\145\162\164\151\146\151\153\141\040\110\151\172\155
\145\164\040\123\141\304\237\154\141\171\304\261\143\304\261\163
\304\261\040\055\040\123\303\274\162\303\274\155\040\063\060\036

\027\015\060\067\060\070\062\064\061\061\063\067\060\067\132\027
\015\061\067\060\070\062\061\061\061\063\067\060\067\132\060\202
\001\053\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\030\060\026\006\003\125\004\007\014\017\107\145\142\172\145\040
\055\040\113\157\143\141\145\154\151\061\107\060\105\006\003\125
\004\012\014\076\124\303\274\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\305\237\164\304\261\162\155\141\040
\113\165\162\165\155\165\040\055\040\124\303\234\102\304\260\124
\101\113\061\110\060\106\006\003\125\004\013\014\077\125\154\165
\163\141\154\040\105\154\145\153\164\162\157\156\151\153\040\166
\145\040\113\162\151\160\164\157\154\157\152\151\040\101\162\141
\305\237\164\304\261\162\155\141\040\105\156\163\164\151\164\303
\274\163\303\274\040\055\040\125\105\113\101\105\061\043\060\041
\006\003\125\004\013\014\032\113\141\155\165\040\123\145\162\164
\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145\172
\151\061\112\060\110\006\003\125\004\003\014\101\124\303\234\102
\304\260\124\101\113\040\125\105\113\101\105\040\113\303\266\153
\040\123\145\162\164\151\146\151\153\141\040\110\151\172\155\145
\164\040\123\141\304\237\154\141\171\304\261\143\304\261\163\304
\261\040\055\040\123\303\274\162\303\274\155\040\063\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\212\155
\113\377\020\210\072\303\366\176\224\350\352\040\144\160\256\041
\201\276\072\173\074\333\361\035\122\177\131\372\363\042\114\225
\240\220\274\110\116\021\253\373\267\265\215\172\203\050\214\046
\106\330\116\225\100\207\141\237\305\236\155\201\207\127\154\212
\073\264\146\352\314\100\374\343\252\154\262\313\001\333\062\277
\322\353\205\317\241\015\125\303\133\070\127\160\270\165\306\171
\321\024\060\355\033\130\133\153\357\065\362\241\041\116\305\316
\174\231\137\154\271\270\042\223\120\247\315\114\160\152\276\152
\005\177\023\234\053\036\352\376\107\316\004\245\157\254\223\056
\174\053\237\236\171\023\221\350\352\236\312\070\165\216\142\260
\225\223\052\345\337\351\136\227\156\040\137\137\204\172\104\071
\031\100\034\272\125\053\373\060\262\201\357\204\343\334\354\230
\070\071\003\205\010\251\124\003\005\051\360\311\217\213\352\013
\206\145\031\021\323\351\011\043\336\150\223\003\311\066\034\041
\156\316\214\146\361\231\060\330\327\263\303\035\370\201\056\250
\275\202\013\146\376\202\313\341\340\032\202\303\100\201\002\003
\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\275\210\207\311\217\366\244\012\013\252\353\305\376\221
\043\235\253\112\212\062\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\035\174\372\111\217
\064\351\267\046\222\026\232\005\164\347\113\320\155\071\154\303
\046\366\316\270\061\274\304\337\274\052\370\067\221\030\334\004
\310\144\231\053\030\155\200\003\131\311\256\370\130\320\076\355

```
\303\043\237\151\074\206\070\034\236\357\332\047\170\321\204\067
\161\212\074\113\071\317\176\105\006\326\055\330\212\115\170\022
\326\255\302\323\313\322\320\101\363\046\066\112\233\225\154\014
\356\345\321\103\047\146\301\210\367\172\263\040\154\352\260\151
\053\307\040\350\014\003\304\101\005\231\342\077\344\153\370\240
\206\201\307\204\306\037\325\113\201\022\262\026\041\054\023\241
\200\262\136\014\112\023\236\040\330\142\100\253\220\352\144\112
\057\254\015\001\022\171\105\250\057\207\031\150\310\342\205\307
\060\262\165\371\070\077\262\300\223\264\153\342\003\104\316\147
\240\337\211\326\255\214\166\243\023\303\224\141\053\153\331\154
\301\007\012\042\007\205\154\205\044\106\251\276\077\213\170\204
\202\176\044\014\235\375\201\067\343\045\250\355\066\116\225\054
\311\234\220\332\354\251\102\074\255\266\002
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "TÜBTAK UEKAE Kök Sertifika Hizmet Salaycs - Sürüm 3"
```

```
# Issuer: CN=TÜBTAK UEKAE Kök Sertifika Hizmet Salaycs - Sürüm 3,OU=Kamu Sertifikasyon
```

```
Merkezi,OU=Ulusal Elektronik ve Kriptoloji Aratırma Enstitüsü - UEKAE,O=Türkiye Bilimsel ve Teknolojik
Aratırma Kurumu - TÜBTAK,L=Gebze - Kocaeli,C=TR
```

```
# Serial Number: 17 (0x11)
```

```
# Subject: CN=TÜBTAK UEKAE Kök Sertifika Hizmet Salaycs - Sürüm 3,OU=Kamu Sertifikasyon
```

```
Merkezi,OU=Ulusal Elektronik ve Kriptoloji Aratırma Enstitüsü - UEKAE,O=Türkiye Bilimsel ve Teknolojik
Aratırma Kurumu - TÜBTAK,L=Gebze - Kocaeli,C=TR
```

```
# Not Valid Before: Fri Aug 24 11:37:07 2007
```

```
# Not Valid After: Mon Aug 21 11:37:07 2017
```

```
# Fingerprint (MD5): ed:41:f5:8c:50:c5:2b:9c:73:e6:ee:6c:eb:c2:a8:26
```

```
# Fingerprint (SHA1): 1b:4b:39:61:26:27:6b:64:91:a2:68:6d:d7:02:43:21:2d:1f:1d:96
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TÜBTAK UEKAE Kök Sertifika Hizmet Salaycs - Sürüm 3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\033\113\071\141\046\047\153\144\221\242\150\155\327\002\103\041
\055\037\035\226
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\355\101\365\214\120\305\053\234\163\346\356\154\353\302\250\046
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\202\001\053\061\013\060\011\006\003\125\004\006\023\002\124
\122\061\030\060\026\006\003\125\004\007\014\017\107\145\142\172
\145\040\055\040\113\157\143\141\145\154\151\061\107\060\105\006
\003\125\004\012\014\076\124\303\274\162\153\151\171\145\040\102
```

```
\151\154\151\155\163\145\154\040\166\145\040\124\145\153\156\157
\154\157\152\151\153\040\101\162\141\305\237\164\304\261\162\155
\141\040\113\165\162\165\155\165\040\055\040\124\303\234\102\304
\260\124\101\113\061\110\060\106\006\003\125\004\013\014\077\125
\154\165\163\141\154\040\105\154\145\153\164\162\157\156\151\153
\040\166\145\040\113\162\151\160\164\157\154\157\152\151\040\101
\162\141\305\237\164\304\261\162\155\141\040\105\156\163\164\151
\164\303\274\163\303\274\040\055\040\125\105\113\101\105\061\043
\060\041\006\003\125\004\013\014\032\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\061\112\060\110\006\003\125\004\003\014\101\124\303
\234\102\304\260\124\101\113\040\125\105\113\101\105\040\113\303
\266\153\040\123\145\162\164\151\146\151\153\141\040\110\151\172
\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304\261
\163\304\261\040\055\040\123\303\274\162\303\274\155\040\063
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\021
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Halcom CA FO"

Issuer: CN=Halcom CA FO,O=Halcom,C=SI

Serial Number: 113253 (0x1ba65)

Subject: CN=Halcom CA FO,O=Halcom,C=SI

Not Valid Before: Sun Jun 05 10:33:31 2005

Not Valid After: Fri Jun 05 10:33:31 2020

Fingerprint (MD5): 0b:09:2c:1c:d7:21:86:6f:94:37:6f:e6:a7:f3:22:4d

Fingerprint (SHA1): 04:09:56:5b:77:da:58:2e:64:95:ac:00:60:a7:23:54:e6:4b:01:92

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Halcom CA FO"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\065\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157\155
\061\025\060\023\006\003\125\004\003\023\014\110\141\154\143\157
\155\040\103\101\040\106\117
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\065\061\013\060\011\006\003\125\004\006\023\002\123\111\061
```

\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157\155
\061\025\060\023\006\003\125\004\003\023\014\110\141\154\143\157
\155\040\103\101\040\106\117
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\272\145
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\032\060\202\002\002\240\003\002\001\002\002\003\001
\272\145\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\065\061\013\060\011\006\003\125\004\006\023\002\123\111
\061\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157
\155\061\025\060\023\006\003\125\004\003\023\014\110\141\154\143
\157\155\040\103\101\040\106\117\060\036\027\015\060\065\060\066
\060\065\061\060\063\063\063\061\132\027\015\062\060\060\066\060
\065\061\060\063\063\063\061\132\060\065\061\013\060\011\006\003
\125\004\006\023\002\123\111\061\017\060\015\006\003\125\004\012
\023\006\110\141\154\143\157\155\061\025\060\023\006\003\125\004
\003\023\014\110\141\154\143\157\155\040\103\101\040\106\117\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\274\243\046\001\226\345\235\254\032\002\002\071\174\254\334\006
\114\067\112\256\007\110\165\350\047\034\244\061\375\012\247\043
\135\174\077\016\372\360\214\221\157\125\064\204\003\164\314\003
\065\170\315\161\301\107\033\273\352\041\156\270\007\336\041\222
\252\254\271\336\067\242\037\364\232\034\033\310\356\020\203\326
\123\103\310\335\351\363\220\106\071\162\012\116\374\022\051\111
\201\130\046\072\161\023\014\173\123\217\337\146\162\074\027\334
\336\341\171\112\237\351\140\076\155\065\344\115\121\321\034\300
\032\060\134\006\077\163\103\310\315\066\364\036\302\207\214\117
\110\237\332\165\127\052\114\257\215\124\074\104\137\230\074\120
\332\320\030\006\174\140\156\322\204\377\147\205\220\075\136\306
\353\330\172\243\265\155\014\276\165\270\251\332\126\161\066\132
\356\353\111\123\076\342\031\166\174\102\253\241\220\361\367\057
\270\272\112\101\264\053\244\056\141\066\347\326\332\177\365\237
\215\270\113\133\204\065\120\305\275\005\252\252\302\014\164\101
\143\127\031\216\377\341\106\346\173\005\044\376\231\335\061\275
\002\003\001\000\001\243\063\060\061\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\021\006\003\125\035
\016\004\012\004\010\110\040\034\142\015\130\122\045\060\013\006
\003\125\035\017\004\004\003\002\001\006\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\133\165
\365\346\060\106\130\212\367\017\321\117\013\001\130\004\271\144
\344\060\015\076\166\331\153\023\255\034\156\311\114\360\154\346
\102\021\375\353\203\357\120\330\273\124\235\264\221\212\132\265
\204\017\214\106\315\074\202\250\245\036\040\234\320\365\101\006
\312\001\053\230\260\352\051\120\037\342\164\173\131\202\312\012
\345\156\116\256\260\067\355\076\314\272\062\331\077\013\150\054

```
\262\323\074\334\070\305\021\326\033\063\356\271\242\152\104\223
\033\120\352\141\033\171\127\121\126\236\062\320\063\170\264\317
\107\052\373\367\315\361\347\155\340\272\144\373\025\233\276\312
\261\362\107\001\177\340\114\267\245\101\254\036\331\032\154\221
\341\320\250\112\303\136\170\053\172\200\300\117\315\045\137\120
\047\306\274\130\165\234\035\265\232\135\225\163\363\204\146\323
\315\155\035\315\340\132\316\040\070\357\222\163\170\136\002\326
\215\371\164\324\267\211\330\214\373\173\325\213\161\325\031\027
\046\330\044\111\074\125\274\202\207\332\143\273\071\327\216\221
\317\064\160\134\163\117\320\120\107\132\373\345\132\121
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "Halcom CA FO"

Issuer: CN=Halcom CA FO,O=Halcom,C=SI

Serial Number: 113253 (0x1ba65)

Subject: CN=Halcom CA FO,O=Halcom,C=SI

Not Valid Before: Sun Jun 05 10:33:31 2005

Not Valid After: Fri Jun 05 10:33:31 2020

Fingerprint (MD5): 0b:09:2c:1c:d7:21:86:6f:94:37:6f:e6:a7:f3:22:4d

Fingerprint (SHA1): 04:09:56:5b:77:da:58:2e:64:95:ac:00:60:a7:23:54:e6:4b:01:92

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Halcom CA FO"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\004\011\126\133\167\332\130\056\144\225\254\000\140\247\043\124
\346\113\001\222
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\013\011\054\034\327\041\206\157\224\067\157\346\247\363\042\115
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\065\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157\155
\061\025\060\023\006\003\125\004\003\023\014\110\141\154\143\157
\155\040\103\101\040\106\117
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\003\001\272\145
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```


CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Halcom CA PO 2"

Issuer: CN=Halcom CA PO 2,O=Halcom,C=SI

Serial Number: 79074 (0x134e2)

Subject: CN=Halcom CA PO 2,O=Halcom,C=SI

Not Valid Before: Sat Feb 07 18:33:31 2004

Not Valid After: Thu Feb 07 18:33:31 2019

Fingerprint (MD5): 1d:64:96:af:2d:82:1a:30:0b:a0:62:0d:76:bc:53:aa

Fingerprint (SHA1): 7f:bb:6a:cd:7e:0a:b4:38:da:af:6f:d5:02:10:d0:07:c6:c0:82:9c

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Halcom CA PO 2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\067\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157\155
\061\027\060\025\006\003\125\004\003\023\016\110\141\154\143\157
\155\040\103\101\040\120\117\040\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\067\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157\155
\061\027\060\025\006\003\125\004\003\023\016\110\141\154\143\157
\155\040\103\101\040\120\117\040\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\001\064\342

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\031\060\202\001\202\240\003\002\001\002\002\003\001
\064\342\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\067\061\013\060\011\006\003\125\004\006\023\002\123\111
\061\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157
\155\061\027\060\025\006\003\125\004\003\023\016\110\141\154\143
\157\155\040\103\101\040\120\117\040\062\060\036\027\015\060\064
\060\062\060\067\061\070\063\063\063\061\132\027\015\061\071\060
\062\060\067\061\070\063\063\063\061\132\060\067\061\013\060\011
\006\003\125\004\006\023\002\123\111\061\017\060\015\006\003\125
\004\012\023\006\110\141\154\143\157\155\061\027\060\025\006\003
\125\004\003\023\016\110\141\154\143\157\155\040\103\101\040\120
\117\040\062\060\201\237\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\201\215\000\060\201\211\002\201\201\000
\224\027\362\111\067\060\062\011\010\074\276\365\067\267\164\154

\020\073\313\042\161\007\006\271\306\354\332\110\363\237\047\155
\144\215\125\336\171\107\120\373\150\316\171\001\276\247\033\366
\141\255\175\061\013\123\040\255\061\361\133\316\043\372\377\314
\022\002\132\000\234\374\315\153\022\122\350\254\324\063\073\163
\046\020\161\220\100\277\003\210\337\274\137\041\015\214\326\212
\223\037\347\256\025\124\306\114\344\231\141\222\340\367\215\162
\307\334\142\023\063\243\076\111\051\373\204\277\160\072\221\041
\002\003\001\000\001\243\063\060\061\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\021\006\003\125\035
\016\004\012\004\010\110\257\127\146\277\322\300\002\060\013\006
\003\125\035\017\004\004\003\002\001\006\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\201\201\000\220\026\127
\166\270\171\316\374\304\321\067\000\242\315\377\070\007\021\163
\023\005\111\355\337\301\305\316\306\100\330\367\002\226\015\267
\157\021\204\070\146\373\161\367\020\001\147\174\135\175\044\332
\366\144\073\010\200\110\246\116\275\104\342\260\007\062\217\174
\206\067\106\157\300\203\003\223\265\364\363\022\174\243\350\313
\342\072\043\170\372\150\157\376\130\312\014\247\127\121\055\142
\220\371\344\250\334\365\312\337\016\207\121\156\067\165\046\016
\327\176\170\212\003\242\225\031\266\136\221\001\126

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Halcom CA PO 2"
Issuer: CN=Halcom CA PO 2,O=Halcom,C=SI
Serial Number: 79074 (0x134e2)
Subject: CN=Halcom CA PO 2,O=Halcom,C=SI
Not Valid Before: Sat Feb 07 18:33:31 2004
Not Valid After: Thu Feb 07 18:33:31 2019
Fingerprint (MD5): 1d:64:96:af:2d:82:1a:30:0b:a0:62:0d:76:bc:53:aa
Fingerprint (SHA1): 7f:bb:6a:cd:7e:0a:b4:38:da:af:6f:d5:02:10:d0:07:c6:c0:82:9c
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Halcom CA PO 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\177\273\152\315\176\012\264\070\332\257\157\325\002\020\320\007
\306\300\202\234
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\035\144\226\257\055\202\032\060\013\240\142\015\166\274\123\252
END
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\013\060\011\006\003\125\004\006\023\002\123\111\061

```
\017\060\015\006\003\125\004\012\023\006\110\141\154\143\157\155  
\061\027\060\025\006\003\125\004\003\023\016\110\141\154\143\157  
\155\040\103\101\040\120\117\040\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\003\001\064\342
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Root CA"

Issuer: CN=Root CA,OU=GPKI,O=Government of Korea,C=KR

Serial Number:3c:c2:81:4b:00:e7:52:4d:9b:aa:47:b7:e1:61:f5:0e

Subject: CN=Root CA,OU=GPKI,O=Government of Korea,C=KR

Not Valid Before: Sun Apr 21 09:07:23 2002

Not Valid After: Sat Apr 21 09:07:23 2012

Fingerprint (MD5): c7:bd:11:d6:91:8a:35:82:c5:36:66:01:7c:6f:47:79

Fingerprint (SHA1): 63:4c:3b:02:30:cf:1b:78:b4:56:9f:ec:f2:c0:4a:86:52:ef:ef:0e

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\114\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\034\060\032\006\003\125\004\012\023\023\107\157\166\145\162\156  
\155\145\156\164\040\157\146\040\113\157\162\145\141\061\015\060  
\013\006\003\125\004\013\023\004\107\120\113\111\061\020\060\016  
\006\003\125\004\003\023\007\122\157\157\164\040\103\101
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\114\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\034\060\032\006\003\125\004\012\023\023\107\157\166\145\162\156  
\155\145\156\164\040\157\146\040\113\157\162\145\141\061\015\060  
\013\006\003\125\004\013\023\004\107\120\113\111\061\020\060\016  
\006\003\125\004\003\023\007\122\157\157\164\040\103\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\074\302\201\113\000\347\122\115\233\252\107\267\341\141  
\365\016
```

END

CKA_VALUE MULTILINE_OCTAL

```
\060\202\003\231\060\202\002\201\240\003\002\001\002\002\020\074
```

\302\201\113\000\347\122\115\233\252\107\267\341\141\365\016\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\114
\061\013\060\011\006\003\125\004\006\023\002\113\122\061\034\060
\032\006\003\125\004\012\023\023\107\157\166\145\162\156\155\145
\156\164\040\157\146\040\113\157\162\145\141\061\015\060\013\006
\003\125\004\013\023\004\107\120\113\111\061\020\060\016\006\003
\125\004\003\023\007\122\157\157\164\040\103\101\060\036\027\015
\060\062\060\064\062\061\060\071\060\067\062\063\132\027\015\061
\062\060\064\062\061\060\071\060\067\062\063\132\060\114\061\013
\060\011\006\003\125\004\006\023\002\113\122\061\034\060\032\006
\003\125\004\012\023\023\107\157\166\145\162\156\155\145\156\164
\040\157\146\040\113\157\162\145\141\061\015\060\013\006\003\125
\004\013\023\004\107\120\113\111\061\020\060\016\006\003\125\004
\003\023\007\122\157\157\164\040\103\101\060\202\001\041\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\016\000\060\202\001\011\002\202\001\000\100\326\241\102\027\054
\125\100\337\232\172\303\221\364\343\275\221\053\365\333\134\146
\057\211\134\375\170\324\011\114\075\247\304\234\056\372\360\131
\266\275\264\322\215\050\010\253\257\023\101\256\200\102\364\353
\134\055\137\176\103\172\065\265\257\077\334\304\075\066\105\222
\262\270\176\015\274\254\307\301\144\330\336\155\316\263\244\216
\120\176\110\364\255\216\331\206\031\065\003\212\167\050\165\055
\202\133\112\354\245\313\161\002\364\104\061\203\112\171\354\316
\145\377\034\241\063\146\257\133\062\145\376\346\255\207\047\114
\375\117\030\011\230\144\176\077\316\067\126\363\302\340\306\231
\233\000\113\067\230\357\034\143\052\225\256\255\003\317\072\134
\042\016\075\331\365\160\161\166\373\104\317\053\000\041\046\160
\072\341\252\353\315\111\373\073\142\270\164\132\126\245\362\054
\222\076\265\000\274\204\277\140\343\102\156\215\243\340\144\266
\255\245\103\230\367\141\337\305\350\340\360\325\246\275\240\151
\157\162\156\216\215\017\313\366\370\353\366\314\133\163\235\325
\055\361\316\027\333\336\010\177\334\215\002\003\001\000\001\243
\170\060\166\060\037\006\003\125\035\043\004\030\060\026\200\024
\002\023\356\256\034\040\070\054\251\360\157\352\137\237\007\072
\223\357\107\164\060\035\006\003\125\035\016\004\026\004\024\002
\023\356\256\034\040\070\054\251\360\157\352\137\237\007\072\223
\357\107\164\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\023\006\003\125\035\040\004\014\060\012\060\010
\006\004\125\035\040\000\060\000\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\001\001\000\001\250\251
\310\046\174\254\076\264\367\266\222\301\176\363\250\220\155\175
\027\314\150\014\104\302\345\014\122\370\261\002\117\312\071\073
\127\130\346\337\277\144\012\215\106\264\324\331\262\347\203\007
\255\113\375\021\277\357\347\231\300\211\335\270\304\247\350\055
\204\222\315\037\327\030\307\173\206\117\353\271\136\136\311\325
\260\340\364\372\366\244\301\220\346\155\334\366\016\113\341\357
\335\065\071\376\361\306\154\220\101\244\141\211\043\346\244\077

```
\143\147\272\361\236\167\343\016\355\052\173\343\172\045\163\110
\067\177\171\345\052\123\006\331\214\262\010\157\064\004\133\211
\166\007\253\054\243\050\001\377\023\122\164\240\023\123\221\146
\070\302\211\245\031\110\112\060\270\304\276\144\334\354\237\060
\131\232\146\305\226\037\175\023\060\352\175\012\337\326\275\202
\060\050\350\115\215\332\160\312\200\233\034\150\025\174\103\263
\212\365\057\151\004\206\027\017\060\242\217\321\066\327\215\031
\112\152\153\070\027\144\053\273\011\322\253\326\021\256\366\247
\271\053\220\147\212\052\004\332\066\223\033\174\076
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "Root CA"

Issuer: CN=Root CA,OU=GPKI,O=Government of Korea,C=KR

Serial Number:3c:c2:81:4b:00:e7:52:4d:9b:aa:47:b7:e1:61:f5:0e

Subject: CN=Root CA,OU=GPKI,O=Government of Korea,C=KR

Not Valid Before: Sun Apr 21 09:07:23 2002

Not Valid After: Sat Apr 21 09:07:23 2012

Fingerprint (MD5): c7:bd:11:d6:91:8a:35:82:c5:36:66:01:7c:6f:47:79

Fingerprint (SHA1): 63:4c:3b:02:30:cf:1b:78:b4:56:9f:ec:f2:c0:4a:86:52:ef:ef:0e

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\143\114\073\002\060\317\033\170\264\126\237\354\362\300\112\206
\122\357\357\016
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\307\275\021\326\221\212\065\202\305\066\146\001\174\157\107\171
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\114\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\034\060\032\006\003\125\004\012\023\023\107\157\166\145\162\156
\155\145\156\164\040\157\146\040\113\157\162\145\141\061\015\060
\013\006\003\125\004\013\023\004\107\120\113\111\061\020\060\016
\006\003\125\004\003\023\007\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\074\302\201\113\000\347\122\115\233\252\107\267\341\141
\365\016
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
# Certificate "GPKIRootCA"
# Issuer: CN=GPKIRootCA,OU=GPKI,O=Government of Korea,C=KR
# Serial Number:45:f8:e0:e4:01:c5:3e:71:e6:bd:71:6d:97:9c:41:23
# Subject: CN=GPKIRootCA,OU=GPKI,O=Government of Korea,C=KR
# Not Valid Before: Thu Mar 15 06:00:04 2007
# Not Valid After: Wed Mar 15 06:00:04 2017
# Fingerprint (MD5): b4:81:9e:89:ac:17:24:fd:2a:42:85:27:1d:0c:2b:5d
# Fingerprint (SHA1): 20:cb:59:4f:b4:ed:d8:95:76:3f:d5:25:4e:95:9a:66:74:c6:ee:b2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GPKIRootCA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\034\060\032\006\003\125\004\012\023\023\107\157\166\145\162\156
\155\145\156\164\040\157\146\040\113\157\162\145\141\061\015\060
\013\006\003\125\004\013\023\004\107\120\113\111\061\023\060\021
\006\003\125\004\003\023\012\107\120\113\111\122\157\157\164\103
\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\034\060\032\006\003\125\004\012\023\023\107\157\166\145\162\156
\155\145\156\164\040\157\146\040\113\157\162\145\141\061\015\060
\013\006\003\125\004\013\023\004\107\120\113\111\061\023\060\021
\006\003\125\004\003\023\012\107\120\113\111\122\157\157\164\103
\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\105\370\340\344\001\305\076\161\346\275\161\155\227\234
\101\043
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\212\060\202\002\162\240\003\002\001\002\002\020\105
\370\340\344\001\305\076\161\346\275\161\155\227\234\101\043\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\113\122\061\034\060
\032\006\003\125\004\012\023\023\107\157\166\145\162\156\155\145
\156\164\040\157\146\040\113\157\162\145\141\061\015\060\013\006
\003\125\004\013\023\004\107\120\113\111\061\023\060\021\006\003
\125\004\003\023\012\107\120\113\111\122\157\157\164\103\101\060
```

\036\027\015\060\067\060\063\061\065\060\066\060\060\060\064\132
\027\015\061\067\060\063\061\065\060\066\060\060\060\064\132\060
\117\061\013\060\011\006\003\125\004\006\023\002\113\122\061\034
\060\032\006\003\125\004\012\023\023\107\157\166\145\162\156\155
\145\156\164\040\157\146\040\113\157\162\145\141\061\015\060\013
\006\003\125\004\013\023\004\107\120\113\111\061\023\060\021\006
\003\125\004\003\023\012\107\120\113\111\122\157\157\164\103\101
\060\202\001\041\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\016\000\060\202\001\011\002\202\001\000
\132\053\101\025\233\333\166\046\001\360\124\162\013\207\023\037
\240\320\077\226\252\015\263\064\201\336\110\132\237\363\160\132
\302\361\072\236\004\360\116\224\171\227\341\364\265\024\114\327
\157\304\213\030\267\334\022\053\035\012\233\356\040\014\133\217
\377\371\257\202\236\230\106\320\075\135\050\363\227\026\301\134
\345\126\277\104\244\000\241\172\313\233\172\133\334\324\355\373
\362\240\002\147\000\036\104\345\212\001\334\245\243\116\376\326
\014\147\312\111\271\360\320\240\371\115\037\003\323\206\357\015
\205\165\115\363\355\373\315\152\146\004\127\364\127\233\254\146
\212\117\302\250\117\161\211\011\335\114\000\337\226\273\325\220
\012\264\266\152\155\306\277\323\231\051\377\142\360\020\332\105
\254\011\162\013\202\020\350\025\250\213\137\342\242\132\171\036
\302\147\375\351\104\127\013\003\320\041\025\121\260\000\363\217
\155\342\043\360\111\041\331\155\317\142\075\354\353\375\050\222
\001\077\172\243\162\174\353\363\256\347\370\012\354\156\255\172
\233\125\311\060\113\234\266\141\106\153\130\032\376\237\110\035
\002\003\001\000\001\243\143\060\141\060\037\006\003\125\035\043
\004\030\060\026\200\024\026\147\062\364\150\136\150\061\107\333
\355\354\316\141\056\232\044\106\304\175\060\035\006\003\125\035
\016\004\026\004\024\026\147\062\364\150\136\150\061\107\333\355
\354\316\141\056\232\044\106\304\175\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\256\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\065\143
\122\306\140\030\034\267\302\301\132\130\002\354\007\325\241\220
\223\374\200\107\320\122\170\253\205\370\166\323\270\260\030\062
\240\266\220\150\023\146\075\157\257\216\334\366\243\304\316\071
\137\257\355\012\146\340\174\021\310\014\313\236\037\070\051\212
\213\336\310\143\056\307\264\322\316\066\221\224\340\117\204\222
\266\252\042\250\375\061\247\063\110\311\133\366\023\330\026\026
\353\037\077\245\116\006\223\072\331\006\145\060\226\372\215\006
\333\241\032\364\053\372\017\150\360\301\053\174\235\005\327\011
\102\073\322\057\221\220\374\016\153\070\133\262\165\251\127\234
\127\144\365\230\040\244\377\324\060\004\344\316\037\220\311\057
\301\337\132\126\270\313\252\252\264\277\353\270\367\042\112\115
\301\065\364\145\275\170\274\157\170\033\126\072\201\350\015\365
\302\245\027\060\323\215\127\167\313\245\301\114\261\060\335\064
\270\253\222\012\042\002\066\213\366\154\367\141\271\010\356\060
\255\032\250\104\361\056\062\354\203\242\110\110\072\147\137\351

```
\157\033\027\063\010\052\301\311\303\147\232\016\205\147
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Trust for "GPKIRootCA"
# Issuer: CN=GPKIRootCA,OU=GPKI,O=Government of Korea,C=KR
# Serial Number:45:f8:e0:e4:01:c5:3e:71:e6:bd:71:6d:97:9c:41:23
# Subject: CN=GPKIRootCA,OU=GPKI,O=Government of Korea,C=KR
# Not Valid Before: Thu Mar 15 06:00:04 2007
# Not Valid After: Wed Mar 15 06:00:04 2017
# Fingerprint (MD5): b4:81:9e:89:ac:17:24:fd:2a:42:85:27:1d:0c:2b:5d
# Fingerprint (SHA1): 20:cb:59:4f:b4:ed:d8:95:76:3f:d5:25:4e:95:9a:66:74:c6:ee:b2
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GPKIRootCA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\040\313\131\117\264\355\330\225\166\077\325\045\116\225\232\146
\164\306\356\262
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\264\201\236\211\254\027\044\375\052\102\205\047\035\014\053\135
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\034\060\032\006\003\125\004\012\023\023\107\157\166\145\162\156
\155\145\156\164\040\157\146\040\113\157\162\145\141\061\015\060
\013\006\003\125\004\013\023\004\107\120\113\111\061\023\060\021
\006\003\125\004\003\023\012\107\120\113\111\122\157\157\164\103
\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\105\370\340\344\001\305\076\161\346\275\161\155\227\234
\101\043
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "ACNLB"
# Issuer: O=ACNLB,C=SI
# Serial Number:3e:c3:86:8e
```


Subject: O=ACNLB,C=SI
Not Valid Before: Thu May 15 11:52:45 2003
Not Valid After: Mon May 15 12:22:45 2023
Fingerprint (MD5): ba:92:64:42:16:1f:cb:a1:16:48:1a:f6:40:5c:59:87
Fingerprint (SHA1): 04:56:f2:3d:1e:9c:43:ae:cb:0d:80:7f:1c:06:47:55:1a:05:f4:56
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACNLB"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\035\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\016\060\014\006\003\125\004\012\023\005\101\103\116\114\102
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\035\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\016\060\014\006\003\125\004\012\023\005\101\103\116\114\102
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\076\303\206\216
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\267\060\202\002\237\240\003\002\001\002\002\004\076
\303\206\216\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\035\061\013\060\011\006\003\125\004\006\023\002\123
\111\061\016\060\014\006\003\125\004\012\023\005\101\103\116\114
\102\060\036\027\015\060\063\060\065\061\065\061\061\065\062\064
\065\132\027\015\062\063\060\065\061\065\061\062\062\062\064\065
\132\060\035\061\013\060\011\006\003\125\004\006\023\002\123\111
\061\016\060\014\006\003\125\004\012\023\005\101\103\116\114\102
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\277\166\165\075\014\174\100\072\146\137\115\214\373\335\074
\056\376\175\224\144\355\112\324\111\110\241\356\221\161\262\171
\310\216\053\037\252\360\062\264\050\262\243\302\165\117\244\351
\246\032\366\242\146\141\043\047\141\054\156\027\220\013\372\336
\036\161\122\002\051\004\231\171\254\300\260\300\146\230\230\021
\067\144\020\317\234\274\073\102\034\051\134\125\220\366\172\042
\116\126\257\067\150\277\164\072\154\074\306\230\314\140\041\277
\342\010\047\344\331\053\274\343\204\225\327\324\044\140\374\176
\055\057\235\041\353\235\221\306\273\244\321\353\311\022\255\243
\350\310\265\177\125\113\353\231\002\124\304\201\034\014\256\071
\344\152\172\005\330\116\160\240\372\003\167\263\256\330\270\024
\222\373\101\167\023\065\152\267\242\312\210\113\255\055\121\274
\166\232\154\273\100\275\347\044\114\042\246\346\375\116\010\173
\235\013\020\326\022\322\246\306\241\144\062\364\001\163\226\201

\342\110\260\301\050\143\075\073\347\147\254\156\305\024\365\027
\023\242\234\037\053\127\360\025\047\165\135\335\261\064\326\223
\021\002\003\001\000\001\243\201\376\060\201\373\060\021\006\011
\140\206\110\001\206\370\102\001\001\004\004\003\002\000\007\060
\077\006\003\125\035\037\004\070\060\066\060\064\240\062\240\060
\244\056\060\054\061\013\060\011\006\003\125\004\006\023\002\123
\111\061\016\060\014\006\003\125\004\012\023\005\101\103\116\114
\102\061\015\060\013\006\003\125\004\003\023\004\103\122\114\061
\060\053\006\003\125\035\020\004\044\060\042\200\017\062\060\060
\063\060\065\061\065\061\061\065\062\064\065\132\201\017\062\060
\062\063\060\065\061\065\061\062\062\062\064\065\132\060\013\006
\003\125\035\017\004\004\003\002\001\006\060\037\006\003\125\035
\043\004\030\060\026\200\024\314\273\273\206\326\157\370\276\264
\107\042\167\263\266\255\327\001\131\226\115\060\035\006\003\125
\035\016\004\026\004\024\314\273\273\206\326\157\370\276\264\107
\042\167\263\266\255\327\001\131\226\115\060\014\006\003\125\035
\023\004\005\060\003\001\001\377\060\035\006\011\052\206\110\206
\366\175\007\101\000\004\020\060\016\033\010\126\066\056\060\072
\064\056\060\003\002\004\220\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\021\147\313\313\232
\153\040\041\335\157\151\203\325\077\015\272\223\025\227\116\160
\166\046\134\350\236\044\347\067\376\074\120\364\324\371\052\057
\014\023\241\135\004\274\320\260\351\302\003\027\205\005\141\075
\300\247\252\166\114\303\270\072\203\251\206\317\003\371\167\016
\053\262\075\166\033\145\321\152\161\140\161\333\273\270\172\216
\362\371\041\203\370\127\114\250\307\335\145\306\356\357\157\263
\266\231\273\264\303\320\253\137\262\240\176\335\164\041\054\303
\132\353\215\241\312\330\360\310\027\355\166\272\204\143\156\133
\271\265\312\155\327\374\064\071\200\057\272\117\337\215\330\374
\030\304\074\212\065\057\167\202\226\255\040\222\030\262\347\066
\364\256\062\164\270\107\321\330\017\330\054\313\152\302\000\165
\371\054\370\102\016\313\376\163\223\251\217\341\307\256\041\067
\363\312\271\014\264\347\211\176\161\034\126\064\040\303\361\064
\271\125\113\323\123\122\361\007\055\053\076\133\031\100\237\020
\355\323\051\063\305\257\017\020\126\207\332\073\310\261\355\070
\331\031\373\113\360\120\055\244\315\324\130

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "ACNLB"
Issuer: O=ACNLB,C=SI
Serial Number:3e:c3:86:8e
Subject: O=ACNLB,C=SI
Not Valid Before: Thu May 15 11:52:45 2003
Not Valid After: Mon May 15 12:22:45 2023

```

# Fingerprint (MD5): ba:92:64:42:16:1f:cb:a1:16:48:1a:f6:40:5c:59:87
# Fingerprint (SHA1): 04:56:f2:3d:1e:9c:43:ae:cb:0d:80:7f:1c:06:47:55:1a:05:f4:56
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACNLB"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\004\126\362\075\036\234\103\256\313\015\200\177\034\006\107\125
\032\005\364\126
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\272\222\144\102\026\037\313\241\026\110\032\366\100\134\131\207
END
CKA_ISSUER MULTILINE_OCTAL
\060\035\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\016\060\014\006\003\125\004\012\023\005\101\103\116\114\102
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\076\303\206\216
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "state-institutions"
# Issuer: OU=sigen-ca,O=state-institutions,C=si
# Serial Number:3b:3c:f9:c9
# Subject: OU=sigen-ca,O=state-institutions,C=si
# Not Valid Before: Fri Jun 29 21:27:46 2001
# Not Valid After: Tue Jun 29 21:57:46 2021
# Fingerprint (MD5): 49:ef:a6:a1:f0:de:8e:a7:6a:ee:5b:7d:1e:5f:c4:46
# Fingerprint (SHA1): 3e:42:a1:87:06:bd:0c:9c:cf:59:47:50:d2:e4:d6:ab:00:48:fd:c4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "state-institutions"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\163\151\061
\033\060\031\006\003\125\004\012\023\022\163\164\141\164\145\055
\151\156\163\164\151\164\165\164\151\157\156\163\061\021\060\017
\006\003\125\004\013\023\010\163\151\147\145\156\055\143\141
END
CKA_ID UTF8 "0"

```

CKA_ISSUER MULTILINE_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\163\151\061
\033\060\031\006\003\125\004\012\023\022\163\164\141\164\145\055
\151\156\163\164\151\164\165\164\151\157\156\163\061\021\060\017
\006\003\125\004\013\023\010\163\151\147\145\156\055\143\141

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\073\074\371\311

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\031\060\202\003\001\240\003\002\001\002\002\004\073
\074\371\311\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\075\061\013\060\011\006\003\125\004\006\023\002\163
\151\061\033\060\031\006\003\125\004\012\023\022\163\164\141\164
\145\055\151\156\163\164\151\164\165\164\151\157\156\163\061\021
\060\017\006\003\125\004\013\023\010\163\151\147\145\156\055\143
\141\060\036\027\015\060\061\060\066\062\071\062\061\062\067\064
\066\132\027\015\062\061\060\066\062\071\062\061\065\067\064\066
\132\060\075\061\013\060\011\006\003\125\004\006\023\002\163\151
\061\033\060\031\006\003\125\004\012\023\022\163\164\141\164\145
\055\151\156\163\164\151\164\165\164\151\157\156\163\061\021\060
\017\006\003\125\004\013\023\010\163\151\147\145\156\055\143\141
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\260\345\145\262\300\254\144\226\362\210\033\263\355\236\344
\002\306\117\053\210\316\056\212\121\200\165\257\020\133\362\313
\070\146\233\242\016\155\064\107\226\245\222\021\257\366\065\107
\242\167\042\014\316\026\210\142\252\323\111\156\030\274\056\104
\330\276\306\236\302\032\031\254\101\216\374\060\007\002\362\306
\152\324\133\043\000\357\101\064\330\244\163\143\337\042\222\063
\204\001\245\215\363\203\134\372\270\324\172\065\337\354\370\155
\017\340\114\355\255\234\072\175\206\326\245\010\224\276\175\172
\021\037\376\205\077\124\132\210\143\207\234\245\261\247\116\315
\267\104\163\257\317\212\111\153\037\343\315\327\111\115\132\053
\027\346\134\166\263\273\162\271\157\047\322\233\211\025\210\337
\020\137\166\041\001\152\307\025\061\012\321\234\130\370\050\026
\005\155\331\116\331\241\327\007\040\313\113\046\211\115\222\262
\247\272\226\350\343\130\217\042\234\001\226\132\304\367\061\115
\013\111\265\341\170\141\342\124\030\006\273\236\124\064\176\014
\076\353\356\265\200\037\335\026\204\035\150\070\146\147\163\370
\221\002\003\001\000\001\243\202\001\037\060\202\001\033\060\021
\006\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000
\007\060\137\006\003\125\035\037\004\130\060\126\060\124\240\122
\240\120\244\116\060\114\061\013\060\011\006\003\125\004\006\023
\002\163\151\061\033\060\031\006\003\125\004\012\023\022\163\164
\141\164\145\055\151\156\163\164\151\164\165\164\151\157\156\163
\061\021\060\017\006\003\125\004\013\023\010\163\151\147\145\156
\055\143\141\061\015\060\013\006\003\125\004\003\023\004\103\122

\114\061\060\053\006\003\125\035\020\004\044\060\042\200\017\062
\060\060\061\060\066\062\071\062\061\062\067\064\066\132\201\017
\062\060\062\061\060\066\062\071\062\061\065\067\064\066\132\060
\013\006\003\125\035\017\004\004\003\002\001\006\060\037\006\003
\125\035\043\004\030\060\026\200\024\161\173\212\006\037\061\005
\125\253\140\022\167\107\040\036\003\210\030\354\211\060\035\006
\003\125\035\016\004\026\004\024\161\173\212\006\037\061\005\125
\253\140\022\167\107\040\036\003\210\030\354\211\060\014\006\003
\125\035\023\004\005\060\003\001\001\377\060\035\006\011\052\206
\110\206\366\175\007\101\000\004\020\060\016\033\010\126\065\056
\060\072\064\056\060\003\002\004\220\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\001\001\000\000\272\143
\064\363\030\030\356\256\176\215\222\307\065\365\302\023\324\326
\000\252\041\062\026\326\320\133\372\051\260\215\372\027\167\222
\371\245\266\366\371\207\077\006\017\040\356\142\075\064\367\251
\057\307\251\073\320\047\210\114\254\335\311\251\345\132\130\205
\327\022\065\075\334\260\202\133\162\364\273\163\267\373\376\070
\041\230\004\200\262\210\142\017\036\254\072\026\251\346\263\012
\366\025\020\105\003\243\227\342\315\254\020\334\371\000\036\277
\163\154\103\354\167\042\026\006\057\226\203\211\173\260\270\123
\104\101\010\334\200\037\005\333\031\011\166\207\276\065\235\116
\041\113\264\223\301\150\072\235\137\066\376\241\256\060\054\113
\336\170\044\072\130\326\026\103\357\235\231\070\213\052\230\376
\060\321\302\352\326\257\045\325\245\166\013\271\357\100\071\056
\366\353\337\062\136\035\175\207\265\104\314\002\071\322\046\225
\162\330\157\205\103\250\217\016\243\106\316\327\316\350\271\126
\251\370\211\027\022\037\103\111\006\172\062\347\077\276\157\171
\276\326\063\327\114\074\050\374\022\361\166\166\030

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "state-institutions"
Issuer: OU=sigen-ca,O=state-institutions,C=si
Serial Number:3b:3c:f9:c9
Subject: OU=sigen-ca,O=state-institutions,C=si
Not Valid Before: Fri Jun 29 21:27:46 2001
Not Valid After: Tue Jun 29 21:57:46 2021
Fingerprint (MD5): 49:ef:a6:a1:f0:de:8e:a7:6a:ee:5b:7d:1e:5f:c4:46
Fingerprint (SHA1): 3e:42:a1:87:06:bd:0c:9c:cf:59:47:50:d2:e4:d6:ab:00:48:fd:c4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "state-institutions"
CKA_CERT_SHA1_HASH MULTILINE OCTAL

\076\102\241\207\006\275\014\234\317\131\107\120\322\344\326\253
\000\110\375\304

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\111\357\246\241\360\336\216\247\152\356\133\175\036\137\304\106
END

CKA_ISSUER MULTILINE_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\163\151\061
\033\060\031\006\003\125\004\012\023\022\163\164\141\164\145\055
\151\156\163\164\151\164\165\164\151\157\156\163\061\021\060\017
\006\003\125\004\013\023\010\163\151\147\145\156\055\143\141

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\073\074\371\311

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "SECOM Trust Systems CO.,LTD."

Issuer: OU=Security Communication EV RootCA1,O=SECOM Trust Systems CO.,LTD.,C=JP

Serial Number: 0 (0x0)

Subject: OU=Security Communication EV RootCA1,O=SECOM Trust Systems CO.,LTD.,C=JP

Not Valid Before: Wed Jun 06 02:12:32 2007

Not Valid After: Sat Jun 06 02:12:32 2037

Fingerprint (MD5): 22:2d:a6:01:ea:7c:0a:f7:f0:6c:56:43:3f:77:76:d3

Fingerprint (SHA1): fe:b8:c4:32:dc:f9:76:9a:ce:ae:3d:d8:90:8f:fd:28:86:65:64:7d

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SECOM Trust Systems CO.,LTD."

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\140\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\052\060\050\006\003\125\004\013\023
\041\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\126\040\122\157\157\164\103
\101\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\140\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040

\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\052\060\050\006\003\125\004\013\023
\041\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\126\040\122\157\157\164\103
\101\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\175\060\202\002\145\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\140\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045
\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124
\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056
\054\114\124\104\056\061\052\060\050\006\003\125\004\013\023\041
\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151
\143\141\164\151\157\156\040\105\126\040\122\157\157\164\103\101
\061\060\036\027\015\060\067\060\066\060\066\060\062\061\062\063
\062\132\027\015\063\067\060\066\060\066\060\062\061\062\063\062
\132\060\140\061\013\060\011\006\003\125\004\006\023\002\112\120
\061\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115
\040\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103
\117\056\054\114\124\104\056\061\052\060\050\006\003\125\004\013
\023\041\123\145\143\165\162\151\164\171\040\103\157\155\155\165
\156\151\143\141\164\151\157\156\040\105\126\040\122\157\157\164
\103\101\061\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\274\177\354\127\233\044\340\376\234\272\102\171
\251\210\212\372\200\340\365\007\051\103\352\216\012\064\066\215
\034\372\247\265\071\170\377\227\165\367\057\344\252\153\004\204
\104\312\246\342\150\216\375\125\120\142\017\244\161\016\316\007
\070\055\102\205\120\255\074\226\157\213\325\242\016\317\336\111
\211\075\326\144\056\070\345\036\154\265\127\212\236\357\110\016
\315\172\151\026\207\104\265\220\344\006\235\256\241\004\227\130
\171\357\040\112\202\153\214\042\277\354\037\017\351\204\161\355
\361\016\344\270\030\023\314\126\066\135\321\232\036\121\153\071
\156\140\166\210\064\013\363\263\321\260\235\312\141\342\144\035
\301\106\007\270\143\335\036\063\145\263\216\011\125\122\075\265
\275\377\007\353\255\141\125\030\054\251\151\230\112\252\100\305
\063\024\145\164\000\371\221\336\257\003\110\305\100\124\334\017
\204\220\150\040\305\222\226\334\056\345\002\105\252\300\137\124
\370\155\352\111\317\135\154\113\257\357\232\302\126\134\306\065
\126\102\152\060\137\302\253\366\342\075\077\263\311\021\217\061
\114\327\237\111\002\003\001\000\001\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\065\112\365\115\257\077\327\202
\070\254\253\161\145\027\165\214\235\125\223\346\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003

\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\250\207\351\354\370\100\147\135\303\301\146\307\100\113\227
\374\207\023\220\132\304\357\240\312\137\213\267\247\267\361\326
\265\144\267\212\263\270\033\314\332\373\254\146\210\101\316\350
\374\344\333\036\210\246\355\047\120\033\002\060\044\106\171\376
\004\207\160\227\100\163\321\300\301\127\031\232\151\245\047\231
\253\235\142\204\366\121\301\054\311\043\025\330\050\267\253\045
\023\265\106\341\206\002\377\046\214\304\210\222\035\126\376\031
\147\362\125\344\200\243\153\234\253\167\341\121\161\015\040\333
\020\232\333\275\166\171\007\167\231\050\255\232\136\332\261\117
\104\054\065\216\245\226\307\375\203\360\130\306\171\326\230\174
\250\215\376\206\076\007\026\222\341\173\347\035\354\063\166\176
\102\056\112\205\371\221\211\150\204\003\201\245\233\232\276\343
\067\305\124\253\126\073\030\055\101\244\014\370\102\333\231\240
\340\162\157\273\135\341\026\117\123\012\144\371\116\364\277\116
\124\275\170\154\210\352\277\234\023\044\302\160\151\242\177\017
\310\074\255\010\311\260\230\100\243\052\347\210\203\355\167\217
\164

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "SECOM Trust Systems CO.,LTD."
Issuer: OU=Security Communication EV RootCA1,O=SECOM Trust Systems CO.,LTD.,C=JP
Serial Number: 0 (0x0)
Subject: OU=Security Communication EV RootCA1,O=SECOM Trust Systems CO.,LTD.,C=JP
Not Valid Before: Wed Jun 06 02:12:32 2007
Not Valid After: Sat Jun 06 02:12:32 2037
Fingerprint (MD5): 22:2d:a6:01:ea:7c:0a:f7:f0:6c:56:43:3f:77:76:d3
Fingerprint (SHA1): fe:b8:c4:32:dc:f9:76:9a:ce:ae:3d:d8:90:8f:fd:28:86:65:64:7d

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SECOM Trust Systems CO.,LTD."
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\376\270\304\062\334\371\166\232\316\256\075\330\220\217\375\050
\206\145\144\175

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\042\055\246\001\352\174\012\367\360\154\126\103\077\167\166\323
END

CKA_ISSUER MULTILINE_OCTAL
\060\140\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040


```
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\052\060\050\006\003\125\004\013\023
\041\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\126\040\122\157\157\164\103
\101\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\000
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Certificate "D-TRUST Qualified Root CA 1 2007:PN"

Issuer: CN=D-TRUST Qualified Root CA 1 2007:PN,O=D-Trust GmbH,C=DE

Serial Number: 206554 (0x326da)

Subject: CN=D-TRUST Qualified Root CA 1 2007:PN,O=D-Trust GmbH,C=DE

Not Valid Before: Fri Jun 08 11:47:46 2007

Not Valid After: Fri Jun 08 11:47:46 2012

Fingerprint (MD5): b7:b0:d1:ec:1a:03:3e:ce:a9:15:11:cc:b1:6f:b2:ae

Fingerprint (SHA1): e3:d7:36:06:99:6c:df:ef:61:fa:04:c3:35:e9:8e:a9:61:04:26:4a

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "D-TRUST Qualified Root CA 1 2007:PN"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\054\060\052\006\003\125\004\003\014
\043\104\055\124\122\125\123\124\040\121\165\141\154\151\146\151
\145\144\040\122\157\157\164\040\103\101\040\061\040\062\060\060
\067\072\120\116
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\054\060\052\006\003\125\004\003\014
\043\104\055\124\122\125\123\124\040\121\165\141\154\151\146\151
\145\144\040\122\157\157\164\040\103\101\040\061\040\062\060\060
\067\072\120\116
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\003\003\046\332
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\347\060\202\003\317\240\003\002\001\002\002\003\003
\046\332\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\122\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\054\060\052\006\003\125\004\003
\014\043\104\055\124\122\125\123\124\040\121\165\141\154\151\146
\151\145\144\040\122\157\157\164\040\103\101\040\061\040\062\060
\060\067\072\120\116\060\036\027\015\060\067\060\066\060\070\061
\061\064\067\064\066\132\027\015\061\062\060\066\060\070\061\061
\064\067\064\066\132\060\122\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\025\060\023\006\003\125\004\012\014\014\104
\055\124\162\165\163\164\040\107\155\142\110\061\054\060\052\006
\003\125\004\003\014\043\104\055\124\122\125\123\124\040\121\165
\141\154\151\146\151\145\144\040\122\157\157\164\040\103\101\040
\061\040\062\060\060\067\072\120\116\060\202\001\044\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\021
\000\060\202\001\014\002\202\001\001\000\211\331\377\323\377\067
\374\127\210\025\140\301\275\057\150\020\200\267\055\131\245\242
\112\307\012\326\057\216\100\067\173\052\062\252\306\266\023\015
\040\347\117\376\077\016\156\255\371\124\317\153\005\013\376\151
\362\372\274\201\077\336\355\263\063\273\071\054\164\304\064\366
\264\372\303\323\322\130\312\171\160\217\143\343\225\064\370\071
\127\237\001\164\213\227\234\255\352\034\273\145\375\112\346\044
\070\111\076\236\262\306\120\343\134\326\073\351\207\071\167\331
\244\036\007\050\240\135\222\207\053\114\213\165\305\100\003\275
\077\100\015\224\074\073\024\247\340\256\162\275\053\353\322\361
\260\336\010\342\321\244\021\326\070\302\116\362\022\167\037\317
\110\106\013\370\027\063\233\203\037\010\270\005\347\106\123\113
\210\173\207\374\322\243\075\105\162\351\016\031\264\005\212\152
\037\067\014\017\014\314\310\250\271\133\002\272\363\270\243\015
\017\303\024\353\153\173\067\201\352\236\130\321\260\267\107\113
\005\061\004\351\114\012\241\300\222\024\275\043\067\322\041\366
\344\300\354\116\231\177\215\215\350\121\002\005\000\351\314\105
\051\243\202\001\302\060\202\001\276\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\054\114\366\232\052\237\050\202\001\301\231
\006\021\257\263\113\174\267\232\376\060\070\006\010\053\006\001
\005\005\007\001\001\004\054\060\052\060\050\006\010\053\006\001
\005\005\007\060\001\206\034\150\164\164\160\072\057\057\161\165
\141\154\056\157\143\163\160\056\144\055\164\162\165\163\164\056
\156\145\164\060\027\006\003\125\035\040\004\020\060\016\060\014
\006\012\053\006\001\004\001\245\064\002\037\001\060\063\006\003
\125\035\021\004\054\060\052\201\020\151\156\146\157\100\144\055
\164\162\165\163\164\056\156\145\164\206\026\150\164\164\160\072
\057\057\167\167\167\056\144\055\164\162\165\163\164\056\156\145
\164\060\030\006\010\053\006\001\005\005\007\001\003\004\014\060

\012\060\010\006\006\004\000\216\106\001\001\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\201\331\006\003
\125\035\037\004\201\321\060\201\316\060\201\313\240\201\310\240
\201\305\206\177\154\144\141\160\072\057\057\144\151\162\145\143
\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164
\057\103\116\075\104\055\124\122\125\123\124\045\062\060\121\165
\141\154\151\146\151\145\144\045\062\060\122\157\157\164\045\062
\060\103\101\045\062\060\061\045\062\060\062\060\060\067\045\063
\101\120\116\054\117\075\104\055\124\162\165\163\164\045\062\060
\107\155\142\110\054\103\075\104\105\077\143\145\162\164\151\146
\151\143\141\164\145\162\145\166\157\143\141\164\151\157\156\154
\151\163\164\206\102\150\164\164\160\072\057\057\167\167\167\056
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057
\144\055\164\162\165\163\164\137\161\165\141\154\151\146\151\145
\144\137\162\157\157\164\137\143\141\137\061\137\062\060\060\067
\137\160\156\056\143\162\154\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\151\251\361\204\310
\266\006\235\032\027\007\145\363\252\107\234\367\162\252\075\257
\046\146\345\024\041\016\316\033\211\076\212\124\310\377\066\311
\035\054\212\021\345\315\307\162\244\204\133\036\133\303\065\065
\261\261\155\113\252\010\324\331\324\342\375\007\113\344\126\133
\366\312\160\310\165\272\234\176\104\016\005\212\375\326\033\164
\323\273\322\345\132\344\332\366\017\262\037\215\124\314\025\145
\376\166\032\054\020\271\306\324\044\046\073\014\255\150\111\157
\143\254\254\130\136\326\027\271\006\150\014\264\060\314\341\267
\346\077\300\356\322\017\115\240\330\242\137\174\200\310\340\027
\212\124\367\105\010\162\167\112\113\263\051\240\223\240\341\312
\103\301\163\055\273\332\264\222\361\134\346\020\046\325\210\361
\206\347\076\033\142\047\046\314\273\316\314\060\336\317\330\272
\377\214\202\067\036\154\105\204\331\043\265\206\226\227\016\307
\252\042\215\117\242\373\051\003\260\032\334\020\124\143\275\234
\326\236\234\344\037\062\227\220\320\327\232\273\171\243\043\217
\264\165\256\144\310\167\227\372\054\043\215

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "D-TRUST Qualified Root CA 1 2007:PN"
Issuer: CN=D-TRUST Qualified Root CA 1 2007:PN,O=D-Trust GmbH,C=DE
Serial Number: 206554 (0x326da)
Subject: CN=D-TRUST Qualified Root CA 1 2007:PN,O=D-Trust GmbH,C=DE
Not Valid Before: Fri Jun 08 11:47:46 2007
Not Valid After: Fri Jun 08 11:47:46 2012
Fingerprint (MD5): b7:b0:d1:ec:1a:03:3e:ce:a9:15:11:cc:b1:6f:b2:ae
Fingerprint (SHA1): e3:d7:36:06:99:6c:df:ef:61:fa:04:c3:35:e9:8e:a9:61:04:26:4a
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Qualified Root CA 1 2007:PN"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\343\327\066\006\231\154\337\357\141\372\004\303\065\351\216\251
\141\004\046\112
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\260\321\354\032\003\076\316\251\025\021\314\261\157\262\256
END
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\054\060\052\006\003\125\004\003\014
\043\104\055\124\122\125\123\124\040\121\165\141\154\151\146\151
\145\144\040\122\157\157\164\040\103\101\040\061\040\062\060\060
\067\072\120\116
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\003\046\332
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "D-TRUST Root Class 2 CA 2007"
# Issuer: CN=D-TRUST Root Class 2 CA 2007,O=D-Trust GmbH,C=DE
# Serial Number: 200341 (0x30e95)
# Subject: CN=D-TRUST Root Class 2 CA 2007,O=D-Trust GmbH,C=DE
# Not Valid Before: Wed May 16 05:20:47 2007
# Not Valid After: Mon May 16 05:20:47 2022
# Fingerprint (MD5): 2c:c2:b0:d5:d6:22:c5:2e:90:1e:f4:63:3f:0f:bb:32
# Fingerprint (SHA1): 4a:05:8f:df:d7:61:db:21:b0:c2:ee:48:57:9b:e2:7f:42:a4:da:1c
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 2 CA 2007"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\113\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\045\060\043\006\003\125\004\003\014
\034\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\062\040\103\101\040\062\060\060\067
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\113\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\045\060\043\006\003\125\004\003\014
\034\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\062\040\103\101\040\062\060\060\067

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\003\016\225

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\225\060\202\003\175\240\003\002\001\002\002\003\003
\016\225\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\113\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\045\060\043\006\003\125\004\003
\014\034\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\062\040\103\101\040\062\060\060\067\060\036
\027\015\060\067\060\065\061\066\060\065\062\060\064\067\132\027
\015\062\062\060\065\061\066\060\065\062\060\064\067\132\060\113
\061\013\060\011\006\003\125\004\006\023\002\104\105\061\025\060
\023\006\003\125\004\012\014\014\104\055\124\162\165\163\164\040
\107\155\142\110\061\045\060\043\006\003\125\004\003\014\034\104
\055\124\122\125\123\124\040\122\157\157\164\040\103\154\141\163
\163\040\062\040\103\101\040\062\060\060\067\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\263\315\344\204
\025\111\370\344\326\316\204\263\232\255\366\060\165\220\015\204
\353\356\332\263\172\165\052\342\073\244\352\060\054\353\075\167
\215\201\204\150\112\246\244\150\334\220\163\141\064\145\007\035
\043\245\014\346\277\323\335\063\135\332\062\355\246\015\123\246
\164\152\134\031\131\246\114\265\057\171\001\136\236\177\112\372
\272\311\047\176\324\377\315\000\131\040\353\006\314\263\104\317
\326\205\351\355\073\014\154\301\352\214\134\340\271\251\002\360
\023\000\047\223\234\120\376\315\023\117\155\033\152\252\335\017
\377\106\045\031\334\341\136\120\254\032\177\016\313\332\356\040
\374\303\364\234\112\170\065\156\356\061\307\105\026\162\205\322
\202\040\333\122\105\174\074\277\131\127\371\207\164\126\230\133
\035\120\216\314\057\263\263\077\213\356\354\067\111\001\210\357
\330\041\014\223\323\366\156\211\117\272\027\313\104\201\267\173
\247\043\273\164\012\323\330\352\067\105\047\377\334\360\236\103
\343\272\173\212\033\232\175\351\206\240\376\057\321\326\366\207
\127\252\362\051\224\207\163\025\372\152\116\255\002\003\001\000
\001\243\202\001\200\060\202\001\174\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\221\060\253\366\363\306\104\267\353\335\050

\274\017\024\237\122\135\142\177\002\060\071\006\010\053\006\001
\005\005\007\001\001\004\055\060\053\060\051\006\010\053\006\001
\005\005\007\060\001\206\035\150\164\164\160\072\057\057\165\163
\145\162\163\056\157\143\163\160\056\144\055\164\162\165\163\164
\056\156\145\164\060\063\006\003\125\035\021\004\054\060\052\201
\020\151\156\146\157\100\144\055\164\162\165\163\164\056\156\145
\164\206\026\150\164\164\160\072\057\057\167\167\167\056\144\055
\164\162\165\163\164\056\156\145\164\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\201\311\006\003\125\035
\037\004\201\301\060\201\276\060\201\273\240\201\270\240\201\265
\206\166\154\144\141\160\072\057\057\144\151\162\145\143\164\157
\162\171\056\144\055\164\162\165\163\164\056\156\145\164\057\103
\116\075\104\055\124\122\125\123\124\045\062\060\122\157\157\164
\045\062\060\103\154\141\163\163\045\062\060\062\045\062\060\103
\101\045\062\060\062\060\060\067\054\117\075\104\055\124\162\165
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141
\164\151\157\156\154\151\163\164\206\073\150\164\164\160\072\057
\057\167\167\167\056\144\055\164\162\165\163\164\056\156\145\164
\057\143\162\154\057\144\055\164\162\165\163\164\137\162\157\157
\164\137\143\154\141\163\163\137\062\137\143\141\137\062\060\060
\067\056\143\162\154\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\133\213\362\103\343\005\056
\144\037\325\222\251\121\153\144\374\016\106\314\007\231\342\267
\374\223\051\040\334\374\057\140\344\254\175\045\062\355\020\341
\017\157\333\362\274\116\356\101\311\263\324\007\110\172\012\257
\244\266\377\121\060\355\313\322\234\353\177\120\356\113\342\142
\247\064\302\040\366\363\366\365\066\300\313\221\020\353\355\056
\215\364\007\032\041\014\065\167\364\174\055\215\111\245\327\013
\104\150\325\322\342\345\014\170\070\023\312\261\114\122\252\052
\345\325\257\134\005\071\235\055\255\276\043\126\325\057\125\363
\336\235\253\202\066\240\115\267\131\221\107\356\336\203\245\352
\073\136\047\005\200\013\155\054\120\364\001\067\325\243\167\027
\354\376\335\204\364\305\370\120\222\320\113\306\056\243\213\100
\344\303\067\243\167\275\316\054\125\342\254\337\135\144\000\272
\276\247\152\061\006\374\231\153\120\025\045\235\251\166\232\247
\115\052\232\002\143\353\160\347\376\021\046\320\030\305\246\037
\012\103\223\362\030\331\365\071\171\270\007\135\214\037\346\077
\363\305\313\041\146\061\173\173\317

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "D-TRUST Root Class 2 CA 2007"
Issuer: CN=D-TRUST Root Class 2 CA 2007,O=D-Trust GmbH,C=DE
Serial Number: 200341 (0x30e95)

```
# Subject: CN=D-TRUST Root Class 2 CA 2007,O=D-Trust GmbH,C=DE
# Not Valid Before: Wed May 16 05:20:47 2007
# Not Valid After: Mon May 16 05:20:47 2022
# Fingerprint (MD5): 2c:c2:b0:d5:d6:22:c5:2e:90:1e:f4:63:3f:0f:bb:32
# Fingerprint (SHA1): 4a:05:8f:df:d7:61:db:21:b0:c2:ee:48:57:9b:e2:7f:42:a4:da:1c
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 2 CA 2007"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\112\005\217\337\327\141\333\041\260\302\356\110\127\233\342\177
\102\244\332\034
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\054\302\260\325\326\042\305\056\220\036\364\143\077\017\273\062
END
CKA_ISSUER MULTILINE_OCTAL
\060\113\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\045\060\043\006\003\125\004\003\014
\034\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\062\040\103\101\040\062\060\060\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\003\016\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "D-TRUST Root Class 3 CA 2007"
# Issuer: CN=D-TRUST Root Class 3 CA 2007,O=D-Trust GmbH,C=DE
# Serial Number: 200342 (0x30e96)
# Subject: CN=D-TRUST Root Class 3 CA 2007,O=D-Trust GmbH,C=DE
# Not Valid Before: Wed May 16 05:20:47 2007
# Not Valid After: Mon May 16 05:20:47 2022
# Fingerprint (MD5): 1e:24:0e:a0:f8:76:d7:85:a3:f5:f8:a1:49:3d:2e:ba
# Fingerprint (SHA1): fd:1e:d1:e2:02:1b:0b:9f:73:e8:eb:75:ce:23:43:6b:bc:c7:46:eb
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2007"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
```

\060\113\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\045\060\043\006\003\125\004\003\014
\034\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\060\060\067

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\113\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\045\060\043\006\003\125\004\003\014
\034\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\060\060\067

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\003\016\226

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\225\060\202\003\175\240\003\002\001\002\002\003\003
\016\226\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\113\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\045\060\043\006\003\125\004\003
\014\034\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\060\060\067\060\036
\027\015\060\067\060\065\061\066\060\065\062\060\064\067\132\027
\015\062\062\060\065\061\066\060\065\062\060\064\067\132\060\113
\061\013\060\011\006\003\125\004\006\023\002\104\105\061\025\060
\023\006\003\125\004\012\014\014\104\055\124\162\165\163\164\040
\107\155\142\110\061\045\060\043\006\003\125\004\003\014\034\104
\055\124\122\125\123\124\040\122\157\157\164\040\103\154\141\163
\163\040\063\040\103\101\040\062\060\060\067\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\272\215\315\065
\123\062\356\246\275\110\220\232\362\352\350\130\017\107\146\250
\314\156\011\022\344\241\313\133\337\223\270\366\351\071\071\370
\306\330\351\317\032\206\274\246\256\017\214\257\010\105\343\362
\216\053\302\134\131\053\372\214\066\263\160\035\310\120\074\245
\126\276\352\256\351\107\366\347\111\017\257\177\224\046\324\002
\032\007\270\272\071\125\316\237\273\042\071\051\330\065\305\231
\003\041\330\247\070\143\361\344\064\337\107\256\237\067\361\154
\240\231\302\042\260\155\162\334\042\311\061\071\350\126\327\240
\217\072\041\133\206\232\117\050\371\034\166\367\314\117\077\371
\116\167\213\052\234\212\252\171\101\212\325\034\331\071\157\230
\311\136\105\227\035\011\224\031\331\120\121\205\162\163\277\254
\113\235\164\064\161\207\041\026\017\176\356\322\111\176\312\111
\323\371\222\052\107\110\117\017\135\132\241\313\325\050\354\360
\222\305\162\103\106\353\263\003\246\363\127\045\112\012\141\204

\012\046\326\357\246\270\330\024\215\170\271\323\267\045\321\116
\343\132\026\252\354\237\007\356\043\020\175\265\002\003\001\000
\001\243\202\001\200\060\202\001\174\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\202\057\066\043\111\170\040\102\327\260\122
\130\240\326\164\124\025\170\277\252\060\071\006\010\053\006\001
\005\005\007\001\001\004\055\060\053\060\051\006\010\053\006\001
\005\005\007\060\001\206\035\150\164\164\160\072\057\057\165\163
\145\162\163\056\157\143\163\160\056\144\055\164\162\165\163\164
\056\156\145\164\060\063\006\003\125\035\021\004\054\060\052\201
\020\151\156\146\157\100\144\055\164\162\165\163\164\056\156\145
\164\206\026\150\164\164\160\072\057\057\167\167\167\056\144\055
\164\162\165\163\164\056\156\145\164\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\201\311\006\003\125\035
\037\004\201\301\060\201\276\060\201\273\240\201\270\240\201\265
\206\166\154\144\141\160\072\057\057\144\151\162\145\143\164\157
\162\171\056\144\055\164\162\165\163\164\056\156\145\164\057\103
\116\075\104\055\124\122\125\123\124\045\062\060\122\157\157\164
\045\062\060\103\154\141\163\163\045\062\060\063\045\062\060\103
\101\045\062\060\062\060\060\067\054\117\075\104\055\124\162\165
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141
\164\151\157\156\154\151\163\164\206\073\150\164\164\160\072\057
\057\167\167\167\056\144\055\164\162\165\163\164\056\156\145\164
\057\143\162\154\057\144\055\164\162\165\163\164\137\162\157\157
\164\137\143\154\141\163\163\137\063\137\143\141\137\062\060\060
\067\056\143\162\154\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\125\016\150\012\215\334\331
\250\206\140\002\151\171\215\175\351\220\302\331\035\035\265\016
\273\163\222\144\143\024\106\114\320\152\273\243\165\135\206\031
\070\141\206\035\270\212\042\064\243\264\065\025\263\251\140\114
\124\027\237\261\336\133\062\342\176\153\336\117\042\360\055\035
\042\004\236\266\112\117\253\054\126\235\343\335\354\261\046\116
\052\327\125\302\076\275\202\327\276\125\273\105\310\051\133\206
\074\235\077\150\104\104\104\066\015\150\277\256\001\242\031\265
\114\227\377\362\226\074\147\262\102\336\017\341\240\227\116\312
\347\064\145\256\225\202\141\147\046\163\055\335\173\347\225\113
\016\041\252\222\256\114\374\306\263\251\345\231\203\062\071\360
\140\302\114\121\250\301\107\024\065\211\245\115\066\017\237\033
\002\161\101\215\102\112\044\370\257\156\235\015\160\206\215\252
\142\023\036\003\213\044\371\303\124\223\111\205\033\165\166\142
\177\042\377\111\275\166\163\014\077\230\255\052\262\372\347\305
\337\164\365\377\151\061\125\012\072\300\031\142\065\304\111\271
\053\031\035\364\160\231\356\330\334

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
# Trust for "D-TRUST Root Class 3 CA 2007"
# Issuer: CN=D-TRUST Root Class 3 CA 2007,O=D-Trust GmbH,C=DE
# Serial Number: 200342 (0x30e96)
# Subject: CN=D-TRUST Root Class 3 CA 2007,O=D-Trust GmbH,C=DE
# Not Valid Before: Wed May 16 05:20:47 2007
# Not Valid After: Mon May 16 05:20:47 2022
# Fingerprint (MD5): 1e:24:0e:a0:f8:76:d7:85:a3:f5:f8:a1:49:3d:2e:ba
# Fingerprint (SHA1): fd:1e:d1:e2:02:1b:0b:9f:73:e8:eb:75:ce:23:43:6b:bc:c7:46:eb
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2007"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\375\036\321\342\002\033\013\237\163\350\353\165\316\043\103\153
\274\307\106\353
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\036\044\016\240\370\166\327\205\243\365\370\241\111\075\056\272
END
CKA_ISSUER MULTILINE_OCTAL
\060\113\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\045\060\043\006\003\125\004\003\014
\034\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\060\060\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\003\016\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "SSC Root CA A"
# Issuer: CN=SSC Root CA A,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT
# Serial Number:66:07:a3:d2:9d:29:56:18:0e:e1:5e:59:98:b1:84:55
# Subject: CN=SSC Root CA A,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT
# Not Valid Before: Wed Dec 27 12:18:52 2006
# Not Valid After: Mon Dec 28 12:05:04 2026
# Fingerprint (MD5): 46:8c:21:0e:ab:92:21:46:59:db:a6:db:00:61:de:26
# Fingerprint (SHA1): 5a:5a:4d:af:78:61:26:7c:4b:1f:1e:67:58:6b:ae:6e:d4:fe:b9:3f
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSC Root CA A"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\114\124\061
\053\060\051\006\003\125\004\012\023\042\123\153\141\151\164\155
\145\156\151\156\151\157\040\163\145\162\164\151\146\151\153\141
\166\151\155\157\040\143\145\156\164\162\141\163\061\040\060\036
\006\003\125\004\013\023\027\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\061\026
\060\024\006\003\125\004\003\023\015\123\123\103\040\122\157\157
\164\040\103\101\040\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\114\124\061
\053\060\051\006\003\125\004\012\023\042\123\153\141\151\164\155
\145\156\151\156\151\157\040\163\145\162\164\151\146\151\153\141
\166\151\155\157\040\143\145\156\164\162\141\163\061\040\060\036
\006\003\125\004\013\023\027\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\061\026
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CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "SSC Root CA A"

Issuer: CN=SSC Root CA A,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT

Serial Number:66:07:a3:d2:9d:29:56:18:0e:e1:5e:59:98:b1:84:55

Subject: CN=SSC Root CA A,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT

Not Valid Before: Wed Dec 27 12:18:52 2006

Not Valid After: Mon Dec 28 12:05:04 2026

Fingerprint (MD5): 46:8c:21:0e:ab:92:21:46:59:db:a6:db:00:61:de:26

Fingerprint (SHA1): 5a:5a:4d:af:78:61:26:7c:4b:1f:1e:67:58:6b:ae:6e:d4:fe:b9:3f

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

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CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "SSC Root CA B"
# Issuer: CN=SSC Root CA B,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT
# Serial Number:be:92:83:18:f3:55:8a:78:a3:67:59:1c:69:24:09:3f
# Subject: CN=SSC Root CA B,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT
# Not Valid Before: Wed Dec 27 12:22:50 2006
# Not Valid After: Fri Dec 25 12:08:26 2026
# Fingerprint (MD5): da:26:b6:e6:c7:c2:f7:b7:9e:46:59:b3:57:77:18:65
# Fingerprint (SHA1): 3e:84:d3:bc:c5:44:c0:f6:fa:19:43:5c:85:1f:3f:2f:cb:a8:e8:14
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSC Root CA B"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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CKA_ID UTF8 "0"

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CKA_SERIAL_NUMBER MULTILINE_OCTAL

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END

CKA_VALUE MULTILINE_OCTAL

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\311\127\143\212\153\314\120\023\217\167\250\121\276\032\114\055
\114\135\014\220\133\216\363\357\120\040\155\201\346\121\111\253
\304\347\327\135\010\053\121\374\075\106\022\347\321\245\166\305
\123\044\005\311\252\323\216\130\305\363\212\164\222\062\355\360
\057\335\253\255\351\322\065\217\164\043\343\231\000\342\213\060
\344\303\102\256\360\273\351\342\010\033\112\160\055\175\370\322
\232\047\221\102\160\165\172\010\176\276\057\034\177\067\075\250
\213\334\106\162\365\350\157\066\150\372\156\215\040\235\324\365
\007\161\277\275\047\102\271\163\050\326\354\111\264\005\205\117
\150\110\366\253\224\337\016\243\106\024\140\302\061\040\073\353
\056\133\336\325\241\054\155\345\122\372\201\137\227\210\311\143
\275\001\354\343\315\153\012\065\302\311\070\343\016\363\130\033
\175\332\220\155\267\365\310\130\126\235\256\001\337\221\235\255
\125\202\003\014\021\164\004\221\206\307\174\223\214\363\047\373
\305\044\127\156\213\331\033\230\235\210\061\360\257\167\270\015
\264\314\317\366\012\157\022\233\354\011\053\123\211\354\104\340
\241\151\213\250\164\206\164\030\122\340\322\277\240\241\145\041
\271\010\203\172\363\244\365\370\136\067\045\107\231\246\135\327
\042\132\333\223\147\027\333\020\343\214\321\022\221\107\212\225
\245\107\241\003\370\113\056\041\305\220\142\260\177\047\243\333
\025\177\070\177\154\177\116\005\305\003\264\055\337\105\137\165
\054\035\361\137\246\265\366\027\071\101\351\370\145\302\036\130
\021\312\174\216\342\265\272\222\017\147\267\217\353\231\324\061
\373\162\173\132\230\137\222\224\307\004\352\060\366\273\032

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "SSC Root CA B"

Issuer: CN=SSC Root CA B,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT

Serial Number:be:92:83:18:f3:55:8a:78:a3:67:59:1c:69:24:09:3f

Subject: CN=SSC Root CA B,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT

Not Valid Before: Wed Dec 27 12:22:50 2006

Not Valid After: Fri Dec 25 12:08:26 2026

Fingerprint (MD5): da:26:b6:e6:c7:c2:f7:b7:9e:46:59:b3:57:77:18:65

Fingerprint (SHA1): 3e:84:d3:bc:c5:44:c0:f6:fa:19:43:5c:85:1f:3f:cb:a8:e8:14

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SSC Root CA B"

CKA_CERT_SHA1_HASH MULTILINE OCTAL

\076\204\323\274\305\104\300\366\372\031\103\134\205\037\077\057

\313\250\350\024

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\332\046\266\346\307\302\367\267\236\106\131\263\127\167\030\145
END
CKA_ISSUER MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\114\124\061
\053\060\051\006\003\125\004\012\023\042\123\153\141\151\164\155
\145\156\151\156\151\157\040\163\145\162\164\151\146\151\153\141
\166\151\155\157\040\143\145\156\164\162\141\163\061\040\060\036
\006\003\125\004\013\023\027\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\061\026
\060\024\006\003\125\004\003\023\015\123\123\103\040\122\157\157
\164\040\103\101\040\102
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\276\222\203\030\363\125\212\170\243\147\131\034\151
\044\011\077
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "SSC Root CA C"
# Issuer: CN=SSC Root CA C,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT
# Serial Number:34:b9:12:9f:ac:c7:92:55:42:5c:de:57:ff:e3:c0:05
# Subject: CN=SSC Root CA C,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT
# Not Valid Before: Wed Dec 27 12:26:30 2006
# Not Valid After: Tue Dec 22 12:11:30 2026
# Fingerprint (MD5): 3c:4c:25:cc:0a:19:ca:ee:6a:eb:55:16:00:86:72:5f
# Fingerprint (SHA1): 23:e8:33:23:3e:7d:0c:c9:2b:7c:42:79:ac:19:c2:f4:74:d6:04:ca
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSC Root CA C"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\114\124\061
\053\060\051\006\003\125\004\012\023\042\123\153\141\151\164\155
\145\156\151\156\151\157\040\163\145\162\164\151\146\151\153\141
\166\151\155\157\040\143\145\156\164\162\141\163\061\040\060\036
\006\003\125\004\013\023\027\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\061\026
\060\024\006\003\125\004\003\023\015\123\123\103\040\122\157\157
\164\040\103\101\040\103
END

```

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\164\061\013\060\011\006\003\125\004\006\023\002\114\124\061
\053\060\051\006\003\125\004\012\023\042\123\153\141\151\164\155
\145\156\151\156\151\157\040\163\145\162\164\151\146\151\153\141
\166\151\155\157\040\143\145\156\164\162\141\163\061\040\060\036
\006\003\125\004\013\023\027\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\061\026
\060\024\006\003\125\004\003\023\015\123\123\103\040\122\157\157
\164\040\103\101\040\103

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\064\271\022\237\254\307\222\125\102\134\336\127\377\343
\300\005

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\052\060\202\004\022\240\003\002\001\002\002\020\064
\271\022\237\254\307\222\125\102\134\336\127\377\343\300\005\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\164
\061\013\060\011\006\003\125\004\006\023\002\114\124\061\053\060
\051\006\003\125\004\012\023\042\123\153\141\151\164\155\145\156
\151\156\151\157\040\163\145\162\164\151\146\151\153\141\166\151
\155\157\040\143\145\156\164\162\141\163\061\040\060\036\006\003
\125\004\013\023\027\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\026\060\024
\006\003\125\004\003\023\015\123\123\103\040\122\157\157\164\040
\103\101\040\103\060\036\027\015\060\066\061\062\062\067\061\062
\062\066\063\060\132\027\015\062\066\061\062\062\062\061\062\061
\061\063\060\132\060\164\061\013\060\011\006\003\125\004\006\023
\002\114\124\061\053\060\051\006\003\125\004\012\023\042\123\153
\141\151\164\155\145\156\151\156\151\157\040\163\145\162\164\151
\146\151\153\141\166\151\155\157\040\143\145\156\164\162\141\163
\061\040\060\036\006\003\125\004\013\023\027\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\061\026\060\024\006\003\125\004\003\023\015\123\123\103
\040\122\157\157\164\040\103\101\040\103\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\241\105\042\372\214
\314\251\157\004\263\364\150\062\026\151\021\117\171\337\103\275
\121\140\160\032\230\335\170\170\226\230\142\367\160\113\201\250
\340\035\004\211\364\217\353\156\351\360\377\201\330\056\175\257
\027\040\361\042\357\360\077\105\107\100\264\313\262\270\040\077
\076\112\150\120\377\232\006\327\227\305\267\212\026\056\161\322
\107\163\135\030\145\057\357\071\063\350\266\125\257\046\255\002
\200\351\143\327\041\160\007\076\314\276\137\211\300\370\316\035
\045\156\303\374\177\126\071\141\321\216\302\046\172\347\170\002
\012\131\335\125\043\260\370\065\247\342\253\363\253\057\327\265
\213\012\052\162\124\053\155\171\274\362\331\351\103\371\317\361

\216\146\022\367\227\131\052\331\327\224\334\370\224\263\105\243
\257\026\055\263\200\312\075\316\350\246\307\012\224\164\374\067
\232\351\077\014\067\026\040\103\311\107\160\273\214\205\374\230
\211\051\313\207\031\176\031\123\020\211\200\165\256\023\361\277
\244\135\060\005\051\174\250\367\266\136\007\060\025\210\256\115
\025\240\312\315\327\377\253\243\006\127\017\247\343\211\151\034
\326\032\321\324\047\337\226\306\070\134\257\167\376\025\253\104
\101\175\323\230\273\250\040\030\257\213\155\324\132\302\330\226
\215\110\365\007\061\176\141\364\141\233\122\201\100\216\112\047
\004\262\007\323\002\020\224\363\373\335\261\173\160\270\264\310
\201\365\000\007\246\215\210\005\115\304\217\226\316\324\266\300
\301\146\214\052\254\150\112\311\106\334\015\346\056\250\171\050
\175\167\103\160\026\176\034\032\072\246\171\117\023\100\211\261
\062\273\011\106\021\015\164\274\047\345\330\355\055\372\120\051
\334\045\312\227\020\347\251\242\141\056\072\211\246\104\141\276
\117\136\222\011\355\334\056\246\357\123\273\141\045\330\047\245
\024\106\051\205\046\000\330\371\371\005\325\173\026\061\102\103
\005\027\221\234\112\140\100\044\155\265\155\172\171\373\234\232
\143\303\230\151\345\167\142\043\052\121\211\017\154\262\375\303
\312\330\364\032\103\224\320\175\013\341\130\076\032\310\164\204
\233\367\254\202\256\121\105\222\322\006\131\341\263\301\336\245
\037\223\042\171\330\315\304\171\140\043\225\002\003\001\000\001
\243\201\267\060\201\264\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\075\006\003\125\035\040\004\066
\060\064\060\062\006\013\053\006\001\004\001\201\257\145\001\002
\000\060\043\060\041\006\010\053\006\001\005\005\007\002\001\026
\025\150\164\164\160\072\057\057\167\167\167\056\163\163\143\056
\154\164\057\143\160\163\060\063\006\003\125\035\037\004\054\060
\052\060\050\240\046\240\044\206\042\150\164\164\160\072\057\057
\143\162\154\056\163\163\143\056\154\164\057\162\157\157\164\055
\143\057\143\141\143\162\154\056\143\162\154\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125
\035\016\004\026\004\024\210\007\163\366\361\274\122\032\132\035
\075\221\142\355\135\254\235\013\345\267\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\037\220
\161\120\230\325\331\064\322\226\204\030\302\254\106\002\040\034
\313\071\261\267\257\005\244\327\130\363\221\121\175\216\201\047
\234\350\222\261\347\034\237\072\213\020\122\163\114\302\307\102
\035\320\353\336\052\312\042\121\175\214\164\172\032\374\274\244
\363\163\310\146\043\304\056\103\020\107\340\212\151\127\356\057
\362\000\122\260\060\222\252\326\324\025\305\127\313\140\172\364
\016\215\376\036\011\143\164\217\340\376\276\120\331\001\071\126
\272\120\114\366\343\105\232\273\122\166\336\176\235\373\215\302
\124\061\076\307\261\074\076\337\343\117\375\335\233\044\151\174
\355\350\161\266\102\006\307\037\305\137\373\040\165\333\301\375
\351\154\242\052\220\324\206\375\315\015\377\340\005\212\130\141
\075\237\304\231\057\355\333\174\304\015\230\230\125\234\164\242
\027\136\333\252\021\344\067\014\044\377\040\147\321\045\333\232

```
\211\240\145\210\061\221\004\161\137\040\224\130\063\066\035\062
\336\157\327\147\010\251\240\073\375\333\244\120\045\226\036\251
\137\211\027\245\227\231\121\225\151\333\304\361\217\364\157\060
\053\131\363\254\165\207\063\175\006\335\341\301\153\326\304\311
\136\160\104\172\152\307\234\167\073\026\376\376\165\276\237\054
\321\300\003\356\021\171\165\354\251\133\034\172\205\265\050\120
\040\251\032\035\346\173\214\063\030\377\301\355\310\166\145\037
\035\360\114\073\247\333\352\315\126\330\224\127\077\340\110\251
\177\214\063\113\275\364\014\145\024\200\202\364\065\167\330\004
\020\160\316\017\154\301\131\313\231\255\201\356\336\075\110\320
\172\210\057\100\223\327\234\272\171\204\030\200\165\337\320\132
\337\121\167\076\130\211\151\165\107\061\344\152\026\160\124\004
\354\275\134\171\123\143\322\342\136\275\115\045\332\021\266\017
\252\351\054\256\365\321\251\215\002\126\313\374\260\044\352\214
\272\160\377\062\320\267\306\004\052\143\325\312\106\221\325\231
\162\011\007\136\050\003\253\022\034\045\263\154\072\131\145\264
\164\155\055\055\031\162\157\375\347\230\021\207\036\163\043\277
\065\361\233\266\303\331\314\073\120\174\162\350\317\136\300\230
\314\056\003\375\037\057\312\164\134\261\034\321\354\151
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "SSC Root CA C"
```

```
# Issuer: CN=SSC Root CA C,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT
```

```
# Serial Number:34:b9:12:9f:ac:c7:92:55:42:5c:de:57:ff:e3:c0:05
```

```
# Subject: CN=SSC Root CA C,OU=Certification Authority,O=Skaitmeninio sertifikavimo centras,C=LT
```

```
# Not Valid Before: Wed Dec 27 12:26:30 2006
```

```
# Not Valid After: Tue Dec 22 12:11:30 2026
```

```
# Fingerprint (MD5): 3c:4c:25:cc:0a:19:ca:ee:6a:eb:55:16:00:86:72:5f
```

```
# Fingerprint (SHA1): 23:e8:33:23:3e:7d:0c:c9:2b:7c:42:79:ac:19:c2:f4:74:d6:04:ca
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SSC Root CA C"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\043\350\063\043\076\175\014\311\053\174\102\171\254\031\302\364
\164\326\004\312
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\074\114\045\314\012\031\312\356\152\353\125\026\000\206\162\137
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\164\061\013\060\011\006\003\125\004\006\023\002\114\124\061
\053\060\051\006\003\125\004\012\023\042\123\153\141\151\164\155
```

```
\145\156\151\156\151\157\040\163\145\162\164\151\146\151\153\141
\166\151\155\157\040\143\145\156\164\162\141\163\061\040\060\036
\006\003\125\004\013\023\027\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\061\026
\060\024\006\003\125\004\003\023\015\123\123\103\040\122\157\157
\164\040\103\101\040\103
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\064\271\022\237\254\307\222\125\102\134\336\127\377\343
\300\005
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Autoridad de Certificacion de la Abogacia"

Issuer: CN=Autoridad de Certificacion de la Abogacia,O=Consejo General de la Abogacia NIF:Q-2863006I,C=ES

Serial Number:90:8b:32:4f:c1:90:1a:ce:b4:c3:38:09:cd:cf:e4

Subject: CN=Autoridad de Certificacion de la Abogacia,O=Consejo General de la Abogacia NIF:Q-2863006I,C=ES

Not Valid Before: Mon Jun 13 22:00:00 2005

Not Valid After: Thu Jun 13 22:00:00 2030

Fingerprint (MD5): 15:ee:9f:5a:a0:85:28:df:6b:dd:34:a3:a0:56:d8:30

Fingerprint (SHA1): 7f:8a:77:83:6b:dc:6d:06:8f:8b:07:37:fc:c5:72:54:13:06:8c:a4

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Autoridad de Certificacion de la Abogacia"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\171\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\066\060\064\006\003\125\004\012\023\055\103\157\156\163\145\152
\157\040\107\145\156\145\162\141\154\040\144\145\040\154\141\040
\101\142\157\147\141\143\151\141\040\116\111\106\072\121\055\062
\070\066\063\060\060\066\111\061\062\060\060\006\003\125\004\003
\023\051\101\165\164\157\162\151\144\141\144\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\156\040\144\145\040
\154\141\040\101\142\157\147\141\143\151\141
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\171\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\066\060\064\006\003\125\004\012\023\055\103\157\156\163\145\152
\157\040\107\145\156\145\162\141\154\040\144\145\040\154\141\040
\101\142\157\147\141\143\151\141\040\116\111\106\072\121\055\062
```

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CKA_SERIAL_NUMBER MULTILINE_OCTAL

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CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Autoridad de Certificacion de la Abogacia"
Issuer: CN=Autoridad de Certificacion de la Abogacia,O=Consejo General de la Abogacia NIF:Q-2863006I,C=ES
Serial Number:90:8b:32:4f:c1:90:1a:ce:b4:c3:38:09:cd:cf:e4
Subject: CN=Autoridad de Certificacion de la Abogacia,O=Consejo General de la Abogacia NIF:Q-


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2863006I,C=ES
# Not Valid Before: Mon Jun 13 22:00:00 2005
# Not Valid After: Thu Jun 13 22:00:00 2030
# Fingerprint (MD5): 15:ee:9f:5a:a0:85:28:df:6b:dd:34:a3:a0:56:d8:30
# Fingerprint (SHA1): 7f:8a:77:83:6b:dc:6d:06:8f:8b:07:37:fc:c5:72:54:13:06:8c:a4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion de la Abogacia"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\177\212\167\203\153\334\155\006\217\213\007\067\374\305\162\124
\023\006\214\244
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
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END
CKA_ISSUER MULTILINE_OCTAL
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\066\060\064\006\003\125\004\012\023\055\103\157\156\163\145\152
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Root CA Generalitat Valenciana"
# Issuer: CN=Root CA Generalitat Valenciana,OU=PKIGVA,O=Generalitat Valenciana,C=ES
# Serial Number:3b:45:e5:68
# Subject: CN=Root CA Generalitat Valenciana,OU=PKIGVA,O=Generalitat Valenciana,C=ES
# Not Valid Before: Fri Jul 06 16:22:47 2001
# Not Valid After: Thu Jul 01 15:22:47 2021
# Fingerprint (MD5): 2c:8c:17:5e:b1:54:ab:93:17:b5:36:5a:db:d1:c6:f2
# Fingerprint (SHA1): a0:73:e5:c5:bd:43:61:0d:86:4c:21:13:0a:85:58:57:cc:9c:ea:46
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

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CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Root CA Generalitat Valenciana"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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\037\060\035\006\003\125\004\012\023\026\107\145\156\145\162\141
\154\151\164\141\164\040\126\141\154\145\156\143\151\141\156\141
\061\017\060\015\006\003\125\004\013\023\006\120\113\111\107\126
\101\061\047\060\045\006\003\125\004\003\023\036\122\157\157\164
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END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
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\370\210\211\117\261\042\221\144\113\365\120\336\003\333\345\305
\166\347\023\146\165\176\145\373\001\237\223\207\210\235\371\106
\127\174\115\140\257\230\163\023\043\244\040\221\201\372\320\141
\146\270\175\321\257\326\157\036\154\075\351\021\375\251\371\202
\042\206\231\063\161\132\352\031\127\075\221\315\251\300\243\156
\007\023\246\311\355\370\150\243\236\303\132\162\011\207\050\321
\304\163\304\163\030\137\120\165\026\061\237\267\350\174\303

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Root CA Generalitat Valenciana"
Issuer: CN=Root CA Generalitat Valenciana,OU=PKIGVA,O=Generalitat Valenciana,C=ES
Serial Number:3b:45:e5:68
Subject: CN=Root CA Generalitat Valenciana,OU=PKIGVA,O=Generalitat Valenciana,C=ES
Not Valid Before: Fri Jul 06 16:22:47 2001
Not Valid After: Thu Jul 01 15:22:47 2021
Fingerprint (MD5): 2c:8c:17:5e:b1:54:ab:93:17:b5:36:5a:db:d1:c6:f2

Fingerprint (SHA1): a0:73:e5:c5:bd:43:61:0d:86:4c:21:13:0a:85:58:57:cc:9c:ea:46

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Root CA Generalitat Valenciana"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\240\163\345\305\275\103\141\015\206\114\041\023\012\205\130\127
\314\234\352\106

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\054\214\027\136\261\124\253\223\027\265\066\132\333\321\306\362

END

CKA_ISSUER MULTILINE_OCTAL

\060\150\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\037\060\035\006\003\125\004\012\023\026\107\145\156\145\162\141
\154\151\164\141\164\040\126\141\154\145\156\143\151\141\156\141
\061\017\060\015\006\003\125\004\013\023\006\120\113\111\107\126
\101\061\047\060\045\006\003\125\004\003\023\036\122\157\157\164
\040\103\101\040\107\145\156\145\162\141\154\151\164\141\164\040
\126\141\154\145\156\143\151\141\156\141

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\073\105\345\150

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "VAS Latvijas Pasts SSI(RCA)"

Issuer: CN=VAS Latvijas Pasts SSI(RCA),OU=Sertifikācijas pakalpojumi,O=VAS Latvijas Pasts -
Vien.reg.Nr.40003052790,C=LV

Serial Number:63:06:86:a7:c5:37:65:a5:43:90:a8:6a:58:cc:d4:32

Subject: CN=VAS Latvijas Pasts SSI(RCA),OU=Sertifikācijas pakalpojumi,O=VAS Latvijas Pasts -
Vien.reg.Nr.40003052790,C=LV

Not Valid Before: Wed Sep 13 09:22:10 2006

Not Valid After: Fri Sep 13 09:27:57 2024

Fingerprint (MD5): fd:49:be:5b:18:5a:25:ec:f9:c3:54:85:10:40:e8:d4

Fingerprint (SHA1): 08:64:18:e9:06:ce:e8:9c:23:53:b6:e2:7f:bd:9e:74:39:f7:63:16

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "VAS Latvijas Pasts SSI(RCA)"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\217\061\013\060\011\006\003\125\004\006\023\002\114\126
\061\065\060\063\006\003\125\004\012\023\054\126\101\123\040\114
\141\164\166\151\152\141\163\040\120\141\163\164\163\040\055\040
\126\151\145\156\056\162\145\147\056\116\162\056\064\060\060\060
\063\060\065\062\067\071\060\061\043\060\041\006\003\125\004\013
\023\032\123\145\162\164\151\146\151\153\141\143\151\152\141\163
\040\160\141\153\141\154\160\157\152\165\155\151\061\044\060\042
\006\003\125\004\003\023\033\126\101\123\040\114\141\164\166\151
\152\141\163\040\120\141\163\164\163\040\123\123\111\050\122\103
\101\051

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\217\061\013\060\011\006\003\125\004\006\023\002\114\126
\061\065\060\063\006\003\125\004\012\023\054\126\101\123\040\114
\141\164\166\151\152\141\163\040\120\141\163\164\163\040\055\040
\126\151\145\156\056\162\145\147\056\116\162\056\064\060\060\060
\063\060\065\062\067\071\060\061\043\060\041\006\003\125\004\013
\023\032\123\145\162\164\151\146\151\153\141\143\151\152\141\163
\040\160\141\153\141\154\160\157\152\165\155\151\061\044\060\042
\006\003\125\004\003\023\033\126\101\123\040\114\141\164\166\151
\152\141\163\040\120\141\163\164\163\040\123\123\111\050\122\103
\101\051

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\143\006\206\247\305\067\145\245\103\220\250\152\130\314
\324\062

END

CKA_VALUE MULTILINE_OCTAL

\060\202\007\251\060\202\005\221\240\003\002\001\002\002\020\143
\006\206\247\305\067\145\245\103\220\250\152\130\314\324\062\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\217\061\013\060\011\006\003\125\004\006\023\002\114\126\061\065
\060\063\006\003\125\004\012\023\054\126\101\123\040\114\141\164
\166\151\152\141\163\040\120\141\163\164\163\040\055\040\126\151
\145\156\056\162\145\147\056\116\162\056\064\060\060\060\060\063\060
\065\062\067\071\060\061\043\060\041\006\003\125\004\013\023\032
\123\145\162\164\151\146\151\153\141\143\151\152\141\163\040\160
\141\153\141\154\160\157\152\165\155\151\061\044\060\042\006\003
\125\004\003\023\033\126\101\123\040\114\141\164\166\151\152\141
\163\040\120\141\163\164\163\040\123\123\111\050\122\103\101\051
\060\036\027\015\060\066\060\071\061\063\060\071\062\062\061\060
\132\027\015\062\064\060\071\061\063\060\071\062\067\065\067\132
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\114\126
\061\065\060\063\006\003\125\004\012\023\054\126\101\123\040\114
\141\164\166\151\152\141\163\040\120\141\163\164\163\040\055\040
\126\151\145\156\056\162\145\147\056\116\162\056\064\060\060\060
\063\060\065\062\067\071\060\061\043\060\041\006\003\125\004\013

\023\032\123\145\162\164\151\146\151\153\141\143\151\152\141\163
\040\160\141\153\141\154\160\157\152\165\155\151\061\044\060\042
\006\003\125\004\003\023\033\126\101\123\040\114\141\164\166\151
\152\141\163\040\120\141\163\164\163\040\123\123\111\050\122\103
\101\051\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\233\270\371\375\141\125\057\117\244\245\024\265\056
\216\271\044\217\254\373\261\124\077\100\377\117\305\345\206\150
\173\123\223\373\065\202\065\250\120\056\224\122\240\333\203\076
\165\332\025\160\254\011\317\356\202\111\255\066\111\271\264\161
\213\264\000\241\102\006\312\010\012\143\227\266\010\374\356\264
\334\230\170\031\202\311\370\177\144\076\252\311\376\261\215\353
\260\144\365\274\363\304\076\072\220\352\116\216\077\033\031\274
\152\203\303\221\074\154\125\373\012\122\300\350\341\135\167\205
\063\305\111\337\354\152\277\277\154\067\376\216\111\242\025\030
\316\213\216\153\036\070\243\060\157\210\201\176\162\126\104\032
\304\172\071\017\366\304\217\226\324\262\353\000\116\134\336\273
\347\073\267\346\044\005\223\153\115\346\221\104\277\356\230\033
\307\205\033\021\101\173\042\066\247\276\076\350\172\067\334\030
\336\220\235\217\315\262\327\232\077\342\027\177\133\014\341\357
\077\146\075\156\044\344\260\316\303\014\210\154\224\332\070\045
\174\122\071\343\163\024\263\000\105\143\232\014\102\100\136\004
\306\367\162\144\316\311\156\063\263\344\323\155\044\225\067\223
\176\362\000\135\031\213\037\363\103\163\250\237\105\322\006\251
\354\264\102\273\372\356\014\307\117\077\121\037\321\257\320\254
\030\177\207\201\042\376\251\335\007\226\155\174\370\116\331\115
\072\120\151\325\101\176\305\332\164\330\216\163\345\176\203\341
\303\031\201\267\275\277\100\216\276\056\232\242\014\252\116\002
\056\273\052\341\010\135\061\003\311\254\047\260\257\334\325\310
\024\175\100\235\125\211\041\371\220\314\324\311\140\101\163\253
\350\315\330\072\125\071\012\202\231\376\233\365\365\074\034\221
\313\300\372\106\124\256\041\374\052\254\134\173\336\172\227\161
\375\154\153\315\110\232\244\333\201\174\030\067\057\220\175\141
\224\275\027\311\134\266\124\026\167\312\011\112\252\351\274\117
\224\165\001\132\126\274\222\322\217\271\327\227\336\126\164\001
\367\026\161\111\261\365\030\106\231\101\356\142\341\263\054\145
\165\151\051\162\103\003\370\233\037\372\070\364\236\354\100\020
\216\254\227\325\260\063\276\237\030\334\055\367\101\170\124\112
\142\104\347\002\003\001\000\001\243\202\001\375\060\202\001\371
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\030\006\010\053\006\001\005\005\007\001\003\004\014\060\012
\060\010\006\006\004\000\216\106\001\001\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\314\303\365\146\377\163\254\070\132\226
\033\041\211\270\201\114\037\313\136\045\060\020\006\011\053\006
\001\004\001\202\067\025\001\004\003\002\001\000\060\202\001\211
\006\003\125\035\040\004\202\001\200\060\202\001\174\060\202\001
\170\006\013\053\006\001\004\001\201\304\131\001\001\002\060\202

\001\147\060\202\001\070\006\010\053\006\001\005\005\007\002\002
\060\202\001\052\036\202\001\046\000\123\000\151\000\163\000\040
\000\151\000\162\000\040\000\163\000\145\000\162\000\164\000\151
\000\146\000\151\000\153\000\141\000\164\000\163\000\054\000\040
\000\153\000\157\000\040\000\151\000\172\000\144\000\145\000\166
\000\151\000\163\000\040\000\126\000\101\000\123\000\040\000\114
\000\141\000\164\000\166\000\151\000\152\000\141\000\163\000\040
\000\120\000\141\000\163\000\164\000\163\000\054\000\040\000\156
\000\157\000\144\000\162\000\157\000\163\000\151\000\156\000\157
\000\164\000\040\000\141\000\164\000\142\000\151\000\154\000\163
\000\164\000\151\000\142\000\165\000\040\000\105\000\154\000\145
\000\153\000\164\000\162\000\157\000\156\000\151\000\163\000\153
\000\157\000\040\000\144\000\157\000\153\000\165\000\155\000\145
\000\156\000\164\000\165\000\040\000\154\000\151\000\153\000\165
\000\155\000\141\000\155\000\040\000\165\000\156\000\040\000\105
\000\151\000\162\000\157\000\160\000\141\000\163\000\040\000\120
\000\141\000\162\000\154\000\141\000\155\000\145\000\156\000\164
\000\141\000\040\000\144\000\151\000\162\000\145\000\153\000\164
\000\151\000\166\000\141\000\151\000\040\000\061\000\071\000\071
\000\071\000\057\000\071\000\063\000\057\000\105\000\113\060\051
\006\010\053\006\001\005\005\007\002\001\026\035\150\164\164\160
\072\057\057\167\167\167\056\145\055\155\145\056\154\166\057\162
\145\160\157\163\151\164\157\162\171\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\002\001\000\037\050\112
\065\220\041\143\150\012\057\170\257\243\036\202\046\227\243\077
\047\031\322\113\243\102\172\006\023\145\133\301\004\313\353\175
\174\357\224\362\361\211\365\267\337\122\002\041\151\322\352\226
\064\345\240\317\227\270\234\125\016\020\205\243\024\136\054\005
\370\265\072\166\363\371\172\270\336\266\014\047\151\362\313\224
\221\013\035\271\325\216\157\231\057\315\362\031\126\071\072\110
\126\360\001\377\202\165\266\262\375\321\324\365\362\143\127\114
\115\241\176\314\020\272\004\151\357\364\024\374\263\227\037\105
\356\157\112\050\177\321\306\047\274\307\243\251\153\173\355\202
\023\157\253\336\017\373\161\353\134\021\032\251\054\320\060\237
\374\066\067\126\357\225\351\272\267\023\266\256\237\002\141\255
\236\354\153\004\157\066\237\017\231\367\302\311\310\114\050\271
\050\324\041\327\236\124\325\300\316\364\216\344\125\224\173\217
\044\306\070\374\253\172\244\126\167\075\250\105\357\144\222\244
\320\112\176\273\163\213\364\015\122\163\270\072\110\136\103\200
\323\251\160\167\142\377\307\050\034\163\036\103\346\047\044\133
\111\271\346\066\244\216\375\305\055\057\172\245\171\022\172\327
\041\262\045\155\310\017\242\303\141\113\345\110\342\127\272\237
\362\212\041\335\333\144\360\332\031\337\316\300\233\200\071\302
\167\167\143\025\123\162\204\372\244\217\007\067\206\041\175\120
\372\075\152\067\333\221\016\067\263\375\316\013\312\173\141\320
\234\164\234\175\070\150\155\351\173\035\326\361\052\264\357\073
\140\122\167\005\346\002\302\137\214\133\274\360\175\267\163\307
\221\153\262\052\263\143\243\064\325\253\255\045\161\107\377\032


```
\076\172\266\215\225\166\303\356\246\315\003\011\154\356\105\147
\230\317\231\110\166\301\316\212\164\232\150\122\001\064\042\310
\355\342\024\013\204\275\156\020\214\261\162\233\276\350\010\327
\127\325\177\352\264\001\075\116\344\342\350\147\347\214\176\351
\347\102\021\357\225\106\310\221\326\276\047\027\200\031\064\230
\347\306\337\036\374\041\137\236\206\075\274\176\360\234\275\162
\236\364\107\202\133\161\147\363\372\334\124\114\250\134\330\131
\307\320\007\016\023\063\047\274\364\151\360\153\041
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "VAS Latvijas Pastis SSI(RCA)"

Issuer: CN=VAS Latvijas Pastis SSI(RCA),OU=Sertifikācijas pakalpojumi,O=VAS Latvijas Pastis -
Vien.reg.Nr.40003052790,C=LV

Serial Number:63:06:86:a7:c5:37:65:a5:43:90:a8:6a:58:cc:d4:32

Subject: CN=VAS Latvijas Pastis SSI(RCA),OU=Sertifikācijas pakalpojumi,O=VAS Latvijas Pastis -
Vien.reg.Nr.40003052790,C=LV

Not Valid Before: Wed Sep 13 09:22:10 2006

Not Valid After: Fri Sep 13 09:27:57 2024

Fingerprint (MD5): fd:49:be:5b:18:5a:25:ec:f9:c3:54:85:10:40:e8:d4

Fingerprint (SHA1): 08:64:18:e9:06:ce:e8:9c:23:53:b6:e2:7f:bd:9e:74:39:f7:63:16

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "VAS Latvijas Pastis SSI(RCA)"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\010\144\030\351\006\316\350\234\043\123\266\342\177\275\236\164
\071\367\143\026
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\375\111\276\133\030\132\045\354\371\303\124\205\020\100\350\324
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\114\126
\061\065\060\063\006\003\125\004\012\023\054\126\101\123\040\114
\141\164\166\151\152\141\163\040\120\141\163\164\163\040\055\040
\126\151\145\156\056\162\145\147\056\116\162\056\064\060\060\060
\063\060\065\062\067\071\060\061\043\060\041\006\003\125\004\013
\023\032\123\145\162\164\151\146\151\153\141\143\151\152\141\163
\040\160\141\153\141\154\160\157\152\165\155\151\061\044\060\042
\006\003\125\004\003\023\033\126\101\123\040\114\141\164\166\151
\152\141\163\040\120\141\163\164\163\040\123\123\111\050\122\103
\101\051
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\143\006\206\247\305\067\145\245\103\220\250\152\130\314
\324\062
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "ANCERT Certificados CGN"
# Issuer: CN=ANCERT Certificados CGN,O=Agencia Notarial de Certificacion S.L. Unipersonal - CIF
B83395988,C=ES
# Serial Number:44:74:ec:c8:6c:72:1e:58:dd:b8:2c:7e:f4:fc:95
# Subject: CN=ANCERT Certificados CGN,O=Agencia Notarial de Certificacion S.L. Unipersonal - CIF
B83395988,C=ES
# Not Valid Before: Wed Feb 11 17:27:12 2004
# Not Valid After: Sun Feb 11 17:27:12 2024
# Fingerprint (MD5): 1c:4b:e2:c6:2d:b9:ac:31:14:f4:40:07:69:cb:1f:40
# Fingerprint (SHA1): 11:c5:b5:f7:55:52:b0:11:66:9c:2e:97:17:de:6d:9b:ff:5f:a8:10
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANCERT Certificados CGN"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\113\060\111\006\003\125\004\012\023\102\101\147\145\156\143\151
\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114\056
\040\125\156\151\160\145\162\163\157\156\141\154\040\055\040\103
\111\106\040\102\070\063\063\071\065\071\070\070\061\040\060\036
\006\003\125\004\003\023\027\101\116\103\105\122\124\040\103\145
\162\164\151\146\151\143\141\144\157\163\040\103\107\116
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\113\060\111\006\003\125\004\012\023\102\101\147\145\156\143\151
\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114\056
\040\125\156\151\160\145\162\163\157\156\141\154\040\055\040\103
\111\106\040\102\070\063\063\071\065\071\070\070\061\040\060\036
\006\003\125\004\003\023\027\101\116\103\105\122\124\040\103\145
\162\164\151\146\151\143\141\144\157\163\040\103\107\116
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
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\002\017\104\164\354\310\154\162\036\130\335\270\054\176\364\374
\225
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\052\060\202\004\022\240\003\002\001\002\002\017\104
\164\354\310\154\162\036\130\335\270\054\176\364\374\225\060\015
\006\011\052\206\110\206\367\015\001\001\005\005\000\060\174\061
\013\060\011\006\003\125\004\006\023\002\105\123\061\113\060\111
\006\003\125\004\012\023\102\101\147\145\156\143\151\141\040\116
\157\164\141\162\151\141\154\040\144\145\040\103\145\162\164\151
\146\151\143\141\143\151\157\156\040\123\056\114\056\040\125\156
\151\160\145\162\163\157\156\141\154\040\055\040\103\111\106\040
\102\070\063\063\071\065\071\070\070\061\040\060\036\006\003\125
\004\003\023\027\101\116\103\105\122\124\040\103\145\162\164\151
\146\151\143\141\144\157\163\040\103\107\116\060\036\027\015\060
\064\060\062\061\061\061\067\062\067\061\062\132\027\015\062\064
\060\062\061\061\061\067\062\067\061\062\132\060\174\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\113\060\111\006\003
\125\004\012\023\102\101\147\145\156\143\151\141\040\116\157\164
\141\162\151\141\154\040\144\145\040\103\145\162\164\151\146\151
\143\141\143\151\157\156\040\123\056\114\056\040\125\156\151\160
\145\162\163\157\156\141\154\040\055\040\103\111\106\040\102\070
\063\063\071\065\071\070\070\061\040\060\036\006\003\125\004\003
\023\027\101\116\103\105\122\124\040\103\145\162\164\151\146\151
\143\141\144\157\163\040\103\107\116\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\220\165\077\077\014\254
\312\324\174\304\110\247\030\273\072\273\241\273\325\173\337\213
\031\344\202\104\373\145\354\266\022\141\076\151\042\031\142\065
\044\266\325\020\006\251\105\152\044\052\365\047\214\170\074\310
\271\363\005\154\305\002\003\322\116\200\144\354\206\253\170\224
\042\002\000\265\150\233\324\345\125\137\340\310\200\060\347\013
\277\153\327\004\216\116\171\230\160\114\034\046\271\263\250\352
\360\021\242\271\212\123\002\046\165\022\211\341\373\210\116\131
\172\000\321\202\330\026\256\345\266\274\225\045\140\100\167\045
\033\236\357\215\344\375\360\117\063\061\045\277\356\172\012\124
\360\220\070\147\022\173\245\140\332\014\001\211\232\166\207\056
\365\033\103\173\345\347\046\112\373\025\142\253\105\033\173\325
\012\245\115\154\115\253\237\050\110\204\341\203\165\270\030\160
\125\123\333\320\337\051\220\257\071\306\027\225\301\224\305\136
\331\145\137\135\377\156\026\225\230\041\237\136\115\360\315\061
\071\041\003\027\015\221\037\241\125\231\101\354\125\311\273\075
\231\134\233\305\177\321\034\136\352\123\002\003\001\000\001\243
\202\001\247\060\202\001\243\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\202\001\040\006\003\125\035
\040\004\202\001\027\060\202\001\023\060\202\001\017\006\011\053
\006\001\004\001\201\223\150\004\060\202\001\000\060\045\006\010
\053\006\001\005\005\007\002\001\026\031\150\164\164\160\072\057

\057\167\167\167\056\141\156\143\145\162\164\056\143\157\155\057
\143\160\163\060\201\326\006\010\053\006\001\005\005\007\002\002
\060\201\311\060\015\026\006\101\116\103\105\122\124\060\003\002
\001\001\032\201\267\101\147\145\156\143\151\141\040\116\157\164
\141\162\151\141\154\040\144\145\040\103\145\162\164\151\146\151
\143\141\143\151\157\156\056\040\114\141\040\144\145\143\154\141
\162\141\143\151\157\156\040\144\145\040\160\162\141\143\164\151
\143\141\163\040\144\145\040\143\145\162\164\151\146\151\141\143
\151\157\156\040\161\165\145\040\162\151\147\145\040\145\154\040
\146\165\156\143\151\157\156\141\155\151\145\156\164\157\040\144
\145\040\154\141\040\160\162\145\163\145\156\164\145\040\141\165
\164\157\162\151\144\141\144\040\163\145\040\145\156\143\165\145
\156\164\162\141\040\144\151\163\160\157\156\151\142\154\145\040
\145\156\040\150\164\164\160\072\057\057\167\167\167\056\141\156
\143\145\162\164\056\143\157\155\057\143\160\163\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\206\060\034\006\003
\125\035\021\004\025\060\023\201\021\141\156\143\145\162\164\100
\141\156\143\145\162\164\056\143\157\155\060\037\006\003\125\035
\043\004\030\060\026\200\024\354\127\237\310\166\042\157\314\072
\256\133\360\055\241\142\130\321\215\002\314\060\035\006\003\125
\035\016\004\026\004\024\354\127\237\310\166\042\157\314\072\256
\133\360\055\241\142\130\321\215\002\314\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\213\075
\337\334\066\054\177\047\234\374\265\130\123\161\012\022\135\020
\144\121\161\265\112\126\364\136\104\147\036\357\035\262\361\244
\121\074\147\154\054\145\226\172\241\022\243\257\013\010\067\016
\231\326\156\050\207\013\142\253\116\170\116\162\201\233\337\021
\117\211\140\310\121\246\033\006\011\161\163\174\067\267\034\070
\067\232\371\207\341\357\241\356\177\327\300\352\071\024\372\174
\157\013\371\206\312\346\305\167\151\240\237\215\051\243\167\156
\305\314\332\366\335\006\172\323\151\146\076\140\073\343\062\337
\256\360\033\236\052\235\314\204\337\032\020\107\355\245\126\226
\102\067\265\055\162\015\101\022\223\272\062\210\104\310\256\011
\304\275\200\355\375\140\017\162\262\266\144\366\143\040\062\160
\167\207\056\063\056\237\065\310\137\250\222\126\267\377\044\072
\054\135\362\046\005\150\031\362\121\147\317\337\122\011\351\202
\004\172\153\202\247\177\345\322\251\164\153\030\046\310\272\324
\325\036\245\113\073\046\301\235\042\341\373\022\275\325\142\106
\325\327\135\322\335\303\374\141\015\060\005\117\005\213

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "ANCERT Certificados CGN"

Issuer: CN=ANCERT Certificados CGN,O=Agencia Notarial de Certificacion S.L. Unipersonal - CIF
B83395988,C=ES

```
# Serial Number:44:74:ec:c8:6c:72:1e:58:dd:b8:2c:7e:f4:fc:95
# Subject: CN=ANCERT Certificados CGN,O=Agencia Notarial de Certificacion S.L. Unipersonal - CIF
B83395988,C=ES
# Not Valid Before: Wed Feb 11 17:27:12 2004
# Not Valid After: Sun Feb 11 17:27:12 2024
# Fingerprint (MD5): 1c:4b:e2:c6:2d:b9:ac:31:14:f4:40:07:69:cb:1f:40
# Fingerprint (SHA1): 11:c5:b5:f7:55:52:b0:11:66:9c:2e:97:17:de:6d:9b:ff:5f:a8:10
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANCERT Certificados CGN"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\021\305\265\367\125\122\260\021\146\234\056\227\027\336\155\233
\377\137\250\020
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\034\113\342\306\055\271\254\061\024\364\100\007\151\313\037\100
END
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\113\060\111\006\003\125\004\012\023\102\101\147\145\156\143\151
\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114\056
\040\125\156\151\160\145\162\163\157\156\141\154\040\055\040\103
\111\106\040\102\070\063\063\071\065\071\070\070\061\040\060\036
\006\003\125\004\003\023\027\101\116\103\105\122\124\040\103\145
\162\164\151\146\151\143\141\144\157\163\040\103\107\116
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\104\164\354\310\154\162\036\130\335\270\054\176\364\374
\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "ANCERT Certificados Notariales"
# Issuer: CN=ANCERT Certificados Notariales,O=Agencia Notarial de Certificacion S.L. Unipersonal - CIF
B83395988,C=ES
# Serial Number:f4:cf:89:ea:dd:a4:c6:3e:91:ad:48:0e:2d:22:36:84
# Subject: CN=ANCERT Certificados Notariales,O=Agencia Notarial de Certificacion S.L. Unipersonal - CIF
B83395988,C=ES
# Not Valid Before: Wed Feb 11 15:58:30 2004
# Not Valid After: Sun Feb 11 15:58:26 2024
# Fingerprint (MD5): 45:f7:50:11:4e:c5:ad:bd:53:68:86:63:ec:7b:6a:e1
```

Fingerprint (SHA1): c0:9a:b0:c8:ad:71:14:71:4e:d5:e2:1a:5a:27:6a:dc:d5:e7:ef:cb

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANCERT Certificados Notariales"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\113\060\111\006\003\125\004\012\023\102\101\147\145\156\143
\151\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114
\056\040\125\156\151\160\145\162\163\157\156\141\154\040\055\040
\103\111\106\040\102\070\063\063\071\065\071\070\070\061\047\060
\045\006\003\125\004\003\023\036\101\116\103\105\122\124\040\103
\145\162\164\151\146\151\143\141\144\157\163\040\116\157\164\141
\162\151\141\154\145\163
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END

CKA_ID UTF8 "0"

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CKA_ISSUER MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\113\060\111\006\003\125\004\012\023\102\101\147\145\156\143
\151\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114
\056\040\125\156\151\160\145\162\163\157\156\141\154\040\055\040
\103\111\106\040\102\070\063\063\071\065\071\070\070\061\047\060
\045\006\003\125\004\003\023\036\101\116\103\105\122\124\040\103
\145\162\164\151\146\151\143\141\144\157\163\040\116\157\164\141
\162\151\141\154\145\163
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END

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CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\364\317\211\352\335\244\306\076\221\255\110\016\055
\042\066\204
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END

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CKA_VALUE MULTILINE_OCTAL
\060\202\005\074\060\202\004\044\240\003\002\001\002\002\021\000
\364\317\211\352\335\244\306\076\221\255\110\016\055\042\066\204
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\203\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\113\060\111\006\003\125\004\012\023\102\101\147\145\156\143\151
\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114\056
\040\125\156\151\160\145\162\163\157\156\141\154\040\055\040\103
\111\106\040\102\070\063\063\071\065\071\070\070\061\047\060\045
\006\003\125\004\003\023\036\101\116\103\105\122\124\040\103\145
\162\164\151\146\151\143\141\144\157\163\040\116\157\164\141\162
\151\141\154\145\163\060\036\027\015\060\064\060\062\061\061\061
\065\065\070\063\060\132\027\015\062\064\060\062\061\061\061\065
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\065\070\062\066\132\060\201\203\061\013\060\011\006\003\125\004
\006\023\002\105\123\061\113\060\111\006\003\125\004\012\023\102
\101\147\145\156\143\151\141\040\116\157\164\141\162\151\141\154
\040\144\145\040\103\145\162\164\151\146\151\143\141\143\151\157
\156\040\123\056\114\056\040\125\156\151\160\145\162\163\157\156
\141\154\040\055\040\103\111\106\040\102\070\063\063\071\065\071
\070\070\061\047\060\045\006\003\125\004\003\023\036\101\116\103
\105\122\124\040\103\145\162\164\151\146\151\143\141\144\157\163
\040\116\157\164\141\162\151\141\154\145\163\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\360\221\017\320
\147\055\051\262\143\115\037\065\171\366\145\153\271\363\363\265
\130\223\047\144\117\247\325\133\202\005\162\233\177\035\256\010
\322\214\320\321\311\140\260\231\031\065\326\031\306\000\071\151
\175\042\357\164\042\203\264\176\352\020\213\076\063\034\341\335
\144\066\051\363\122\112\156\101\303\276\121\014\037\143\270\277
\215\251\077\061\061\073\273\361\066\104\074\047\145\024\171\165
\346\020\244\074\130\033\313\123\142\022\365\207\132\106\242\171
\243\140\343\026\250\336\204\246\372\345\314\304\020\062\366\102
\332\107\115\030\075\346\172\017\053\016\143\377\147\175\103\325
\164\026\220\064\264\017\316\046\163\041\301\112\332\144\344\117
\343\043\265\331\366\253\267\112\177\226\341\313\107\375\006\103
\321\224\064\151\012\376\075\350\146\252\046\014\325\143\071\006
\160\223\255\174\263\344\107\301\073\107\216\151\227\014\221\240
\114\007\217\311\200\114\256\160\223\150\217\241\303\042\302\361
\165\233\050\175\222\222\125\072\250\131\031\354\022\061\034\357
\235\027\334\271\100\011\133\364\055\023\046\163\002\003\001\000
\001\243\202\001\247\060\202\001\243\060\034\006\003\125\035\021
\004\025\060\023\201\021\141\156\143\145\162\164\100\141\156\143
\145\162\164\056\143\157\155\060\037\006\003\125\035\043\004\030
\060\026\200\024\204\367\372\162\136\210\144\146\035\050\214\260
\167\275\014\152\237\114\115\142\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\202\001\040\006\003\125
\035\040\004\202\001\027\060\202\001\023\060\202\001\017\006\011
\053\006\001\004\001\201\223\150\001\060\202\001\000\060\045\006
\010\053\006\001\005\005\007\002\001\026\031\150\164\164\160\072
\057\057\167\167\167\056\141\156\143\145\162\164\056\143\157\155
\057\143\160\163\060\201\326\006\010\053\006\001\005\005\007\002
\002\060\201\311\060\015\026\006\101\116\103\105\122\124\060\003
\002\001\001\032\201\267\101\147\145\156\143\151\141\040\116\157
\164\141\162\151\141\154\040\144\145\040\103\145\162\164\151\146
\151\143\141\143\151\157\156\040\144\145\040\160\162\141\143\164
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\143\151\157\156\040\161\165\145\040\162\151\147\145\040\145\154
\040\146\165\156\143\151\157\156\141\155\151\145\156\164\157\040
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\145\156\164\162\141\040\144\151\163\160\157\156\151\142\154\145
\040\145\156\040\150\164\164\160\072\057\057\167\167\167\056\141
\156\143\145\162\164\056\143\157\155\057\143\160\163\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035\006
\003\125\035\016\004\026\004\024\204\367\372\162\136\210\144\146
\035\050\214\260\167\275\014\152\237\114\115\142\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\057\370\345\330\063\245\302\224\156\136\300\361\356\241\114\012
\255\206\017\300\063\335\236\322\331\233\356\305\053\205\051\166
\254\245\022\123\223\035\252\007\354\351\071\144\013\150\360\165
\044\351\321\206\214\234\123\152\353\025\241\011\267\031\007\271
\235\217\002\262\033\111\160\302\143\164\335\013\252\376\007\306
\067\126\306\203\376\300\117\034\314\070\252\375\356\125\230\211
\134\302\123\255\040\207\272\026\144\122\141\354\301\237\273\324
\142\321\052\310\135\360\053\370\332\022\316\043\313\261\314\301
\322\012\275\374\300\200\116\125\111\372\211\330\144\243\112\312
\356\213\327\345\355\222\373\140\342\342\052\317\055\050\076\246
\377\200\234\145\314\022\236\245\034\164\131\220\245\207\177\147
\025\200\020\300\241\321\250\060\354\241\002\221\212\132\323\043
\027\223\132\107\041\171\352\063\172\017\177\070\065\232\312\126
\270\277\144\272\247\260\265\121\035\026\236\216\211\175\070\072
\313\204\115\007\230\330\345\341\214\005\152\245\067\014\326\171
\051\076\361\102\304\266\367\352\031\240\141\340\002\116\277\022
END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "ANCERT Certificados Notariales"
Issuer: CN=ANCERT Certificados Notariales,O=Agencia Notarial de Certificacion S.L. Unipersonal - CIF
B83395988,C=ES
Serial Number:f4:cf:89:ea:dd:a4:c6:3e:91:ad:48:0e:2d:22:36:84
Subject: CN=ANCERT Certificados Notariales,O=Agencia Notarial de Certificacion S.L. Unipersonal - CIF
B83395988,C=ES
Not Valid Before: Wed Feb 11 15:58:30 2004
Not Valid After: Sun Feb 11 15:58:26 2024
Fingerprint (MD5): 45:f7:50:11:4e:c5:ad:bd:53:68:86:63:ec:7b:6a:e1
Fingerprint (SHA1): c0:9a:b0:c8:ad:71:14:71:4e:d5:e2:1a:5a:27:6a:dc:d5:e7:ef:cb
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANCERT Certificados Notariales"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\300\232\260\310\255\161\024\161\116\325\342\032\132\047\152\334
\325\347\357\313
END

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\105\367\120\021\116\305\255\275\123\150\206\143\354\173\152\341
END

CKA_ISSUER MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\113\060\111\006\003\125\004\012\023\102\101\147\145\156\143
\151\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114
\056\040\125\156\151\160\145\162\163\157\156\141\154\040\055\040
\103\111\106\040\102\070\063\063\071\065\071\070\070\061\047\060
\045\006\003\125\004\003\023\036\101\116\103\105\122\124\040\103
\145\162\164\151\146\151\143\141\144\157\163\040\116\157\164\141
\162\151\141\154\145\163
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\364\317\211\352\335\244\306\076\221\255\110\016\055
\042\066\204
END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "ANCERT Corporaciones de Derecho Publico"

Issuer: CN=ANCERT Corporaciones de Derecho Publico,O=Agencia Notarial de Certificacion S.L. Unipersonal -
CIF B83395988,C=ES

Serial Number:3f:b2:e5:f2:d1:7c:8b:18:64:56:62:a9:39:81:7f:a7

Subject: CN=ANCERT Corporaciones de Derecho Publico,O=Agencia Notarial de Certificacion S.L. Unipersonal
- CIF B83395988,C=ES

Not Valid Before: Wed Feb 11 17:22:45 2004

Not Valid After: Sun Feb 11 17:22:45 2024

Fingerprint (MD5): 20:6b:d6:8b:4a:8f:48:ab:e4:88:09:0d:e5:65:1a:50

Fingerprint (SHA1): 0c:fd:83:db:ae:44:b9:a0:c8:f6:76:f3:b5:70:65:0b:94:b6:9d:bf

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANCERT Corporaciones de Derecho Publico"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

\060\201\214\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\113\060\111\006\003\125\004\012\023\102\101\147\145\156\143
\151\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114
\056\040\125\156\151\160\145\162\163\157\156\141\154\040\055\040
\103\111\106\040\102\070\063\063\071\065\071\070\070\061\060\060
\056\006\003\125\004\003\023\047\101\116\103\105\122\124\040\103

\157\162\160\157\162\141\143\151\157\156\145\163\040\144\145\040
\104\145\162\145\143\150\157\040\120\165\142\154\151\143\157
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\214\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\113\060\111\006\003\125\004\012\023\102\101\147\145\156\143
\151\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114
\056\040\125\156\151\160\145\162\163\157\156\141\154\040\055\040
\103\111\106\040\102\070\063\063\071\065\071\070\070\061\060\060
\056\006\003\125\004\003\023\047\101\116\103\105\122\124\040\103
\157\162\160\157\162\141\143\151\157\156\145\163\040\144\145\040
\104\145\162\145\143\150\157\040\120\165\142\154\151\143\157
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\077\262\345\362\321\174\213\030\144\126\142\251\071\201
\177\247
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\115\060\202\004\065\240\003\002\001\002\002\020\077
\262\345\362\321\174\213\030\144\126\142\251\071\201\177\247\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\214\061\013\060\011\006\003\125\004\006\023\002\105\123\061\113
\060\111\006\003\125\004\012\023\102\101\147\145\156\143\151\141
\040\116\157\164\141\162\151\141\154\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\040\123\056\114\056\040
\125\156\151\160\145\162\163\157\156\141\154\040\055\040\103\111
\106\040\102\070\063\063\071\065\071\070\070\061\060\060\056\006
\003\125\004\003\023\047\101\116\103\105\122\124\040\103\157\162
\160\157\162\141\143\151\157\156\145\163\040\144\145\040\104\145
\162\145\143\150\157\040\120\165\142\154\151\143\157\060\036\027
\015\060\064\060\062\061\061\061\067\062\062\064\065\132\027\015
\062\064\060\062\061\061\061\067\062\062\064\065\132\060\201\214
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\113\060
\111\006\003\125\004\012\023\102\101\147\145\156\143\151\141\040
\116\157\164\141\162\151\141\154\040\144\145\040\103\145\162\164
\151\146\151\143\141\143\151\157\156\040\123\056\114\056\040\125
\156\151\160\145\162\163\157\156\141\154\040\055\040\103\111\106
\040\102\070\063\063\071\065\071\070\070\061\060\060\056\006\003
\125\004\003\023\047\101\116\103\105\122\124\040\103\157\162\160
\157\162\141\143\151\157\156\145\163\040\144\145\040\104\145\162
\145\143\150\157\040\120\165\142\154\151\143\157\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\242\041\225
\207\334\212\353\326\172\220\250\150\065\375\027\374\164\072\124
\020\222\065\223\102\165\056\330\076\313\251\224\241\276\152\067
\077\122\272\244\173\332\204\231\026\171\116\000\150\324\037\023

\351\106\073\074\112\235\203\072\330\041\357\302\362\100\105\341
\017\140\105\004\355\374\212\030\056\371\075\344\244\021\062\040
\216\072\267\356\226\100\025\032\231\351\041\235\162\254\315\037
\211\256\252\331\241\100\260\250\147\276\374\172\016\107\261\136
\274\370\060\152\216\067\237\005\102\354\054\303\246\033\213\253
\304\120\075\372\344\163\365\041\260\270\125\137\207\340\242\107
\070\057\100\137\117\154\253\224\044\126\343\114\217\176\220\351
\047\202\050\233\230\272\232\326\265\233\127\157\153\025\034\371
\273\160\051\175\074\367\023\250\321\161\361\260\376\210\105\161
\251\245\164\145\313\303\371\365\003\017\020\303\206\060\000\156
\301\300\046\242\210\376\041\307\062\075\273\306\173\033\267\233
\212\263\372\261\174\161\331\001\247\102\220\252\057\230\220\204
\252\336\306\255\354\074\121\112\005\035\001\121\233\002\003\001
\000\001\243\202\001\247\060\202\001\243\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\202\001\040\006
\003\125\035\040\004\202\001\027\060\202\001\023\060\202\001\017
\006\011\053\006\001\004\001\201\223\150\003\060\202\001\000\060
\045\006\010\053\006\001\005\005\007\002\001\026\031\150\164\164
\160\072\057\057\167\167\167\056\141\156\143\145\162\164\056\143
\157\155\057\143\160\163\060\201\326\006\010\053\006\001\005\005
\007\002\002\060\201\311\060\015\026\006\101\116\103\105\122\124
\060\003\002\001\001\032\201\267\101\147\145\156\143\151\141\040
\116\157\164\141\162\151\141\154\040\144\145\040\103\145\162\164
\151\146\151\143\141\143\151\157\156\056\040\114\141\040\144\145
\143\154\141\162\141\143\151\157\156\040\144\145\040\160\162\141
\143\164\151\143\141\163\040\144\145\040\143\145\162\164\151\146
\151\141\143\151\157\156\040\161\165\145\040\162\151\147\145\040
\145\154\040\146\165\156\143\151\157\156\141\155\151\145\156\164
\157\040\144\145\040\154\141\040\160\162\145\163\145\156\164\145
\040\141\165\164\157\162\151\144\141\144\040\163\145\040\145\156
\143\165\145\156\164\162\141\040\144\151\163\160\157\156\151\142
\154\145\040\145\156\040\150\164\164\160\072\057\057\167\167\167
\056\141\156\143\145\162\164\056\143\157\155\057\143\160\163\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\034\006\003\125\035\021\004\025\060\023\201\021\141\156\143\145
\162\164\100\141\156\143\145\162\164\056\143\157\155\060\037\006
\003\125\035\043\004\030\060\026\200\024\214\114\036\067\014\261
\237\322\254\104\013\072\276\002\317\364\215\055\146\225\060\035
\006\003\125\035\016\004\026\004\024\214\114\036\067\014\261\237
\322\254\104\013\072\276\002\317\364\215\055\146\225\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\107\164\300\224\221\342\245\373\230\122\104\223\154\304\300
\035\340\171\333\151\144\055\141\256\244\167\221\065\265\267\312
\227\252\300\261\206\365\033\150\153\252\130\262\174\077\347\003
\047\370\101\161\274\246\322\040\251\200\225\242\107\255\155\106
\164\255\204\233\330\157\251\365\271\057\155\233\300\335\231\207
\355\131\262\165\201\245\211\205\052\314\320\205\201\115\363\257
\167\336\214\301\050\232\102\254\005\207\014\064\234\161\207\375

```
\354\001\024\037\276\303\056\360\337\372\044\246\135\037\074\361
\242\013\121\210\001\256\022\207\244\265\135\161\262\337\357\015
\174\040\343\177\023\013\115\246\300\167\314\077\326\017\161\307
\161\114\056\036\372\031\006\145\311\255\126\154\167\215\106\077
\275\060\203\036\340\056\125\270\170\043\164\074\130\012\143\072
\115\201\173\157\065\160\256\266\045\331\366\044\376\043\306\332
\032\210\257\250\024\223\163\340\300\133\260\061\151\032\366\051
\137\126\267\032\012\302\371\013\352\002\301\063\021\142\152\174
\103\350\352\032\253\220\000\205\340\105\017\175\216\272\120\325
\306
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "ANCERT Corporaciones de Derecho Publico"

Issuer: CN=ANCERT Corporaciones de Derecho Publico,O=Agencia Notarial de Certificacion S.L. Unipersonal -
CIF B83395988,C=ES

Serial Number:3f:b2:e5:f2:d1:7c:8b:18:64:56:62:a9:39:81:7f:a7

Subject: CN=ANCERT Corporaciones de Derecho Publico,O=Agencia Notarial de Certificacion S.L. Unipersonal
- CIF B83395988,C=ES

Not Valid Before: Wed Feb 11 17:22:45 2004

Not Valid After: Sun Feb 11 17:22:45 2024

Fingerprint (MD5): 20:6b:d6:8b:4a:8f:48:ab:e4:88:09:0d:e5:65:1a:50

Fingerprint (SHA1): 0c:fd:83:db:ae:44:b9:a0:c8:f6:76:f3:b5:70:65:0b:94:b6:9d:bf

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "ANCERT Corporaciones de Derecho Publico"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\014\375\203\333\256\104\271\240\310\366\166\363\265\160\145\013
\224\266\235\277
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\040\153\326\213\112\217\110\253\344\210\011\015\345\145\032\120
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\214\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\113\060\111\006\003\125\004\012\023\102\101\147\145\156\143
\151\141\040\116\157\164\141\162\151\141\154\040\144\145\040\103
\145\162\164\151\146\151\143\141\143\151\157\156\040\123\056\114
\056\040\125\156\151\160\145\162\163\157\156\141\154\040\055\040
\103\111\106\040\102\070\063\063\071\065\071\070\070\061\060\060
\056\006\003\125\004\003\023\047\101\116\103\105\122\124\040\103
\157\162\160\157\162\141\143\151\157\156\145\163\040\144\145\040
\104\145\162\145\143\150\157\040\120\165\142\154\151\143\157
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\077\262\345\362\321\174\213\030\144\126\142\251\071\201
\177\247

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "GLOBALTRUST"

Issuer: 1.2.840.1.13549.1.9.1=info@globaltrust.info,CN=GLOBALTRUST,OU=GLOBALTRUST Certification
Service,O=ARGE DATEN - Austrian Society for Data Protection,ST=Austria,L=Vienna,C=AT

Serial Number: 0 (0x0)

Subject: 1.2.840.1.13549.1.9.1=info@globaltrust.info,CN=GLOBALTRUST,OU=GLOBALTRUST Certification
Service,O=ARGE DATEN - Austrian Society for Data Protection,ST=Austria,L=Vienna,C=AT

Not Valid Before: Mon Aug 07 14:12:35 2006

Not Valid After: Thu Sep 18 14:12:35 2036

Fingerprint (MD5): df:0d:bc:7c:c8:36:b7:76:99:a1:ab:f0:d2:0f:89:6a

Fingerprint (SHA1): 34:2c:d9:d3:06:2d:a4:8c:34:69:65:29:7f:08:1e:bc:2e:f6:8f:dc

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GLOBALTRUST"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\324\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\017\060\015\006\003\125\004\007\023\006\126\151\145\156\156
\141\061\020\060\016\006\003\125\004\010\023\007\101\165\163\164
\162\151\141\061\072\060\070\006\003\125\004\012\023\061\101\122
\107\105\040\104\101\124\105\116\040\055\040\101\165\163\164\162
\151\141\156\040\123\157\143\151\145\164\171\040\146\157\162\040
\104\141\164\141\040\120\162\157\164\145\143\164\151\157\156\061
\052\060\050\006\003\125\004\013\023\041\107\114\117\102\101\114
\124\122\125\123\124\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\123\145\162\166\151\143\145\061\024\060\022\006
\003\125\004\003\023\013\107\114\117\102\101\114\124\122\125\123
\124\061\044\060\042\006\011\052\206\110\206\367\015\001\011\001
\026\025\151\156\146\157\100\147\154\157\142\141\154\164\162\165
\163\164\056\151\156\146\157

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\324\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\017\060\015\006\003\125\004\007\023\006\126\151\145\156\156
\141\061\020\060\016\006\003\125\004\010\023\007\101\165\163\164

\162\151\141\061\072\060\070\006\003\125\004\012\023\061\101\122
\107\105\040\104\101\124\105\116\040\055\040\101\165\163\164\162
\151\141\156\040\123\157\143\151\145\164\171\040\146\157\162\040
\104\141\164\141\040\120\162\157\164\145\143\164\151\157\156\061
\052\060\050\006\003\125\004\013\023\041\107\114\117\102\101\114
\124\122\125\123\124\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\123\145\162\166\151\143\145\061\024\060\022\006
\003\125\004\003\023\013\107\114\117\102\101\114\124\122\125\123
\124\061\044\060\042\006\011\052\206\110\206\367\015\001\011\001
\026\025\151\156\146\157\100\147\154\157\142\141\154\164\162\165
\163\164\056\151\156\146\157

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\007\376\060\202\005\346\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\324\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\017\060\015\006\003\125\004\007\023\006\126\151\145\156\156\141
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\164\056\151\156\146\157\060\036\027\015\060\066\060\070\060\067
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\004\006\023\002\101\124\061\017\060\015\006\003\125\004\007\023
\006\126\151\145\156\156\141\061\020\060\016\006\003\125\004\010
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\010\024\242\231\011\105\127\255\007\336\042\374\207\034\240\357
\240\171\335\012\175\300\177\065\350\014\146\115\343\265\152\026
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\307\255\301\373\353\355\053\204\015\352\336\371\353\232\131\063
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\060\075\006\003\125\035\021\004\066\060\064\201\025\151\156\146
\157\100\147\154\157\142\141\154\164\162\165\163\164\056\151\156
\146\157\206\033\150\164\164\160\072\057\057\167\167\167\056\147
\154\157\142\141\154\164\162\165\163\164\056\151\156\146\157\060
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\044\216\130\162\024\101\205\307\105\356\074\050\151\070\111\256
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\217\337\103\077\327\275\077\305\036\305\255\041\254\207\054\232
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\306\065\053\041\164\260\211\220\124\344\001\210\134\234\205\052
\232\145\136\113\127\362\200\034\354\147\064\232\106\334\002\166
\376\162\067\162\011\261\360\043\217\130\263\002\175\356\170\016
\271\075\163\022\055\125\237\027\143\257\256\330\256\163\266\307
\120\152\205\301\333\175\373\224\131\160\306\303\007\154\126\305
\260\007\374\116\175\223\035\271\047\300\260\225\325\347\174\005
\274\367\017\012\263\364\156\025\127\111\033\265\024\000\244\060
\053\132\364\126\130\277\166\064\242\075\376\001\046\360\335\270
\155\360\244\347\274\040\366\121\010\366\343\067\211\127\066\366
\367\057\376\315\270\144\275\352\327\246\320\377\170\357\176\341
\034\036\124\176\017\064\031\201\020\163\322\343\170\006\027\266
\322\121\373\065\170\166\332\167\203\067\101\076\055\106\250\176
\206\336\126\364\312\220\236\264\255\260\036\105\030\074\064\210
\002\207\350\360\066\221\353\362\347\265\322\004\271\056\270\135
\215\035\232\056\013\026\031\315\166\244\253\373\321\342\243\242
\334\204\175\173\352\120\352\365\262\004\073\211\122\072\262\303
\031\117\271\046\261\274\274\054\262\341\201\246\263\141\265\364
\105\140\057\054\165\305\310\055\210\113\046\273\160\356\073\177


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\001\055
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Trust for "GLOBALTRUST"
# Issuer: 1.2.840.113549.1.9.1=info@globaltrust.info,CN=GLOBALTRUST,OU=GLOBALTRUST Certification
Service,O=ARGE DATEN - Austrian Society for Data Protection,ST=Austria,L=Vienna,C=AT
# Serial Number: 0 (0x0)
# Subject: 1.2.840.113549.1.9.1=info@globaltrust.info,CN=GLOBALTRUST,OU=GLOBALTRUST Certification
Service,O=ARGE DATEN - Austrian Society for Data Protection,ST=Austria,L=Vienna,C=AT
# Not Valid Before: Mon Aug 07 14:12:35 2006
# Not Valid After: Thu Sep 18 14:12:35 2036
# Fingerprint (MD5): df:0d:bc:7c:c8:36:b7:76:99:a1:ab:f0:d2:0f:89:6a
# Fingerprint (SHA1): 34:2c:d9:d3:06:2d:a4:8c:34:69:65:29:7f:08:1e:bc:2e:f6:8f:dc
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GLOBALTRUST"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\064\054\331\323\006\055\244\214\064\151\145\051\177\010\036\274
\056\366\217\334
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\337\015\274\174\310\066\267\166\231\241\253\360\322\017\211\152
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\324\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\017\060\015\006\003\125\004\007\023\006\126\151\145\156\156
\141\061\020\060\016\006\003\125\004\010\023\007\101\165\163\164
\162\151\141\061\072\060\070\006\003\125\004\012\023\061\101\122
\107\105\040\104\101\124\105\116\040\055\040\101\165\163\164\162
\151\141\156\040\123\157\143\151\145\164\171\040\146\157\162\040
\104\141\164\141\040\120\162\157\164\145\143\164\151\157\156\061
\052\060\050\006\003\125\004\013\023\041\107\114\117\102\101\114
\124\122\125\123\124\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\123\145\162\166\151\143\145\061\024\060\022\006
\003\125\004\003\023\013\107\114\117\102\101\114\124\122\125\123
\124\061\044\060\042\006\011\052\206\110\206\367\015\001\011\001
\026\025\151\156\146\157\100\147\154\157\142\141\154\164\162\165
\163\164\056\151\156\146\157
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END

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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
# Certificate "Certipost E-Trust TOP Root CA"
# Issuer: CN=Certipost E-Trust TOP Root CA,O=Certipost s.a./n.v.,C=BE
# Serial Number:04:00:00:00:00:01:05:52:64:c1:95
# Subject: CN=Certipost E-Trust TOP Root CA,O=Certipost s.a./n.v.,C=BE
# Not Valid Before: Tue Jul 26 10:00:00 2005
# Not Valid After: Sat Jul 26 10:00:00 2025
# Fingerprint (MD5): b8:d3:12:03:4e:8c:0c:5a:47:c9:b6:c5:9e:5b:97:fd
# Fingerprint (SHA1): 05:60:a2:c7:38:ff:98:d1:17:2a:94:fe:45:fb:8a:47:d6:65:37:1e
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certipost E-Trust TOP Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\123\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\034\060\032\006\003\125\004\012\023\023\103\145\162\164\151\160
\157\163\164\040\163\056\141\056\057\156\056\166\056\061\046\060
\044\006\003\125\004\003\023\035\103\145\162\164\151\160\157\163
\164\040\105\055\124\162\165\163\164\040\124\117\120\040\122\157
\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\123\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\034\060\032\006\003\125\004\012\023\023\103\145\162\164\151\160
\157\163\164\040\163\056\141\056\057\156\056\166\056\061\046\060
\044\006\003\125\004\003\023\035\103\145\162\164\151\160\157\163
\164\040\105\055\124\162\165\163\164\040\124\117\120\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\005\122\144\301\225
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\314\060\202\002\264\240\003\002\001\002\002\013\004
\000\000\000\000\001\005\122\144\301\225\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\123\061\013\060\011\006
\003\125\004\006\023\002\102\105\061\034\060\032\006\003\125\004
\012\023\023\103\145\162\164\151\160\157\163\164\040\163\056\141
\056\057\156\056\166\056\061\046\060\044\006\003\125\004\003\023
\035\103\145\162\164\151\160\157\163\164\040\105\055\124\162\165
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\163\164\040\124\117\120\040\122\157\157\164\040\103\101\060\036
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\015\062\065\060\067\062\066\061\060\060\060\060\060\132\060\123
\061\013\060\011\006\003\125\004\006\023\002\102\105\061\034\060
\032\006\003\125\004\012\023\023\103\145\162\164\151\160\157\163
\164\040\163\056\141\056\057\156\056\166\056\061\046\060\044\006
\003\125\004\003\023\035\103\145\162\164\151\160\157\163\164\040
\105\055\124\162\165\163\164\040\124\117\120\040\122\157\157\164
\040\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\245\324\113\100\326\373\361\065\030\073\242\260
\103\344\311\125\241\300\007\273\010\276\072\031\265\043\303\036
\235\263\010\112\364\103\113\351\301\031\140\220\337\204\327\130
\306\072\335\012\054\225\054\275\227\177\376\242\165\332\006\343
\253\233\154\321\270\317\104\206\301\122\140\267\334\076\073\260
\362\351\304\121\074\112\271\203\271\116\141\152\003\233\034\122
\200\072\120\264\040\262\333\323\262\306\124\177\313\140\233\310
\044\236\257\011\307\145\015\050\366\332\232\042\302\063\156\362
\363\045\324\244\371\226\365\157\252\074\153\334\101\060\345\346
\157\312\110\037\060\170\035\171\175\247\321\277\256\305\136\103
\371\306\057\203\166\233\064\112\244\050\130\053\250\210\205\104
\152\053\362\126\102\166\231\220\063\252\356\371\041\317\362\075
\371\167\204\313\335\051\204\304\324\212\052\244\071\134\076\371
\034\045\150\115\365\347\233\135\261\032\064\136\312\002\163\371
\010\304\014\155\136\335\022\052\345\173\305\066\170\122\235\062
\301\305\050\245\040\250\345\230\015\271\157\317\271\200\236\345
\276\271\233\375\002\003\001\000\001\243\201\240\060\201\235\060
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\253\211\006\341\374\045\273\221\324\371\267\137\150\143\250\240
\150\206\153\247\354\222\313\042\372\120\133\023\130\047\256\053
\103\013\266\027\306\060\162\004\063\104\046\112\104\007\037\163
\240\203\101\051\340\222\006\274\325\001\352\376\274\257\161\353

```
\040\037\012\135\015\240\051\136\316\344\101\121\125\226\303\037
\264\061\245\243\363\123\352\377\302\234\206\162\317\066\114\126
\132\006\062\176\136\253\112\241\316\247\353\237\244\214\052\271
\044\213\270\265\363\006\115\246\312\175\231\373\366\125\352\256
\110\171\356\046\131\323\037\014\123\025\367\142\121\371\204\015
\226\154\136\261\010\346\131\010\053\046\051\012\301\203\100\163
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "Certipost E-Trust TOP Root CA"
# Issuer: CN=Certipost E-Trust TOP Root CA,O=Certipost s.a./n.v.,C=BE
# Serial Number:04:00:00:00:00:01:05:52:64:c1:95
# Subject: CN=Certipost E-Trust TOP Root CA,O=Certipost s.a./n.v.,C=BE
# Not Valid Before: Tue Jul 26 10:00:00 2005
# Not Valid After: Sat Jul 26 10:00:00 2025
# Fingerprint (MD5): b8:d3:12:03:4e:8c:0c:5a:47:c9:b6:c5:9e:5b:97:fd
# Fingerprint (SHA1): 05:60:a2:c7:38:ff:98:d1:17:2a:94:fe:45:fb:8a:47:d6:65:37:1e
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certipost E-Trust TOP Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\005\140\242\307\070\377\230\321\027\052\224\376\105\373\212\107
\326\145\067\036
```

```
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\270\323\022\003\116\214\014\132\107\311\266\305\236\133\227\375
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\123\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\034\060\032\006\003\125\004\012\023\023\103\145\162\164\151\160
\157\163\164\040\163\056\141\056\057\156\056\166\056\061\046\060
\044\006\003\125\004\003\023\035\103\145\162\164\151\160\157\163
\164\040\105\055\124\162\165\163\164\040\124\117\120\040\122\157
\157\164\040\103\101
```

```
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\005\122\144\301\225
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Certipost E-Trust Primary Qualified CA"
# Issuer: CN=Certipost E-Trust Primary Qualified CA,O=Certipost s.a./n.v.,C=BE
# Serial Number:04:00:00:00:01:05:52:64:c4:25
# Subject: CN=Certipost E-Trust Primary Qualified CA,O=Certipost s.a./n.v.,C=BE
# Not Valid Before: Tue Jul 26 10:00:00 2005
# Not Valid After: Sun Jul 26 10:00:00 2020
# Fingerprint (MD5): 10:0e:ad:f3:5c:84:1d:8e:03:5f:2d:c9:39:37:f5:52
# Fingerprint (SHA1): 74:2c:df:15:94:04:9c:bf:17:a2:04:6c:c6:39:bb:38:88:e0:2e:33
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certipost E-Trust Primary Qualified CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\134\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\034\060\032\006\003\125\004\012\023\023\103\145\162\164\151\160
\157\163\164\040\163\056\141\056\057\156\056\166\056\061\057\060
\055\006\003\125\004\003\023\046\103\145\162\164\151\160\157\163
\164\040\105\055\124\162\165\163\164\040\120\162\151\155\141\162
\171\040\121\165\141\154\151\146\151\145\144\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\134\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\034\060\032\006\003\125\004\012\023\023\103\145\162\164\151\160
\157\163\164\040\163\056\141\056\057\156\056\166\056\061\057\060
\055\006\003\125\004\003\023\046\103\145\162\164\151\160\157\163
\164\040\105\055\124\162\165\163\164\040\120\162\151\155\141\162
\171\040\121\165\141\154\151\146\151\145\144\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\005\122\144\304\045
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\336\060\202\002\306\240\003\002\001\002\002\013\004
\000\000\000\000\001\005\122\144\304\045\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\134\061\013\060\011\006
\003\125\004\006\023\002\102\105\061\034\060\032\006\003\125\004
\012\023\023\103\145\162\164\151\160\157\163\164\040\163\056\141
\056\057\156\056\166\056\061\057\060\055\006\003\125\004\003\023
\046\103\145\162\164\151\160\157\163\164\040\105\055\124\162\165
\163\164\040\120\162\151\155\141\162\171\040\121\165\141\154\151
\146\151\145\144\040\103\101\060\036\027\015\060\065\060\067\062
\066\061\060\060\060\060\060\132\027\015\062\060\060\067\062\066
\061\060\060\060\060\060\132\060\134\061\013\060\011\006\003\125
\004\006\023\002\102\105\061\034\060\032\006\003\125\004\012\023
```

\023\103\145\162\164\151\160\157\163\164\040\163\056\141\056\057
\156\056\166\056\061\057\060\055\006\003\125\004\003\023\046\103
\145\162\164\151\160\157\163\164\040\105\055\124\162\165\163\164
\040\120\162\151\155\141\162\171\040\121\165\141\154\151\146\151
\145\144\040\103\101\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\256\040\322\170\333\232\240\162\234\004
\122\045\054\155\122\330\327\047\211\063\240\341\262\325\373\060
\165\153\055\177\034\147\216\016\347\037\022\337\027\171\030\273
\264\033\157\370\075\165\033\236\147\067\360\361\372\017\165\355
\206\235\003\004\241\050\160\055\074\262\153\240\163\121\343\065
\251\164\245\010\076\224\205\047\066\052\252\162\144\374\167\356
\166\224\034\162\353\277\062\307\167\003\152\045\202\011\005\257
\137\140\074\177\254\033\274\222\350\074\164\131\316\361\174\124
\055\070\256\226\360\254\157\241\063\014\041\132\001\272\043\040
\133\240\206\002\325\123\334\111\037\250\062\263\257\073\106\073
\266\357\237\071\263\070\013\347\172\212\366\050\371\247\157\120
\051\310\171\130\213\111\322\245\330\205\176\126\361\151\025\170
\104\021\065\327\245\124\076\253\146\045\322\333\343\030\361\056
\053\342\161\043\011\067\144\103\102\164\062\226\167\336\227\242
\351\226\206\234\045\104\011\324\001\235\121\176\063\267\011\104
\345\200\227\015\144\133\167\030\227\245\113\251\236\020\235\207
\372\126\247\317\012\175\002\003\001\000\001\243\201\240\060\201
\235\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\035\006\003\125\035\016\004\026\004\024\360\170\371
\007\167\020\273\334\036\241\256\171\373\060\020\333\306\064\370
\027\060\110\006\003\125\035\040\004\101\060\077\060\075\006\011
\003\220\016\007\001\000\001\002\000\060\060\060\056\006\010\053
\006\001\005\005\007\002\001\026\042\150\164\164\160\072\057\057
\167\167\167\056\145\055\164\162\165\163\164\056\142\145\057\103
\120\123\057\121\116\143\145\162\164\163\040\060\021\006\011\140
\206\110\001\206\370\102\001\001\004\004\003\002\000\007\060\015
\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001
\001\000\154\341\330\137\164\130\351\160\111\326\312\015\054\130
\332\312\144\266\121\117\303\006\144\001\351\212\163\035\236\317
\106\170\277\073\205\206\342\075\112\030\224\052\201\167\157\202
\370\157\364\356\042\374\235\030\041\162\140\273\030\200\202\225
\373\371\367\225\044\201\146\301\265\303\265\322\266\166\213\073
\201\134\270\241\016\053\001\024\213\200\011\100\356\370\140\114
\031\344\027\315\047\001\263\143\022\005\244\010\311\264\277\236
\120\116\265\336\017\222\063\146\165\320\075\347\043\174\352\045
\161\174\376\076\056\066\171\241\345\051\120\043\065\005\225\170
\273\237\171\144\334\127\110\047\054\342\134\063\315\302\273\176
\150\167\247\057\243\111\027\162\341\000\204\153\175\172\257\071
\013\054\325\330\127\144\062\154\204\012\152\166\072\323\254\315
\235\261\347\067\334\354\014\057\305\127\140\337\210\365\103\261
\001\144\046\264\047\202\020\262\243\120\357\227\346\177\277\221

\207\263\333\220\251\052\342\172\064\154\163\111\364\350\215\056
\153\212\335\241\212\177\143\320\277\130\036\257\314\077\222\120
\055\321

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "Certipost E-Trust Primary Qualified CA"

Issuer: CN=Certipost E-Trust Primary Qualified CA,O=Certipost s.a./n.v.,C=BE

Serial Number:04:00:00:00:01:05:52:64:c4:25

Subject: CN=Certipost E-Trust Primary Qualified CA,O=Certipost s.a./n.v.,C=BE

Not Valid Before: Tue Jul 26 10:00:00 2005

Not Valid After: Sun Jul 26 10:00:00 2020

Fingerprint (MD5): 10:0e:ad:f3:5c:84:1d:8e:03:5f:2d:c9:39:37:f5:52

Fingerprint (SHA1): 74:2c:df:15:94:04:9c:bf:17:a2:04:6c:c6:39:bb:38:88:e0:2e:33

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certipost E-Trust Primary Qualified CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\164\054\337\025\224\004\234\277\027\242\004\154\306\071\273\070
\210\340\056\063

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\020\016\255\363\134\204\035\216\003\137\055\311\071\067\365\122

END

CKA_ISSUER MULTILINE_OCTAL

\060\134\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\034\060\032\006\003\125\004\012\023\023\103\145\162\164\151\160
\157\163\164\040\163\056\141\056\057\156\056\166\056\061\057\060
\055\006\003\125\004\003\023\046\103\145\162\164\151\160\157\163
\164\040\105\055\124\162\165\163\164\040\120\162\151\155\141\162
\171\040\121\165\141\154\151\146\151\145\144\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\013\004\000\000\000\000\001\005\122\144\304\045

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Certipost E-Trust Primary Normalised CA"

Issuer: CN=Certipost E-Trust Primary Normalised CA,O=Certipost s.a./n.v.,C=BE

```
# Serial Number:04:00:00:00:01:05:52:64:c7:61
# Subject: CN=Certipost E-Trust Primary Normalised CA,O=Certipost s.a./n.v.,C=BE
# Not Valid Before: Tue Jul 26 10:00:00 2005
# Not Valid After: Sun Jul 26 10:00:00 2020
# Fingerprint (MD5): 21:ef:b8:50:40:39:3f:75:6f:27:fe:e3:ea:58:70:eb
# Fingerprint (SHA1): a5:9c:9b:10:ec:73:57:51:5a:bb:66:0c:4d:94:f7:3b:9e:6e:92:72
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certipost E-Trust Primary Normalised CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\034\060\032\006\003\125\004\012\023\023\103\145\162\164\151\160
\157\163\164\040\163\056\141\056\057\156\056\166\056\061\060\060
\056\006\003\125\004\003\023\047\103\145\162\164\151\160\157\163
\164\040\105\055\124\162\165\163\164\040\120\162\151\155\141\162
\171\040\116\157\162\155\141\154\151\163\145\144\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\034\060\032\006\003\125\004\012\023\023\103\145\162\164\151\160
\157\163\164\040\163\056\141\056\057\156\056\166\056\061\060\060
\056\006\003\125\004\003\023\047\103\145\162\164\151\160\157\163
\164\040\105\055\124\162\165\163\164\040\120\162\151\155\141\162
\171\040\116\157\162\155\141\154\151\163\145\144\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\005\122\144\307\141
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\340\060\202\002\310\240\003\002\001\002\002\013\004
\000\000\000\000\001\005\122\144\307\141\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\135\061\013\060\011\006
\003\125\004\006\023\002\102\105\061\034\060\032\006\003\125\004
\012\023\023\103\145\162\164\151\160\157\163\164\040\163\056\141
\056\057\156\056\166\056\061\060\060\056\006\003\125\004\003\023
\047\103\145\162\164\151\160\157\163\164\040\105\055\124\162\165
\163\164\040\120\162\151\155\141\162\171\040\116\157\162\155\141
\154\151\163\145\144\040\103\101\060\036\027\015\060\065\060\067
\062\066\061\060\060\060\060\060\132\027\015\062\060\060\067\062
\066\061\060\060\060\060\060\132\060\135\061\013\060\011\006\003
\125\004\006\023\002\102\105\061\034\060\032\006\003\125\004\012
\023\023\103\145\162\164\151\160\157\163\164\040\163\056\141\056
\057\156\056\166\056\061\060\060\056\006\003\125\004\003\023\047
\103\145\162\164\151\160\157\163\164\040\105\055\124\162\165\163
```


\164\040\120\162\151\155\141\162\171\040\116\157\162\155\141\154
\151\163\145\144\040\103\101\060\202\001\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060
\202\001\012\002\202\001\001\000\325\263\252\122\204\172\027\223
\042\017\270\004\030\312\311\362\202\052\254\025\013\247\120\161
\266\114\045\153\367\377\001\252\127\132\167\116\136\023\024\015
\125\362\036\361\205\315\205\327\202\034\014\332\011\053\275\375
\274\236\376\155\211\115\242\002\044\346\121\352\067\177\061\106
\132\173\232\166\263\056\240\135\137\344\370\231\012\007\276\356
\222\046\022\311\173\347\135\154\320\203\107\016\300\214\247\321
\171\127\300\013\031\234\233\236\103\305\116\221\045\316\210\053
\155\171\331\171\212\326\146\116\042\303\032\105\116\357\310\260
\142\046\116\046\124\120\237\014\157\263\153\314\174\237\177\336
\017\015\265\217\303\153\324\341\302\373\273\126\120\252\214\075
\217\000\213\074\374\110\027\152\322\132\363\165\155\145\201\275
\106\135\237\242\142\123\256\316\363\251\344\221\053\132\046\303
\171\146\321\246\123\146\065\034\006\161\261\356\231\016\304\373
\130\022\254\042\106\055\342\042\222\333\341\074\277\273\376\206
\347\223\064\163\317\170\151\323\313\336\371\014\262\150\332\311
\212\012\140\124\304\363\126\143\002\003\001\000\001\243\201\240
\060\201\235\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\110\006\003\125\035\040\004\101\060\077\060
\075\006\011\003\220\016\007\001\000\001\002\000\060\060\060\056
\006\010\053\006\001\005\005\007\002\001\026\042\150\164\164\160
\072\057\057\167\167\167\056\145\055\164\162\165\163\164\056\142
\145\057\103\120\123\057\121\116\143\145\162\164\163\040\060\035
\006\003\125\035\016\004\026\004\024\021\362\013\226\322\063\070
\201\127\130\023\375\100\244\021\157\116\231\372\147\060\021\006
\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000\007
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\065\153\117\336\235\363\003\266\035\310\274\215
\347\136\152\236\251\351\355\242\053\227\352\257\321\341\106\323
\002\111\175\304\122\205\353\272\366\323\277\071\142\030\235\223
\111\275\170\003\277\323\136\025\335\357\047\034\341\273\105\001
\042\201\000\115\072\340\205\312\132\062\003\314\040\217\257\357
\301\333\250\372\363\334\327\262\261\017\003\201\011\051\340\161
\174\213\372\177\313\066\156\033\350\024\316\360\113\046\241\062
\051\117\314\264\365\207\110\014\023\374\307\235\257\253\324\223
\365\052\115\177\110\202\130\076\027\377\303\200\052\253\077\127
\125\270\071\054\146\020\144\046\155\214\153\326\335\240\203\032
\132\126\021\226\106\275\256\160\050\326\070\127\133\221\325\077
\115\351\254\263\303\044\112\226\145\134\064\320\036\324\277\010
\245\227\135\367\106\333\166\360\315\076\165\143\000\053\257\255
\256\206\336\137\246\231\124\015\205\043\245\374\272\355\033\122
\372\111\030\167\205\133\252\162\233\047\010\065\105\067\047\333
\227\311\372\213\075\310\320\235\336\132\357\135\243\026\266\230
\171\312\174\313

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Trust for "Certipost E-Trust Primary Normalised CA"
# Issuer: CN=Certipost E-Trust Primary Normalised CA,O=Certipost s.a./n.v.,C=BE
# Serial Number:04:00:00:00:00:01:05:52:64:c7:61
# Subject: CN=Certipost E-Trust Primary Normalised CA,O=Certipost s.a./n.v.,C=BE
# Not Valid Before: Tue Jul 26 10:00:00 2005
# Not Valid After: Sun Jul 26 10:00:00 2020
# Fingerprint (MD5): 21:ef:b8:50:40:39:3f:75:6f:27:fe:e3:ea:58:70:eb
# Fingerprint (SHA1): a5:9c:9b:10:ec:73:57:51:5a:bb:66:0c:4d:94:f7:3b:9e:6e:92:72
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certipost E-Trust Primary Normalised CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\245\234\233\020\354\163\127\121\132\273\146\014\115\224\367\073
\236\156\222\162
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\041\357\270\120\100\071\077\165\157\047\376\343\352\130\160\353
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\034\060\032\006\003\125\004\012\023\023\103\145\162\164\151\160
\157\163\164\040\163\056\141\056\057\156\056\166\056\061\060\060
\056\006\003\125\004\003\023\047\103\145\162\164\151\160\157\163
\164\040\105\055\124\162\165\163\164\040\120\162\151\155\141\162
\171\040\116\157\162\155\141\154\151\163\145\144\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\005\122\144\307\141
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Cybertrust Global Root"
# Issuer: CN=Cybertrust Global Root,O=Cybertrust\, Inc
# Serial Number:04:00:00:00:00:01:0f:85:aa:2d:48
# Subject: CN=Cybertrust Global Root,O=Cybertrust\, Inc
# Not Valid Before: Fri Dec 15 08:00:00 2006

```

```
# Not Valid After: Wed Dec 15 08:00:00 2021
# Fingerprint (MD5): 72:e4:4a:87:e3:69:40:80:77:ea:bc:e3:f4:ff:f0:e1
# Fingerprint (SHA1): 5f:43:e5:b1:bf:f8:78:8c:ac:1c:c7:ca:4a:9a:c6:22:2b:cc:34:c6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Cybertrust Global Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\030\060\026\006\003\125\004\012\023\017\103\171\142
\145\162\164\162\165\163\164\054\040\111\156\143\061\037\060\035
\006\003\125\004\003\023\026\103\171\142\145\162\164\162\165\163
\164\040\107\154\157\142\141\154\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\030\060\026\006\003\125\004\012\023\017\103\171\142
\145\162\164\162\165\163\164\054\040\111\156\143\061\037\060\035
\006\003\125\004\003\023\026\103\171\142\145\162\164\162\165\163
\164\040\107\154\157\142\141\154\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\017\205\252\055\110
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\241\060\202\002\211\240\003\002\001\002\002\013\004
\000\000\000\000\001\017\205\252\055\110\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\073\061\030\060\026\006
\003\125\004\012\023\017\103\171\142\145\162\164\162\165\163\164
\054\040\111\156\143\061\037\060\035\006\003\125\004\003\023\026
\103\171\142\145\162\164\162\165\163\164\040\107\154\157\142\141
\154\040\122\157\157\164\060\036\027\015\060\066\061\062\061\065
\060\070\060\060\060\060\132\027\015\062\061\061\062\061\065\060
\070\060\060\060\060\132\060\073\061\030\060\026\006\003\125\004
\012\023\017\103\171\142\145\162\164\162\165\163\164\054\040\111
\156\143\061\037\060\035\006\003\125\004\003\023\026\103\171\142
\145\162\164\162\165\163\164\040\107\154\157\142\141\154\040\122
\157\157\164\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\370\310\274\275\024\120\146\023\377\360\323\171
\354\043\362\267\032\307\216\205\361\022\163\246\031\252\020\333
\234\242\145\164\132\167\076\121\175\126\366\334\043\266\324\355
\137\130\261\067\115\325\111\016\156\365\152\207\326\322\214\322
\047\306\342\377\066\237\230\145\240\023\116\306\052\144\233\325
\220\022\317\024\006\364\073\343\324\050\276\350\016\370\253\116
\110\224\155\216\225\061\020\134\355\242\055\275\325\072\155\262
\034\273\140\300\106\113\001\365\111\256\176\106\212\320\164\215
```

\241\014\002\316\356\374\347\217\270\153\146\363\177\104\000\277
\146\045\024\053\335\020\060\035\007\226\077\115\366\153\270\217
\267\173\014\245\070\353\336\107\333\325\135\071\374\210\247\363
\327\052\164\361\350\132\242\073\237\120\272\246\214\105\065\302
\120\145\225\334\143\202\357\335\277\167\115\234\142\311\143\163
\026\320\051\017\111\251\110\360\263\252\267\154\305\247\060\071
\100\135\256\304\342\135\046\123\360\316\034\043\010\141\250\224
\031\272\004\142\100\354\037\070\160\167\022\006\161\247\060\030
\135\045\047\245\002\003\001\000\001\243\201\245\060\201\242\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\266\010\173\015\172
\314\254\040\114\206\126\062\136\317\253\156\205\055\160\127\060
\077\006\003\125\035\037\004\070\060\066\060\064\240\062\240\060
\206\056\150\164\164\160\072\057\057\167\167\167\062\056\160\165
\142\154\151\143\055\164\162\165\163\164\056\143\157\155\057\143
\162\154\057\143\164\057\143\164\162\157\157\164\056\143\162\154
\060\037\006\003\125\035\043\004\030\060\026\200\024\266\010\173
\015\172\314\254\040\114\206\126\062\136\317\253\156\205\055\160
\127\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\126\357\012\043\240\124\116\225\227\311\370
\211\332\105\301\324\243\000\045\364\037\023\253\267\243\205\130
\151\302\060\255\330\025\212\055\343\311\315\201\132\370\163\043
\132\247\174\005\363\375\042\073\016\321\006\304\333\066\114\163
\004\216\345\260\042\344\305\363\056\245\331\043\343\270\116\112
\040\247\156\002\044\237\042\140\147\173\213\035\162\011\305\061
\134\351\171\237\200\107\075\255\241\013\007\024\075\107\377\003
\151\032\014\013\104\347\143\045\247\177\262\311\270\166\204\355
\043\366\175\007\253\105\176\323\337\263\277\351\212\266\315\250
\242\147\053\122\325\267\145\360\071\114\143\240\221\171\223\122
\017\124\335\203\273\237\321\217\247\123\163\303\313\377\060\354
\174\004\270\330\104\037\223\137\161\011\042\267\156\076\352\034
\003\116\235\032\040\141\373\201\067\354\136\374\012\105\253\327
\347\027\125\320\240\352\140\233\246\366\343\214\133\051\302\006
\140\024\235\055\227\114\251\223\025\235\141\304\001\137\110\326
\130\275\126\061\022\116\021\310\041\340\263\021\221\145\333\264
\246\210\070\316\125

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Cybertrust Global Root"
Issuer: CN=Cybertrust Global Root,O=Cybertrust\, Inc
Serial Number:04:00:00:00:00:01:0f:85:aa:2d:48
Subject: CN=Cybertrust Global Root,O=Cybertrust\, Inc
Not Valid Before: Fri Dec 15 08:00:00 2006

```
# Not Valid After: Wed Dec 15 08:00:00 2021
# Fingerprint (MD5): 72:e4:4a:87:e3:69:40:80:77:ea:bc:e3:f4:ff:f0:e1
# Fingerprint (SHA1): 5f:43:e5:b1:bf:f8:78:8c:ac:1c:c7:ca:4a:9a:c6:22:2b:cc:34:c6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Cybertrust Global Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\103\345\261\277\370\170\214\254\034\307\312\112\232\306\042
\053\314\064\306
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\162\344\112\207\343\151\100\200\167\352\274\343\364\377\360\341
END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\030\060\026\006\003\125\004\012\023\017\103\171\142
\145\162\164\162\165\163\164\054\040\111\156\143\061\037\060\035
\006\003\125\004\003\023\026\103\171\142\145\162\164\162\165\163
\164\040\107\154\157\142\141\154\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\017\205\252\055\110
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Certificate "IGC/A"
```

```
# Issuer:
```

```
1.2.840.113549.1.9.1=igca@sgdn.pm.gouv.fr,CN=IGC/A,OU=DCSSI,O=PM/SGDN,L=Paris,ST=France,C=FR
```

```
# Serial Number:39:11:45:10:94
```

```
# Subject:
```

```
1.2.840.113549.1.9.1=igca@sgdn.pm.gouv.fr,CN=IGC/A,OU=DCSSI,O=PM/SGDN,L=Paris,ST=France,C=FR
```

```
# Not Valid Before: Fri Dec 13 14:29:23 2002
```

```
# Not Valid After: Sat Oct 17 14:29:22 2020
```

```
# Fingerprint (MD5): 0c:7f:dd:6a:f4:2a:b9:c8:9b:bd:20:7e:a9:db:5c:37
```

```
# Fingerprint (SHA1): 60:d6:89:74:b5:c2:65:9e:8a:0f:c1:88:7c:88:d2:46:69:1b:18:2c
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "IGC/A"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\106\122
```

\061\017\060\015\006\003\125\004\010\023\006\106\162\141\156\143
\145\061\016\060\014\006\003\125\004\007\023\005\120\141\162\151
\163\061\020\060\016\006\003\125\004\012\023\007\120\115\057\123
\107\104\116\061\016\060\014\006\003\125\004\013\023\005\104\103
\123\123\111\061\016\060\014\006\003\125\004\003\023\005\111\107
\103\057\101\061\043\060\041\006\011\052\206\110\206\367\015\001
\011\001\026\024\151\147\143\141\100\163\147\144\156\056\160\155
\056\147\157\165\166\056\146\162

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\205\061\013\060\011\006\003\125\004\006\023\002\106\122
\061\017\060\015\006\003\125\004\010\023\006\106\162\141\156\143
\145\061\016\060\014\006\003\125\004\007\023\005\120\141\162\151
\163\061\020\060\016\006\003\125\004\012\023\007\120\115\057\123
\107\104\116\061\016\060\014\006\003\125\004\013\023\005\104\103
\123\123\111\061\016\060\014\006\003\125\004\003\023\005\111\107
\103\057\101\061\043\060\041\006\011\052\206\110\206\367\015\001
\011\001\026\024\151\147\143\141\100\163\147\144\156\056\160\155
\056\147\157\165\166\056\146\162

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\005\071\021\105\020\224

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\002\060\202\002\352\240\003\002\001\002\002\005\071
\021\105\020\224\060\015\006\011\052\206\110\206\367\015\001\001
\005\005\000\060\201\205\061\013\060\011\006\003\125\004\006\023
\002\106\122\061\017\060\015\006\003\125\004\010\023\006\106\162
\141\156\143\145\061\016\060\014\006\003\125\004\007\023\005\120
\141\162\151\163\061\020\060\016\006\003\125\004\012\023\007\120
\115\057\123\107\104\116\061\016\060\014\006\003\125\004\013\023
\005\104\103\123\123\111\061\016\060\014\006\003\125\004\003\023
\005\111\107\103\057\101\061\043\060\041\006\011\052\206\110\206
\367\015\001\011\001\026\024\151\147\143\141\100\163\147\144\156
\056\160\155\056\147\157\165\166\056\146\162\060\036\027\015\060
\062\061\062\061\063\061\064\062\071\062\063\132\027\015\062\060
\061\060\061\067\061\064\062\071\062\062\132\060\201\205\061\013
\060\011\006\003\125\004\006\023\002\106\122\061\017\060\015\006
\003\125\004\010\023\006\106\162\141\156\143\145\061\016\060\014
\006\003\125\004\007\023\005\120\141\162\151\163\061\020\060\016
\006\003\125\004\012\023\007\120\115\057\123\107\104\116\061\016
\060\014\006\003\125\004\013\023\005\104\103\123\123\111\061\016
\060\014\006\003\125\004\003\023\005\111\107\103\057\101\061\043
\060\041\006\011\052\206\110\206\367\015\001\011\001\026\024\151
\147\143\141\100\163\147\144\156\056\160\155\056\147\157\165\166
\056\146\162\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002

\202\001\001\000\262\037\321\320\142\305\063\073\300\004\206\210
\263\334\370\210\367\375\337\103\337\172\215\232\111\134\366\116
\252\314\034\271\241\353\047\211\362\106\351\073\112\161\325\035
\216\055\317\346\255\253\143\120\307\124\013\156\022\311\220\066
\306\330\057\332\221\252\150\305\162\376\027\012\262\027\176\171
\265\062\210\160\312\160\300\226\112\216\344\125\315\035\047\224
\277\316\162\052\354\134\371\163\040\376\275\367\056\211\147\270
\273\107\163\022\367\321\065\151\072\362\012\271\256\377\106\102
\106\242\277\241\205\032\371\277\344\377\111\205\367\243\160\206
\062\034\135\237\140\367\251\255\245\377\317\321\064\371\175\133
\027\306\334\326\016\050\153\302\335\361\365\063\150\235\116\374
\207\174\066\022\326\243\200\350\103\015\125\141\224\352\144\067
\107\352\167\312\320\262\130\005\303\135\176\261\250\106\220\061
\126\316\160\052\226\262\060\270\167\346\171\300\275\051\073\375
\224\167\114\275\040\315\101\045\340\056\307\033\273\356\244\004
\101\322\135\255\022\152\212\233\107\373\311\335\106\100\341\235
\074\063\320\265\002\003\001\000\001\243\167\060\165\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\013
\006\003\125\035\017\004\004\003\002\001\106\060\025\006\003\125
\035\040\004\016\060\014\060\012\006\010\052\201\172\001\171\001
\001\001\060\035\006\003\125\035\016\004\026\004\024\243\005\057
\030\140\120\302\211\012\335\053\041\117\377\216\116\250\060\061
\066\060\037\006\003\125\035\043\004\030\060\026\200\024\243\005
\057\030\140\120\302\211\012\335\053\041\117\377\216\116\250\060
\061\066\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\003\202\001\001\000\005\334\046\330\372\167\025\104\150\374
\057\146\072\164\340\135\344\051\377\006\007\023\204\112\253\317
\155\240\037\121\224\370\111\313\164\066\024\274\025\335\333\211
\057\335\217\240\135\174\365\022\353\237\236\070\244\107\314\263
\226\331\276\234\045\253\003\176\063\017\225\201\015\375\026\340
\210\276\067\360\154\135\320\061\233\062\053\135\027\145\223\230
\140\274\156\217\261\250\074\036\331\034\363\251\046\102\371\144
\035\302\347\222\366\364\036\132\252\031\122\135\257\350\242\367
\140\240\366\215\360\211\365\156\340\012\005\001\225\311\213\040
\012\272\132\374\232\054\074\275\303\267\311\135\170\045\005\077
\126\024\233\014\332\373\072\110\376\227\151\136\312\020\206\367
\116\226\004\010\115\354\260\276\135\334\073\216\117\301\375\232
\066\064\232\114\124\176\027\003\110\225\010\021\034\007\157\205
\010\176\135\115\304\235\333\373\256\316\262\321\263\270\203\154
\035\262\263\171\361\330\160\231\176\360\023\002\316\136\335\121
\323\337\066\201\241\033\170\057\161\263\361\131\114\106\030\050
\253\205\322\140\126\132

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

```
# Trust for "IGC/A"
# Issuer:
1.2.840.113549.1.9.1=igca@sgdn.pm.gouv.fr,CN=IGC/A,OU=DCSSI,O=PM/SGDN,L=Paris,ST=France,C=FR
# Serial Number:39:11:45:10:94
# Subject:
1.2.840.113549.1.9.1=igca@sgdn.pm.gouv.fr,CN=IGC/A,OU=DCSSI,O=PM/SGDN,L=Paris,ST=France,C=FR
# Not Valid Before: Fri Dec 13 14:29:23 2002
# Not Valid After: Sat Oct 17 14:29:22 2020
# Fingerprint (MD5): 0c:7f:dd:6a:f4:2a:b9:c8:9b:bd:20:7e:a9:db:5c:37
# Fingerprint (SHA1): 60:d6:89:74:b5:c2:65:9e:8a:0f:c1:88:7c:88:d2:46:69:1b:18:2c
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IGC/A"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\140\326\211\164\265\302\145\236\212\017\301\210\174\210\322\106
\151\033\030\054
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\014\177\335\152\364\052\271\310\233\275\040\176\251\333\134\067
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\106\122
\061\017\060\015\006\003\125\004\010\023\006\106\162\141\156\143
\145\061\016\060\014\006\003\125\004\007\023\005\120\141\162\151
\163\061\020\060\016\006\003\125\004\012\023\007\120\115\057\123
\107\104\116\061\016\060\014\006\003\125\004\013\023\005\104\103
\123\123\111\061\016\060\014\006\003\125\004\003\023\005\111\107
\103\057\101\061\043\060\041\006\011\052\206\110\206\367\015\001
\011\001\026\024\151\147\143\141\100\163\147\144\156\056\160\155
\056\147\157\165\166\056\146\162
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\005\071\021\105\020\224
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "S-TRUST Authentication and Encryption Root CA 2005:PN"
# Issuer: CN=S-TRUST Authentication and Encryption Root CA 2005:PN,O=Deutscher Sparkassen Verlag
GmbH,L=Stuttgart,ST=Baden-Wuerttemberg (BW),C=DE
# Serial Number:37:19:18:e6:53:54:7c:1a:b5:b8:cb:59:5a:db:35:b7
# Subject: CN=S-TRUST Authentication and Encryption Root CA 2005:PN,O=Deutscher Sparkassen Verlag
GmbH,L=Stuttgart,ST=Baden-Wuerttemberg (BW),C=DE
```



```
# Not Valid Before: Wed Jun 22 00:00:00 2005
# Not Valid After: Fri Jun 21 23:59:59 2030
# Fingerprint (MD5): 04:4b:fd:c9:6c:da:2a:32:85:7c:59:84:61:46:8a:64
# Fingerprint (SHA1): be:b5:a9:95:74:6b:9e:df:73:8b:56:e6:df:43:7a:77:be:10:6b:81
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "S-TRUST Authentication and Encryption Root CA 2005:PN"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\040\060\036\006\003\125\004\010\023\027\102\141\144\145\156
\055\127\165\145\162\164\164\145\155\142\145\162\147\040\050\102
\127\051\061\022\060\020\006\003\125\004\007\023\011\123\164\165
\164\164\147\141\162\164\061\051\060\047\006\003\125\004\012\023
\040\104\145\165\164\163\143\150\145\162\040\123\160\141\162\153
\141\163\163\145\156\040\126\145\162\154\141\147\040\107\155\142
\110\061\076\060\074\006\003\125\004\003\023\065\123\055\124\122
\125\123\124\040\101\165\164\150\145\156\164\151\143\141\164\151
\157\156\040\141\156\144\040\105\156\143\162\171\160\164\151\157
\156\040\122\157\157\164\040\103\101\040\062\060\060\065\072\120
\116
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\040\060\036\006\003\125\004\010\023\027\102\141\144\145\156
\055\127\165\145\162\164\164\145\155\142\145\162\147\040\050\102
\127\051\061\022\060\020\006\003\125\004\007\023\011\123\164\165
\164\164\147\141\162\164\061\051\060\047\006\003\125\004\012\023
\040\104\145\165\164\163\143\150\145\162\040\123\160\141\162\153
\141\163\163\145\156\040\126\145\162\154\141\147\040\107\155\142
\110\061\076\060\074\006\003\125\004\003\023\065\123\055\124\122
\125\123\124\040\101\165\164\150\145\156\164\151\143\141\164\151
\157\156\040\141\156\144\040\105\156\143\162\171\160\164\151\157
\156\040\122\157\157\164\040\103\101\040\062\060\060\065\072\120
\116
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\067\031\030\346\123\124\174\032\265\270\313\131\132\333
\065\267
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\173\060\202\003\143\240\003\002\001\002\002\020\067
\031\030\346\123\124\174\032\265\270\313\131\132\333\065\267\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\256\061\013\060\011\006\003\125\004\006\023\002\104\105\061\040
```

\060\036\006\003\125\004\010\023\027\102\141\144\145\156\055\127
\165\145\162\164\164\145\155\142\145\162\147\040\050\102\127\051
\061\022\060\020\006\003\125\004\007\023\011\123\164\165\164\164
\147\141\162\164\061\051\060\047\006\003\125\004\012\023\040\104
\145\165\164\163\143\150\145\162\040\123\160\141\162\153\141\163
\163\145\156\040\126\145\162\154\141\147\040\107\155\142\110\061
\076\060\074\006\003\125\004\003\023\065\123\055\124\122\125\123
\124\040\101\165\164\150\145\156\164\151\143\141\164\151\157\156
\040\141\156\144\040\105\156\143\162\171\160\164\151\157\156\040
\122\157\157\164\040\103\101\040\062\060\060\065\072\120\116\060
\036\027\015\060\065\060\066\062\062\060\060\060\060\060\132
\027\015\063\060\060\066\062\061\062\063\065\071\065\071\132\060
\201\256\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\040\060\036\006\003\125\004\010\023\027\102\141\144\145\156\055
\127\165\145\162\164\164\145\155\142\145\162\147\040\050\102\127
\051\061\022\060\020\006\003\125\004\007\023\011\123\164\165\164
\164\147\141\162\164\061\051\060\047\006\003\125\004\012\023\040
\104\145\165\164\163\143\150\145\162\040\123\160\141\162\153\141
\163\163\145\156\040\126\145\162\154\141\147\040\107\155\142\110
\061\076\060\074\006\003\125\004\003\023\065\123\055\124\122\125
\123\124\040\101\165\164\150\145\156\164\151\143\141\164\151\157
\156\040\141\156\144\040\105\156\143\162\171\160\164\151\157\156
\040\122\157\157\164\040\103\101\040\062\060\060\065\072\120\116
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\331\265\112\301\323\063\352\323\106\263\321\342\114\322\365
\266\203\320\157\325\030\351\223\257\047\216\023\315\265\045\066
\120\064\022\144\051\241\125\341\072\140\223\236\050\311\343\363
\233\341\004\260\043\277\225\212\216\133\033\101\177\132\303\350
\115\114\325\044\026\076\207\110\324\047\256\346\367\123\035\273
\014\000\357\076\141\161\255\277\072\172\130\037\224\075\134\201
\325\325\157\337\270\233\322\365\345\313\203\162\222\302\123\262
\202\002\353\255\255\137\026\055\222\123\166\361\211\266\054\365
\301\057\340\247\112\157\240\060\152\062\353\232\164\003\150\170
\023\235\312\057\233\013\035\276\317\165\015\046\227\233\307\365
\136\012\237\170\337\263\274\354\232\272\357\125\217\033\232\246
\007\143\051\027\131\142\011\052\171\007\167\245\340\321\027\151
\351\133\335\366\220\253\342\230\012\000\321\045\155\236\327\205
\207\057\222\361\321\166\203\117\013\072\131\067\050\057\063\247
\027\120\326\040\013\012\364\046\371\237\070\347\055\244\270\233
\211\215\255\255\311\152\175\211\027\273\366\177\200\203\172\346
\355\002\003\001\000\001\243\201\222\060\201\217\060\022\006\003
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\000
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\051\006\003\125\035\021\004\042\060\040\244\036\060\034\061
\032\060\030\006\003\125\004\003\023\021\123\124\122\157\156\154
\151\156\145\061\055\062\060\064\070\055\065\060\035\006\003\125
\035\016\004\026\004\024\017\312\036\134\171\340\242\363\051\266

```
\322\205\263\013\112\265\145\354\153\122\060\037\006\003\125\035
\043\004\030\060\026\200\024\017\312\036\134\171\340\242\363\051
\266\322\205\263\013\112\265\145\354\153\122\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\257
\001\360\355\031\074\050\350\115\134\273\245\143\034\210\063\003
\247\000\207\244\037\040\253\326\034\343\006\037\227\176\124\275
\267\321\262\311\325\332\200\354\027\327\212\365\173\302\000\366
\351\021\157\204\240\132\045\061\342\211\371\244\000\077\061\150
\056\325\075\350\156\346\325\035\074\077\262\275\237\167\353\235
\323\214\272\300\327\266\115\354\123\234\017\004\156\352\065\147
\127\343\012\145\173\220\072\341\117\076\303\000\222\172\273\005
\211\163\214\313\246\115\300\373\366\002\326\260\007\243\003\302
\047\100\237\014\344\205\202\055\257\232\102\035\320\307\215\370
\100\356\235\006\127\034\331\242\330\200\024\376\341\143\055\062
\207\325\224\122\226\072\106\306\161\226\075\367\230\016\262\221
\252\217\332\364\116\044\000\071\125\350\255\027\271\323\064\053
\112\251\100\314\027\052\125\145\101\164\102\176\365\300\257\310
\223\255\362\030\133\075\211\014\333\107\071\044\370\340\114\362
\037\260\075\012\312\005\116\211\041\032\343\052\231\254\374\177
\241\361\017\033\037\075\236\004\203\335\226\331\035\072\224
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "S-TRUST Authentication and Encryption Root CA 2005:PN"

Issuer: CN=S-TRUST Authentication and Encryption Root CA 2005:PN,O=Deutscher Sparkassen Verlag
GmbH,L=Stuttgart,ST=Baden-Wuerttemberg (BW),C=DE

Serial Number:37:19:18:e6:53:54:7c:1a:b5:b8:cb:59:5a:db:35:b7

Subject: CN=S-TRUST Authentication and Encryption Root CA 2005:PN,O=Deutscher Sparkassen Verlag
GmbH,L=Stuttgart,ST=Baden-Wuerttemberg (BW),C=DE

Not Valid Before: Wed Jun 22 00:00:00 2005

Not Valid After: Fri Jun 21 23:59:59 2030

Fingerprint (MD5): 04:4b:fd:c9:6c:da:2a:32:85:7c:59:84:61:46:8a:64

Fingerprint (SHA1): be:b5:a9:95:74:6b:9e:df:73:8b:56:e6:df:43:7a:77:be:10:6b:81

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "S-TRUST Authentication and Encryption Root CA 2005:PN"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\276\265\251\225\164\153\236\337\163\213\126\346\337\103\172\167
```

```
\276\020\153\201
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\004\113\375\311\154\332\052\062\205\174\131\204\141\106\212\144
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\040\060\036\006\003\125\004\010\023\027\102\141\144\145\156
\055\127\165\145\162\164\164\145\155\142\145\162\147\040\050\102
\127\051\061\022\060\020\006\003\125\004\007\023\011\123\164\165
\164\164\147\141\162\164\061\051\060\047\006\003\125\004\012\023
\040\104\145\165\164\163\143\150\145\162\040\123\160\141\162\153
\141\163\163\145\156\040\126\145\162\154\141\147\040\107\155\142
\110\061\076\060\074\006\003\125\004\003\023\065\123\055\124\122
\125\123\124\040\101\165\164\150\145\156\164\151\143\141\164\151
\157\156\040\141\156\144\040\105\156\143\162\171\160\164\151\157
\156\040\122\157\157\164\040\103\101\040\062\060\060\065\072\120
\116
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\067\031\030\346\123\124\174\032\265\270\313\131\132\333
\065\267
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Certificate "TC TrustCenter Universal CA I"
```

```
# Issuer: CN=TC TrustCenter Universal CA I,OU=TC TrustCenter Universal CA,O=TC TrustCenter GmbH,C=DE
```

```
# Serial Number: 1d:a2:00:01:00:02:ec:b7:60:80:78:8d:b6:06
```

```
# Subject: CN=TC TrustCenter Universal CA I,OU=TC TrustCenter Universal CA,O=TC TrustCenter
GmbH,C=DE
```

```
# Not Valid Before: Wed Mar 22 15:54:28 2006
```

```
# Not Valid After: Wed Dec 31 22:59:59 2025
```

```
# Fingerprint (MD5): 45:e1:a5:72:c5:a9:36:64:40:9e:f5:e4:58:84:67:8c
```

```
# Fingerprint (SHA1): 6b:2f:34:ad:89:58:be:62:fd:b0:6b:5c:ce:bb:9d:d9:4f:4e:39:f3
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TC TrustCenter Universal CA I"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\171\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\044\060
\042\006\003\125\004\013\023\033\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\125\156\151\166\145\162\163\141\154
\040\103\101\061\046\060\044\006\003\125\004\003\023\035\124\103
\040\124\162\165\163\164\103\145\156\164\145\162\040\125\156\151
\166\145\162\163\141\154\040\103\101\040\111
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\171\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\044\060
\042\006\003\125\004\013\023\033\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\125\156\151\166\145\162\163\141\154
\040\103\101\061\046\060\044\006\003\125\004\003\023\035\124\103
\040\124\162\165\163\164\103\145\156\164\145\162\040\125\156\151
\166\145\162\163\141\154\040\103\101\040\111

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\016\035\242\000\001\000\002\354\267\140\200\170\215\266\006

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\335\060\202\002\305\240\003\002\001\002\002\016\035
\242\000\001\000\002\354\267\140\200\170\215\266\006\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\060\171\061\013
\060\011\006\003\125\004\006\023\002\104\105\061\034\060\032\006
\003\125\004\012\023\023\124\103\040\124\162\165\163\164\103\145
\156\164\145\162\040\107\155\142\110\061\044\060\042\006\003\125
\004\013\023\033\124\103\040\124\162\165\163\164\103\145\156\164
\145\162\040\125\156\151\166\145\162\163\141\154\040\103\101\061
\046\060\044\006\003\125\004\003\023\035\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\125\156\151\166\145\162\163
\141\154\040\103\101\040\111\060\036\027\015\060\066\060\063\062
\062\061\065\065\064\062\070\132\027\015\062\065\061\062\063\061
\062\062\065\071\065\071\132\060\171\061\013\060\011\006\003\125
\004\006\023\002\104\105\061\034\060\032\006\003\125\004\012\023
\023\124\103\040\124\162\165\163\164\103\145\156\164\145\162\040
\107\155\142\110\061\044\060\042\006\003\125\004\013\023\033\124
\103\040\124\162\165\163\164\103\145\156\164\145\162\040\125\156
\151\166\145\162\163\141\154\040\103\101\061\046\060\044\006\003
\125\004\003\023\035\124\103\040\124\162\165\163\164\103\145\156
\164\145\162\040\125\156\151\166\145\162\163\141\154\040\103\101
\040\111\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\244\167\043\226\104\257\220\364\061\247\020\364\046
\207\234\363\070\331\017\136\336\317\101\350\061\255\306\164\221
\044\226\170\036\011\240\233\232\225\112\112\365\142\174\002\250
\312\254\373\132\004\166\071\336\137\361\371\263\277\363\003\130
\125\322\252\267\343\004\042\321\370\224\332\042\010\000\215\323
\174\046\135\314\167\171\347\054\170\071\250\046\163\016\242\135
\045\151\205\117\125\016\232\357\306\271\104\341\127\075\337\037
\124\042\345\157\145\252\063\204\072\363\316\172\276\125\227\256
\215\022\017\024\063\342\120\160\303\111\207\023\274\121\336\327
\230\022\132\357\072\203\063\222\006\165\213\222\174\022\150\173

\160\152\017\265\233\266\167\133\110\131\235\344\357\132\255\363
\301\236\324\327\105\116\312\126\064\041\274\076\027\133\157\167
\014\110\001\103\051\260\335\077\226\156\346\225\252\014\300\040
\266\375\076\066\047\234\343\134\317\116\201\334\031\273\221\220
\175\354\346\227\004\036\223\314\042\111\327\227\206\266\023\012
\074\103\043\167\176\360\334\346\315\044\037\073\203\233\064\072
\203\064\343\002\003\001\000\001\243\143\060\141\060\037\006\003
\125\035\043\004\030\060\026\200\024\222\244\165\054\244\236\276
\201\104\353\171\374\212\305\225\245\353\020\165\163\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035
\006\003\125\035\016\004\026\004\024\222\244\165\054\244\236\276
\201\104\353\171\374\212\305\225\245\353\020\165\163\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\050\322\340\206\325\346\370\173\360\227\334\042\153\073\225
\024\126\017\021\060\245\232\117\072\260\072\340\006\313\145\365
\355\306\227\047\376\045\362\127\346\136\225\214\076\144\140\025
\132\177\057\015\001\305\261\140\375\105\065\317\360\262\277\006
\331\357\132\276\263\142\041\264\327\253\065\174\123\076\246\047
\361\241\055\332\032\043\235\314\335\354\074\055\236\047\064\135
\017\302\066\171\274\311\112\142\055\355\153\331\175\101\103\174
\266\252\312\355\141\261\067\202\025\011\032\212\026\060\330\354
\311\326\107\162\170\113\020\106\024\216\137\016\257\354\307\057
\253\020\327\266\361\156\354\206\262\302\350\015\222\163\334\242
\364\017\072\277\141\043\020\211\234\110\100\156\160\000\263\323
\272\067\104\130\021\172\002\152\210\360\067\064\360\031\351\254
\324\145\163\366\151\214\144\224\072\171\205\051\260\026\053\014
\202\077\006\234\307\375\020\053\236\017\054\266\236\343\025\277
\331\066\034\272\045\032\122\075\032\354\042\014\034\340\244\242
\075\360\350\071\317\201\300\173\355\135\037\157\305\320\013\327
\230

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "TC TrustCenter Universal CA I"
Issuer: CN=TC TrustCenter Universal CA I,OU=TC TrustCenter Universal CA,O=TC TrustCenter GmbH,C=DE
Serial Number: 1d:a2:00:01:00:02:ec:b7:60:80:78:8d:b6:06
Subject: CN=TC TrustCenter Universal CA I,OU=TC TrustCenter Universal CA,O=TC TrustCenter GmbH,C=DE
Not Valid Before: Wed Mar 22 15:54:28 2006
Not Valid After: Wed Dec 31 22:59:59 2025
Fingerprint (MD5): 45:e1:a5:72:c5:a9:36:64:40:9e:f5:e4:58:84:67:8c
Fingerprint (SHA1): 6b:2f:34:ad:89:58:be:62:fd:b0:6b:5c:ce:bb:9d:d9:4f:4e:39:f3
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TC TrustCenter Universal CA I"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\153\057\064\255\211\130\276\142\375\260\153\134\316\273\235\331
\117\116\071\363
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\105\341\245\162\305\251\066\144\100\236\365\344\130\204\147\214
END
CKA_ISSUER MULTILINE_OCTAL
\060\171\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\044\060
\042\006\003\125\004\013\023\033\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\125\156\151\166\145\162\163\141\154
\040\103\101\061\046\060\044\006\003\125\004\003\023\035\124\103
\040\124\162\165\163\164\103\145\156\164\145\162\040\125\156\151
\166\145\162\163\141\154\040\103\101\040\111
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\035\242\000\001\000\002\354\267\140\200\170\215\266\006
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "TC TrustCenter Universal CA II"
# Issuer: CN=TC TrustCenter Universal CA II,OU=TC TrustCenter Universal CA,O=TC TrustCenter GmbH,C=DE
# Serial Number: 19:33:00:01:00:02:28:1a:9a:04:bc:f2:55:45
# Subject: CN=TC TrustCenter Universal CA II,OU=TC TrustCenter Universal CA,O=TC TrustCenter
GmbH,C=DE
# Not Valid Before: Wed Mar 22 15:58:34 2006
# Not Valid After: Tue Dec 31 22:59:59 2030
# Fingerprint (MD5): a2:08:e4:b3:3e:ef:de:08:4b:60:d0:bf:79:52:49:8d
# Fingerprint (SHA1): 8c:c4:30:7b:c6:07:55:e7:b2:2d:d9:f7:fe:a2:45:93:6c:7c:f2:88
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TC TrustCenter Universal CA II"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\044\060

```

\042\006\003\125\004\013\023\033\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\125\156\151\166\145\162\163\141\154
\040\103\101\061\047\060\045\006\003\125\004\003\023\036\124\103
\040\124\162\165\163\164\103\145\156\164\145\162\040\125\156\151
\166\145\162\163\141\154\040\103\101\040\111\111

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\172\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\044\060
\042\006\003\125\004\013\023\033\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\125\156\151\166\145\162\163\141\154
\040\103\101\061\047\060\045\006\003\125\004\003\023\036\124\103
\040\124\162\165\163\164\103\145\156\164\145\162\040\125\156\151
\166\145\162\163\141\154\040\103\101\040\111\111

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\016\031\063\000\001\000\002\050\032\232\004\274\362\125\105

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\337\060\202\003\307\240\003\002\001\002\002\016\031
\063\000\001\000\002\050\032\232\004\274\362\125\105\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\060\172\061\013
\060\011\006\003\125\004\006\023\002\104\105\061\034\060\032\006
\003\125\004\012\023\023\124\103\040\124\162\165\163\164\103\145
\156\164\145\162\040\107\155\142\110\061\044\060\042\006\003\125
\004\013\023\033\124\103\040\124\162\165\163\164\103\145\156\164
\145\162\040\125\156\151\166\145\162\163\141\154\040\103\101\061
\047\060\045\006\003\125\004\003\023\036\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\125\156\151\166\145\162\163
\141\154\040\103\101\040\111\111\060\036\027\015\060\066\060\063
\062\062\061\065\065\070\063\064\132\027\015\063\060\061\062\063
\061\062\062\065\071\065\071\132\060\172\061\013\060\011\006\003
\125\004\006\023\002\104\105\061\034\060\032\006\003\125\004\012
\023\023\124\103\040\124\162\165\163\164\103\145\156\164\145\162
\040\107\155\142\110\061\044\060\042\006\003\125\004\013\023\033
\124\103\040\124\162\165\163\164\103\145\156\164\145\162\040\125
\156\151\166\145\162\163\141\154\040\103\101\061\047\060\045\006
\003\125\004\003\023\036\124\103\040\124\162\165\163\164\103\145
\156\164\145\162\040\125\156\151\166\145\162\163\141\154\040\103
\101\040\111\111\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\213\324\167\153\064\154\345\066\330\152\134
\136\070\356\374\325\035\171\003\073\173\203\142\104\202\116\210
\355\336\203\377\356\314\120\142\005\005\225\231\166\230\366\271
\362\137\330\006\221\222\302\366\055\146\027\037\375\123\003\350
\250\215\143\251\156\341\326\033\214\274\230\263\213\073\324\344

\056\312\175\205\111\046\133\171\270\032\213\100\236\177\273\311
\077\143\054\317\321\132\174\272\050\042\101\022\132\115\371\027
\167\374\205\375\302\111\340\052\030\177\351\240\054\234\371\104
\374\014\150\071\102\365\047\005\276\216\025\172\140\235\360\073
\307\074\346\076\026\274\257\166\336\152\267\242\341\253\106\105
\353\214\145\175\321\227\363\227\021\045\253\131\353\240\042\331
\202\335\230\355\176\342\372\240\141\012\112\062\336\054\027\367
\155\104\352\201\107\131\227\127\067\003\071\335\136\202\042\324
\063\270\372\046\011\266\274\071\210\057\121\025\116\233\303\073
\337\023\202\210\335\113\064\362\063\326\220\351\363\123\334\065
\174\300\303\331\174\170\263\315\160\077\215\152\340\243\201\110
\344\051\255\143\270\360\374\050\144\073\231\263\175\376\232\235
\210\366\231\042\010\221\107\026\211\065\170\135\167\241\317\277
\111\341\375\044\224\053\151\066\173\350\034\346\052\220\212\133
\325\073\064\131\102\334\155\317\273\017\101\034\125\315\365\015
\133\056\026\042\046\357\141\036\227\374\342\123\310\317\133\243
\307\251\361\272\016\206\022\313\023\312\025\307\354\344\066\215
\332\134\023\075\145\322\016\135\160\164\334\277\217\172\152\301
\056\017\323\306\136\017\053\131\154\314\141\154\376\300\141\116
\331\346\117\106\262\132\342\031\024\160\204\370\040\000\355\001
\247\227\176\303\275\022\134\222\043\027\240\245\035\105\027\025
\043\232\222\010\265\042\210\215\334\053\044\353\340\261\027\150
\323\257\141\275\331\205\170\366\215\272\170\312\067\215\143\276
\347\254\037\337\245\107\011\271\310\045\061\124\106\121\021\125
\015\211\134\215\332\322\030\055\163\362\270\325\047\365\110\042
\067\321\142\367\173\015\310\070\213\241\112\260\374\320\361\353
\267\206\143\347\340\016\163\177\375\162\121\265\351\175\342\125
\005\144\170\147\177\002\003\001\000\001\243\143\060\141\060\037
\006\003\125\035\043\004\030\060\026\200\024\315\327\220\241\156
\243\277\333\060\326\332\062\045\220\014\346\071\036\200\145\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\035\006\003\125\035\016\004\026\004\024\315\327\220\241\156
\243\277\333\060\326\332\062\045\220\014\346\071\036\200\145\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\002\001\000\176\026\210\350\023\016\066\314\156\052\205\007\070
\306\126\211\172\343\107\041\146\114\120\010\061\132\121\320\374
\246\136\024\165\336\114\073\354\361\355\314\176\021\007\112\141
\356\352\263\216\072\244\063\306\355\212\102\146\117\361\074\173
\311\245\005\101\231\261\354\054\133\356\334\226\322\210\123\113
\170\064\271\156\346\273\017\305\172\246\174\016\030\337\157\017
\164\114\321\251\361\241\351\330\124\144\314\136\226\170\242\126
\032\301\163\262\025\306\127\005\337\332\367\110\044\212\216\177
\152\251\371\115\351\076\152\316\140\054\175\055\220\010\366\143
\217\025\320\055\234\214\377\361\375\374\014\026\120\126\024\373
\272\227\206\356\264\111\003\124\356\033\131\177\060\072\002\202
\206\041\256\376\360\025\362\337\116\203\346\231\305\272\065\367
\040\220\214\070\355\165\317\341\056\367\004\060\373\121\255\216

\202\044\100\312\175\051\135\325\331\367\145\144\374\252\237\164
\270\175\222\135\322\204\051\340\023\352\212\367\320\253\304\256
\357\025\305\302\211\362\173\266\073\111\230\141\363\116\162\221
\067\214\111\222\351\310\354\052\240\367\111\156\174\015\044\306
\153\154\362\070\057\312\160\005\345\177\337\306\053\053\200\200
\325\332\157\313\100\273\330\033\360\044\311\020\310\104\002\176
\056\323\230\252\242\015\361\053\320\332\372\216\034\377\124\350
\341\112\156\335\250\326\170\265\067\245\254\144\325\024\043\307
\016\245\353\341\011\070\327\300\174\140\245\135\230\217\214\002
\325\334\126\250\363\115\130\251\013\324\174\144\164\001\062\362
\337\017\112\212\251\002\242\242\035\204\167\302\361\314\227\275
\064\031\164\135\342\164\076\165\047\367\257\277\356\174\016\155
\124\210\246\126\342\046\255\061\022\074\036\101\171\155\027\352
\023\136\037\365\134\237\111\131\243\262\057\243\102\303\372\250
\176\277\245\237\110\311\140\142\142\012\337\275\105\336\343\102
\265\121\226\375\304\365\032\231\270\122\242\104\315\055\141\214
\025\217\201\325\135\242\324\220\075\214\156\100\141\303\131\135
\330\331\341\366\164\107\042\171\164\175\332\312\243\157\067\025
\066\360\054\032\161\074\021\166\337\135\032\076\124\143\170\153
\145\176\037

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "TC TrustCenter Universal CA II"

Issuer: CN=TC TrustCenter Universal CA II,OU=TC TrustCenter Universal CA,O=TC TrustCenter GmbH,C=DE

Serial Number:19:33:00:01:00:02:28:1a:9a:04:bc:f2:55:45

Subject: CN=TC TrustCenter Universal CA II,OU=TC TrustCenter Universal CA,O=TC TrustCenter GmbH,C=DE

Not Valid Before: Wed Mar 22 15:58:34 2006

Not Valid After: Tue Dec 31 22:59:59 2030

Fingerprint (MD5): a2:08:e4:b3:3e:ef:de:08:4b:60:d0:bf:79:52:49:8d

Fingerprint (SHA1): 8c:c4:30:7b:c6:07:55:e7:b2:2d:d9:f7:fe:a2:45:93:6c:7c:f2:88

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TC TrustCenter Universal CA II"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\214\304\060\173\306\007\125\347\262\055\331\367\376\242\105\223
\154\174\362\210

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\242\010\344\263\076\357\336\010\113\140\320\277\171\122\111\215

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\172\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\044\060
\042\006\003\125\004\013\023\033\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\125\156\151\166\145\162\163\141\154
\040\103\101\061\047\060\045\006\003\125\004\003\023\036\124\103
\040\124\162\165\163\164\103\145\156\164\145\162\040\125\156\151
\166\145\162\163\141\154\040\103\101\040\111\111
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\016\031\063\000\001\000\002\050\032\232\004\274\362\125\105
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "TC TrustCenter Class 2 CA II"

Issuer: CN=TC TrustCenter Class 2 CA II,OU=TC TrustCenter Class 2 CA,O=TC TrustCenter GmbH,C=DE

Serial Number:2e:6a:00:01:00:02:1f:d7:52:21:2c:11:5c:3b

Subject: CN=TC TrustCenter Class 2 CA II,OU=TC TrustCenter Class 2 CA,O=TC TrustCenter GmbH,C=DE

Not Valid Before: Thu Jan 12 14:38:43 2006

Not Valid After: Wed Dec 31 22:59:59 2025

Fingerprint (MD5): ce:78:33:5c:59:78:01:6e:18:ea:b9:36:a0:b9:2e:23

Fingerprint (SHA1): ae:50:83:ed:7c:f4:5c:bc:8f:61:c6:21:fe:68:5d:79:42:21:15:6e

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TC TrustCenter Class 2 CA II"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\166\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\042\060
\040\006\003\125\004\013\023\031\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\103\154\141\163\163\040\062\040\103
\101\061\045\060\043\006\003\125\004\003\023\034\124\103\040\124
\162\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163
\040\062\040\103\101\040\111\111
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\166\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\042\060
\040\006\003\125\004\013\023\031\124\103\040\124\162\165\163\164
```

\103\145\156\164\145\162\040\103\154\141\163\163\040\062\040\103
\101\061\045\060\043\006\003\125\004\003\023\034\124\103\040\124
\162\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163
\040\062\040\103\101\040\111\111

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\016\056\152\000\001\000\002\037\327\122\041\054\021\134\073
END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\252\060\202\003\222\240\003\002\001\002\002\016\056
\152\000\001\000\002\037\327\122\041\054\021\134\073\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\060\166\061\013
\060\011\006\003\125\004\006\023\002\104\105\061\034\060\032\006
\003\125\004\012\023\023\124\103\040\124\162\165\163\164\103\145
\156\164\145\162\040\107\155\142\110\061\042\060\040\006\003\125
\004\013\023\031\124\103\040\124\162\165\163\164\103\145\156\164
\145\162\040\103\154\141\163\163\040\062\040\103\101\061\045\060
\043\006\003\125\004\003\023\034\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\103\154\141\163\163\040\062\040\103
\101\040\111\111\060\036\027\015\060\066\060\061\061\062\061\064
\063\070\064\063\132\027\015\062\065\061\062\063\061\062\062\065
\071\065\071\132\060\166\061\013\060\011\006\003\125\004\006\023
\002\104\105\061\034\060\032\006\003\125\004\012\023\023\124\103
\040\124\162\165\163\164\103\145\156\164\145\162\040\107\155\142
\110\061\042\060\040\006\003\125\004\013\023\031\124\103\040\124
\162\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163
\040\062\040\103\101\061\045\060\043\006\003\125\004\003\023\034
\124\103\040\124\162\165\163\164\103\145\156\164\145\162\040\103
\154\141\163\163\040\062\040\103\101\040\111\111\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\253\200\207
\233\216\360\303\174\207\327\350\044\202\021\263\074\335\103\142
\356\370\303\105\332\350\341\240\137\321\052\262\352\223\150\337
\264\310\326\103\351\304\165\131\177\374\341\035\370\061\160\043
\033\210\236\047\271\173\375\072\322\311\251\351\024\057\220\276
\003\122\301\111\315\366\375\344\010\146\013\127\212\242\102\240
\270\325\177\151\134\220\062\262\227\015\312\112\334\106\076\002
\125\211\123\343\032\132\313\066\306\007\126\367\214\317\021\364
\114\273\060\160\004\225\245\366\071\214\375\163\201\010\175\211
\136\062\036\042\251\042\105\113\260\146\056\060\314\237\145\375
\374\313\201\251\361\340\073\257\243\206\321\211\352\304\105\171
\120\135\256\351\041\164\222\115\213\131\202\217\224\343\351\112
\361\347\111\260\024\343\365\142\313\325\162\275\037\271\322\237
\240\315\250\372\001\310\331\015\337\332\374\107\235\263\310\124
\337\111\112\361\041\251\376\030\116\356\110\324\031\273\357\175
\344\342\235\313\133\266\156\377\343\315\132\347\164\202\005\272
\200\045\070\313\344\151\236\257\101\252\032\204\365\002\003\001
\000\001\243\202\001\064\060\202\001\060\060\017\006\003\125\035

\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125
\035\016\004\026\004\024\343\253\124\114\200\241\333\126\103\267
\221\112\313\363\202\172\023\134\010\253\060\201\355\006\003\125
\035\037\004\201\345\060\201\342\060\201\337\240\201\334\240\201
\331\206\065\150\164\164\160\072\057\057\167\167\167\056\164\162
\165\163\164\143\145\156\164\145\162\056\144\145\057\143\162\154
\057\166\062\057\164\143\137\143\154\141\163\163\137\062\137\143
\141\137\111\111\056\143\162\154\206\201\237\154\144\141\160\072
\057\057\167\167\167\056\164\162\165\163\164\143\145\156\164\145
\162\056\144\145\057\103\116\075\124\103\045\062\060\124\162\165
\163\164\103\145\156\164\145\162\045\062\060\103\154\141\163\163
\045\062\060\062\045\062\060\103\101\045\062\060\111\111\054\117
\075\124\103\045\062\060\124\162\165\163\164\103\145\156\164\145
\162\045\062\060\107\155\142\110\054\117\125\075\162\157\157\164
\143\145\162\164\163\054\104\103\075\164\162\165\163\164\143\145
\156\164\145\162\054\104\103\075\144\145\077\143\145\162\164\151
\146\151\143\141\164\145\122\145\166\157\143\141\164\151\157\156
\114\151\163\164\077\142\141\163\145\077\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\214\327
\337\176\356\033\200\020\263\203\365\333\021\352\153\113\250\222
\030\331\367\007\071\365\054\276\006\165\172\150\123\025\034\352
\112\355\136\374\043\262\023\240\323\011\377\366\366\056\153\101
\161\171\315\342\155\375\256\131\153\205\035\270\116\042\232\355
\146\071\156\113\224\346\125\374\013\033\213\167\301\123\023\146
\211\331\050\326\213\363\105\112\143\267\375\173\013\141\135\270
\155\276\303\334\133\171\322\355\206\345\242\115\276\136\164\174
\152\355\026\070\037\177\130\201\132\032\353\062\210\055\262\363
\071\167\200\257\136\266\141\165\051\333\043\115\210\312\120\050
\313\205\322\323\020\242\131\156\323\223\124\000\172\242\106\225
\206\005\234\251\031\230\345\061\162\014\000\342\147\331\100\340
\044\063\173\157\054\271\134\253\145\235\054\254\166\352\065\231
\365\227\271\017\044\354\307\166\041\050\145\256\127\350\007\210
\165\112\126\240\322\005\072\244\346\215\222\210\054\363\362\341
\301\306\141\333\101\305\307\233\367\016\032\121\105\302\141\153
\334\144\047\027\214\132\267\332\164\050\315\227\344\275

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "TC TrustCenter Class 2 CA II"
Issuer: CN=TC TrustCenter Class 2 CA II,OU=TC TrustCenter Class 2 CA,O=TC TrustCenter GmbH,C=DE
Serial Number:2e:6a:00:01:00:02:1f:d7:52:21:2c:11:5c:3b
Subject: CN=TC TrustCenter Class 2 CA II,OU=TC TrustCenter Class 2 CA,O=TC TrustCenter GmbH,C=DE
Not Valid Before: Thu Jan 12 14:38:43 2006
Not Valid After: Wed Dec 31 22:59:59 2025

```

# Fingerprint (MD5): ce:78:33:5c:59:78:01:6e:18:ea:b9:36:a0:b9:2e:23
# Fingerprint (SHA1): ae:50:83:ed:7c:f4:5c:bc:8f:61:c6:21:fe:68:5d:79:42:21:15:6e
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TC TrustCenter Class 2 CA II"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\256\120\203\355\174\364\134\274\217\141\306\041\376\150\135\171
\102\041\025\156
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\316\170\063\134\131\170\001\156\030\352\271\066\240\271\056\043
END
CKA_ISSUER MULTILINE_OCTAL
\060\166\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\042\060
\040\006\003\125\004\013\023\031\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\103\154\141\163\163\040\062\040\103
\101\061\045\060\043\006\003\125\004\003\023\034\124\103\040\124
\162\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163
\040\062\040\103\101\040\111\111
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\056\152\000\001\000\002\037\327\122\041\054\021\134\073
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "TC TrustCenter Class 4 CA II"
# Issuer: CN=TC TrustCenter Class 4 CA II,OU=TC TrustCenter Class 4 CA,O=TC TrustCenter GmbH,C=DE
# Serial Number:05:c0:00:01:00:02:41:d0:06:0a:4d:ce:75:10
# Subject: CN=TC TrustCenter Class 4 CA II,OU=TC TrustCenter Class 4 CA,O=TC TrustCenter GmbH,C=DE
# Not Valid Before: Thu Mar 23 14:10:23 2006
# Not Valid After: Wed Dec 31 22:59:59 2025
# Fingerprint (MD5): 9d:fb:f9:ac:ed:89:33:22:f4:28:48:83:25:23:5b:e0
# Fingerprint (SHA1): a6:9a:91:fd:05:7f:13:6a:42:63:0b:b1:76:0d:2d:51:12:0c:16:50
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TC TrustCenter Class 4 CA II"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\166\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\042\060
\040\006\003\125\004\013\023\031\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\103\154\141\163\163\040\064\040\103
\101\061\045\060\043\006\003\125\004\003\023\034\124\103\040\124
\162\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163
\040\064\040\103\101\040\111\111

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\166\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\042\060
\040\006\003\125\004\013\023\031\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\103\154\141\163\163\040\064\040\103
\101\061\045\060\043\006\003\125\004\003\023\034\124\103\040\124
\162\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163
\040\064\040\103\101\040\111\111

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\016\005\300\000\001\000\002\101\320\006\012\115\316\165\020

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\266\060\202\002\236\240\003\002\001\002\002\016\005
\300\000\001\000\002\101\320\006\012\115\316\165\020\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\060\166\061\013
\060\011\006\003\125\004\006\023\002\104\105\061\034\060\032\006
\003\125\004\012\023\023\124\103\040\124\162\165\163\164\103\145
\156\164\145\162\040\107\155\142\110\061\042\060\040\006\003\125
\004\013\023\031\124\103\040\124\162\165\163\164\103\145\156\164
\145\162\040\103\154\141\163\163\040\064\040\103\101\061\045\060
\043\006\003\125\004\003\023\034\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\103\154\141\163\163\040\064\040\103
\101\040\111\111\060\036\027\015\060\066\060\063\062\063\061\064
\061\060\062\063\132\027\015\062\065\061\062\063\061\062\062\065
\071\065\071\132\060\166\061\013\060\011\006\003\125\004\006\023
\002\104\105\061\034\060\032\006\003\125\004\012\023\023\124\103
\040\124\162\165\163\164\103\145\156\164\145\162\040\107\155\142
\110\061\042\060\040\006\003\125\004\013\023\031\124\103\040\124
\162\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163
\040\064\040\103\101\061\045\060\043\006\003\125\004\003\023\034
\124\103\040\124\162\165\163\164\103\145\156\164\145\162\040\103
\154\141\163\163\040\064\040\103\101\040\111\111\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\265\315\114
\234\255\256\121\273\174\110\305\015\051\206\172\024\255\331\120
\075\011\162\040\015\024\266\143\306\376\130\236\340\041\136\363

\217\042\031\334\116\221\040\315\157\210\051\242\263\301\254\052
\162\272\213\124\270\100\137\362\252\370\103\206\302\060\134\314
\247\135\177\306\010\111\344\016\071\057\216\030\326\221\335\043
\026\171\200\333\154\110\035\274\301\337\050\020\143\321\201\343
\335\337\057\171\165\242\033\170\362\224\001\346\020\142\171\313
\240\175\002\300\064\202\173\307\300\255\035\114\327\152\226\166
\133\277\046\204\110\375\207\366\204\012\252\222\007\231\110\074
\141\274\116\205\130\307\227\055\375\201\112\241\306\233\022\365
\102\120\321\144\076\211\150\202\042\160\335\365\372\343\050\102
\057\116\062\363\263\243\066\212\152\326\142\134\254\372\001\155
\264\340\162\056\225\150\264\361\223\014\306\212\202\322\035\123
\352\174\340\077\102\267\022\132\270\315\332\245\006\147\313\241
\167\175\245\226\360\222\036\147\016\035\102\106\346\371\355\373
\107\123\177\127\004\106\037\106\137\307\256\340\217\002\003\001
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026
\004\024\037\352\273\076\045\033\006\275\245\335\142\005\176\306
\114\132\277\350\017\103\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\001\001\000\130\244\053\233\114\367
\344\244\222\244\234\145\230\031\142\042\374\162\062\351\004\135
\304\304\160\055\132\106\336\114\107\212\045\271\242\335\356\352
\022\257\110\215\357\053\147\333\073\314\064\230\052\367\010\107
\377\042\257\173\361\364\353\342\070\002\063\030\165\050\033\236
\166\145\254\210\003\162\362\070\107\035\214\365\237\012\210\123
\020\024\273\200\345\014\263\135\215\027\356\036\031\034\206\215
\024\147\170\214\222\313\036\041\111\367\177\323\030\277\234\171
\370\135\010\171\265\252\152\115\222\066\154\274\171\353\016\075
\171\212\330\366\243\126\160\135\336\333\117\171\322\172\322\225
\134\206\047\145\276\240\323\007\201\100\125\335\020\313\340\113
\210\202\300\220\175\070\347\277\226\341\227\272\232\253\102\017
\323\237\330\236\025\063\021\313\367\202\171\365\265\300\101\126
\222\341\337\125\003\255\110\317\323\362\056\261\307\055\126\114
\144\164\052\061\316\334\165\251\124\107\244\247\102\162\011\347
\341\002\246\107\262\004\315\102\023\341\141\014\340\170\072\042
\040\242\034\140\102\206\207\367\245\346

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "TC TrustCenter Class 4 CA II"
Issuer: CN=TC TrustCenter Class 4 CA II,OU=TC TrustCenter Class 4 CA,O=TC TrustCenter GmbH,C=DE
Serial Number:05:c0:00:01:00:02:41:d0:06:0a:4d:ce:75:10
Subject: CN=TC TrustCenter Class 4 CA II,OU=TC TrustCenter Class 4 CA,O=TC TrustCenter GmbH,C=DE
Not Valid Before: Thu Mar 23 14:10:23 2006
Not Valid After: Wed Dec 31 22:59:59 2025


```

# Fingerprint (MD5): 9d:fb:f9:ac:ed:89:33:22:f4:28:48:83:25:23:5b:e0
# Fingerprint (SHA1): a6:9a:91:fd:05:7f:13:6a:42:63:0b:b1:76:0d:2d:51:12:0c:16:50
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TC TrustCenter Class 4 CA II"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\246\232\221\375\005\177\023\152\102\143\013\261\166\015\055\121
\022\014\026\120
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\235\373\371\254\355\211\063\042\364\050\110\203\045\043\133\340
END
CKA_ISSUER MULTILINE_OCTAL
\060\166\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\042\060
\040\006\003\125\004\013\023\031\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\103\154\141\163\163\040\064\040\103
\101\061\045\060\043\006\003\125\004\003\023\034\124\103\040\124
\162\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163
\040\064\040\103\101\040\111\111
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\005\300\000\001\000\002\101\320\006\012\115\316\165\020
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Swisscom Root CA 1"
# Issuer: CN=Swisscom Root CA 1,OU=Digital Certificate Services,O=Swisscom,C=ch
# Serial Number:5c:0b:85:5c:0b:e7:59:41:df:57:cc:3f:7f:9d:a8:36
# Subject: CN=Swisscom Root CA 1,OU=Digital Certificate Services,O=Swisscom,C=ch
# Not Valid Before: Thu Aug 18 12:06:20 2005
# Not Valid After: Mon Aug 18 22:06:20 2025
# Fingerprint (MD5): f8:38:7c:77:88:df:2c:16:68:2e:c2:e2:52:4b:b8:f9
# Fingerprint (SHA1): 5f:3a:fc:0a:8b:64:f6:86:67:34:74:df:7e:a9:a2:fe:f9:fa:7a:51
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swisscom Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\144\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147
\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\061\033\060\031\006\003\125
\004\003\023\022\123\167\151\163\163\143\157\155\040\122\157\157
\164\040\103\101\040\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147
\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\061\033\060\031\006\003\125
\004\003\023\022\123\167\151\163\163\143\157\155\040\122\157\157
\164\040\103\101\040\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\134\013\205\134\013\347\131\101\337\127\314\077\177\235
\250\066

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\331\060\202\003\301\240\003\002\001\002\002\020\134
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\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\144
\061\013\060\011\006\003\125\004\006\023\002\143\150\061\021\060
\017\006\003\125\004\012\023\010\123\167\151\163\163\143\157\155
\061\045\060\043\006\003\125\004\013\023\034\104\151\147\151\164
\141\154\040\103\145\162\164\151\146\151\143\141\164\145\040\123
\145\162\166\151\143\145\163\061\033\060\031\006\003\125\004\003
\023\022\123\167\151\163\163\143\157\155\040\122\157\157\164\040
\103\101\040\061\060\036\027\015\060\065\060\070\061\070\061\062
\060\066\062\060\132\027\015\062\065\060\070\061\070\062\062\060
\066\062\060\132\060\144\061\013\060\011\006\003\125\004\006\023
\002\143\150\061\021\060\017\006\003\125\004\012\023\010\123\167
\151\163\163\143\157\155\061\045\060\043\006\003\125\004\013\023
\034\104\151\147\151\164\141\154\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163\061\033\060
\031\006\003\125\004\003\023\022\123\167\151\163\163\143\157\155
\040\122\157\157\164\040\103\101\040\061\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\320\271\260\250\014
\331\273\077\041\370\033\325\063\223\200\026\145\040\165\262\075
\233\140\155\106\310\214\061\157\027\303\372\232\154\126\355\074
\305\221\127\303\315\253\226\111\220\052\031\113\036\243\155\127
\335\361\053\142\050\165\105\136\252\326\133\372\013\045\330\241
\026\371\034\304\056\346\225\052\147\314\320\051\156\074\205\064

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\344\211\177\152\122\372\312\233\362\334\251\371\235\231\107\077
\116\051\137\264\246\215\135\173\013\231\021\003\003\376\347\333
\333\243\377\035\245\315\220\036\001\037\065\260\177\000\333\220
\157\306\176\173\321\356\172\172\247\252\014\127\157\244\155\305
\023\073\260\245\331\355\062\034\264\136\147\213\124\334\163\207
\345\323\027\174\146\120\162\135\324\032\130\301\331\317\330\211
\002\157\247\111\264\066\135\320\244\336\007\054\266\165\267\050
\221\326\227\276\050\365\230\036\352\133\046\311\275\260\227\163
\332\256\221\046\353\150\301\371\071\025\326\147\113\012\155\117
\313\317\260\344\102\161\214\123\171\347\356\341\333\035\240\156
\035\214\032\167\065\134\026\036\053\123\037\064\213\321\154\374
\362\147\007\172\365\255\355\326\232\253\241\261\113\341\314\067
\137\375\177\315\115\256\270\037\234\103\371\052\130\125\103\105
\274\226\315\160\016\374\311\343\146\272\116\215\073\201\313\025
\144\173\271\224\350\135\063\122\205\161\056\117\216\242\006\021
\121\311\343\313\241\156\061\010\144\014\302\322\074\365\066\350
\327\320\016\170\043\040\221\311\044\052\145\051\133\042\367\041
\316\203\136\244\363\336\113\323\150\217\106\165\134\203\011\156
\051\153\304\160\214\365\235\327\040\057\377\106\322\053\070\302
\057\165\034\075\176\332\245\357\036\140\205\151\102\323\314\370
\143\376\036\103\071\205\246\266\143\101\020\263\163\036\274\323
\372\312\175\026\107\342\247\325\320\243\212\012\010\226\142\126
\156\064\333\331\002\271\060\165\343\004\322\347\217\302\260\021
\100\012\254\325\161\002\142\213\061\276\335\306\043\130\061\102
\103\055\164\371\306\236\246\212\017\351\376\277\203\346\103\127
\044\272\357\106\064\252\327\022\001\070\355\002\003\001\000\001
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\004\004\003\002\001\206\060\035\006\003\125\035\041\004\026\060
\024\060\022\006\007\140\205\164\001\123\000\001\006\007\140\205
\164\001\123\000\001\060\022\006\003\125\035\023\001\001\377\004
\010\060\006\001\001\377\002\001\007\060\037\006\003\125\035\043
\004\030\060\026\200\024\003\045\057\336\157\202\001\072\134\054
\334\053\241\151\265\147\324\214\323\375\060\035\006\003\125\035
\016\004\026\004\024\003\045\057\336\157\202\001\072\134\054\334
\053\241\151\265\147\324\214\323\375\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\002\001\000\065\020\313
\354\246\004\015\015\017\315\300\333\253\250\362\210\227\014\337
\223\057\115\174\100\126\061\172\353\244\017\140\315\172\363\276
\303\047\216\003\076\244\335\022\357\176\036\164\006\074\077\061
\362\034\173\221\061\041\264\360\320\154\227\324\351\227\262\044
\126\036\126\303\065\275\210\005\017\133\020\032\144\341\307\202
\060\371\062\255\236\120\054\347\170\005\320\061\261\132\230\212
\165\116\220\134\152\024\052\340\122\107\202\140\346\036\332\201
\261\373\024\013\132\361\237\322\225\272\076\320\033\326\025\035
\243\276\206\325\333\017\300\111\144\273\056\120\031\113\322\044
\370\335\036\007\126\320\070\240\225\160\040\166\214\327\335\036
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\226\317\333\306\050\071\072\010\316\107\133\123\132\305\231\376
\135\251\335\357\114\324\306\245\255\002\346\214\007\022\036\157
\003\321\157\240\243\363\051\275\022\307\120\242\260\177\210\251
\231\167\232\261\300\245\071\056\134\174\151\342\054\260\352\067
\152\244\341\132\341\365\120\345\203\357\245\273\052\210\347\214
\333\375\155\136\227\031\250\176\146\165\153\161\352\277\261\307
\157\240\364\216\244\354\064\121\133\214\046\003\160\241\167\325
\001\022\127\000\065\333\043\336\016\212\050\231\375\261\020\157
\113\377\070\055\140\116\054\234\353\147\265\255\111\356\113\037
\254\257\373\015\220\132\146\140\160\135\252\315\170\324\044\356
\310\101\240\223\001\222\234\152\236\374\271\044\305\263\025\202
\176\276\256\225\053\353\261\300\332\343\001\140\013\136\151\254
\204\126\141\276\161\027\376\035\023\017\376\306\207\105\351\376
\062\240\032\015\023\244\224\125\161\245\026\213\272\312\211\260
\262\307\374\217\330\124\265\223\142\235\316\317\131\373\075\030
\316\052\313\065\025\202\135\377\124\042\133\161\122\373\267\311
\376\140\233\000\101\144\360\252\052\354\266\102\103\316\211\146
\201\310\213\237\071\124\003\045\323\026\065\216\204\320\137\372
\060\032\365\232\154\364\016\123\371\072\133\321\034
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END

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CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "Swisscom Root CA 1"
# Issuer: CN=Swisscom Root CA 1,OU=Digital Certificate Services,O=Swisscom,C=ch
# Serial Number:5c:0b:85:5c:0b:e7:59:41:df:57:cc:3f:7f:9d:a8:36
# Subject: CN=Swisscom Root CA 1,OU=Digital Certificate Services,O=Swisscom,C=ch
# Not Valid Before: Thu Aug 18 12:06:20 2005
# Not Valid After: Mon Aug 18 22:06:20 2025
# Fingerprint (MD5): f8:38:7c:77:88:df:2c:16:68:2e:c2:e2:52:4b:b8:f9
# Fingerprint (SHA1): 5f:3a:fc:0a:8b:64:f6:86:67:34:74:df:7e:a9:a2:fe:f9:fa:7a:51
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swisscom Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\072\374\012\213\144\366\206\147\064\164\337\176\251\242\376
\371\372\172\121
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\070\174\167\210\337\054\026\150\056\302\342\122\113\270\371
END
CKA_ISSUER MULTILINE_OCTAL
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\060\144\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147
\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\061\033\060\031\006\003\125
\004\003\023\022\123\167\151\163\163\143\157\155\040\122\157\157
\164\040\103\101\040\061
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END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

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\002\020\134\013\205\134\013\347\131\101\337\127\314\077\177\235
\250\066
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END

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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
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Microsoft Code Signing Only Certificate

Certificate "Microsec e-Szigno Root CA"

Issuer: CN=Microsec e-Szigno Root CA,OU=e-Szigno CA,O=Microsec Ltd.,L=Budapest,C=HU

Serial Number:cc:b8:e7:bf:4e:29:1a:fd:a2:dc:66:a5:1c:2c:0f:11

Subject: CN=Microsec e-Szigno Root CA,OU=e-Szigno CA,O=Microsec Ltd.,L=Budapest,C=HU

Not Valid Before: Wed Apr 06 12:28:44 2005

Not Valid After: Thu Apr 06 12:28:44 2017

Fingerprint (MD5): f0:96:b6:2f:c5:10:d5:67:8e:83:25:32:e8:5e:2e:e5

Fingerprint (SHA1): 23:88:c9:d3:71:cc:9e:96:3d:ff:7d:3c:a7:ce:fc:d6:25:ec:19:0d

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsec e-Szigno Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

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\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\023\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\024\060\022\006\003
\125\004\013\023\013\145\055\123\172\151\147\156\157\040\103\101
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END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

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\163\164\061\026\060\024\006\003\125\004\012\023\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\024\060\022\006\003
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\125\004\013\023\013\145\055\123\172\151\147\156\157\040\103\101
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\163\145\143\040\145\055\123\172\151\147\156\157\040\122\157\157
\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\314\270\347\277\116\051\032\375\242\334\146\245\034
\054\017\021

END

CKA_VALUE MULTILINE_OCTAL

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\162\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021
\060\017\006\003\125\004\007\023\010\102\165\144\141\160\145\163
\164\061\026\060\024\006\003\125\004\012\023\015\115\151\143\162
\157\163\145\143\040\114\164\144\056\061\024\060\022\006\003\125
\004\013\023\013\145\055\123\172\151\147\156\157\040\103\101\061
\042\060\040\006\003\125\004\003\023\031\115\151\143\162\157\163
\145\143\040\145\055\123\172\151\147\156\157\040\122\157\157\164
\040\103\101\060\036\027\015\060\065\060\064\060\066\061\062\062
\070\064\064\132\027\015\061\067\060\064\060\066\061\062\062\070
\064\064\132\060\162\061\013\060\011\006\003\125\004\006\023\002
\110\125\061\021\060\017\006\003\125\004\007\023\010\102\165\144
\141\160\145\163\164\061\026\060\024\006\003\125\004\012\023\015
\115\151\143\162\157\163\145\143\040\114\164\144\056\061\024\060
\022\006\003\125\004\013\023\013\145\055\123\172\151\147\156\157
\040\103\101\061\042\060\040\006\003\125\004\003\023\031\115\151
\143\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040
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\000\107\314\333\204\301\041\151\054\164\220\014\041\331\123\207
\355\076\103\104\123\257\253\370\200\233\074\170\215\324\215\256
\270\357\323\021\334\201\346\317\073\226\214\326\157\025\306\167
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\354\057\356\071\363\152\147\113\213\202\317\042\370\145\125\376
\054\313\057\175\110\172\075\165\371\252\240\047\273\170\302\006
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\205\306\341\017\220\107\231\224\012\161\162\223\052\311\246\300
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\160\072\057\057\167\167\167\056\145\055\163\172\151\147\156\157
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\060\202\001\042\006\010\053\006\001\005\005\007\002\002\060\202
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\000\040\000\351\000\162\000\164\000\145\000\154\000\155\000\145
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\000\141\000\144\000\341\000\163\000\341\000\150\000\157\000\172
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\000\164\000\341\000\163\000\151\000\040\000\123\000\172\000\141
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\156\157\056\150\165\057\122\157\157\164\103\101\056\143\162\154
\206\201\216\154\144\141\160\072\057\057\154\144\141\160\056\145
\055\163\172\151\147\156\157\056\150\165\057\103\116\075\115\151
\143\162\157\163\145\143\045\062\060\145\055\123\172\151\147\156
\157\045\062\060\122\157\157\164\045\062\060\103\101\054\117\125
\075\145\055\123\172\151\147\156\157\045\062\060\103\101\054\117
\075\115\151\143\162\157\163\145\143\045\062\060\114\164\144\056
\054\114\075\102\165\144\141\160\145\163\164\054\103\075\110\125
\077\143\145\162\164\151\146\151\143\141\164\145\122\145\166\157
\143\141\164\151\157\156\114\151\163\164\073\142\151\156\141\162
\171\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\201\226\006\003\125\035\021\004\201\216\060\201\213\201
\020\151\156\146\157\100\145\055\163\172\151\147\156\157\056\150
\165\244\167\060\165\061\043\060\041\006\003\125\004\003\014\032

\115\151\143\162\157\163\145\143\040\145\055\123\172\151\147\156
\303\263\040\122\157\157\164\040\103\101\061\026\060\024\006\003
\125\004\013\014\015\145\055\123\172\151\147\156\303\263\040\110
\123\132\061\026\060\024\006\003\125\004\012\023\015\115\151\143
\162\157\163\145\143\040\113\146\164\056\061\021\060\017\006\003
\125\004\007\023\010\102\165\144\141\160\145\163\164\061\013\060
\011\006\003\125\004\006\023\002\110\125\060\201\254\006\003\125
\035\043\004\201\244\060\201\241\200\024\307\240\111\165\026\141
\204\333\061\113\204\322\361\067\100\220\357\116\334\367\241\166
\244\164\060\162\061\013\060\011\006\003\125\004\006\023\002\110
\125\061\021\060\017\006\003\125\004\007\023\010\102\165\144\141
\160\145\163\164\061\026\060\024\006\003\125\004\012\023\015\115
\151\143\162\157\163\145\143\040\114\164\144\056\061\024\060\022
\006\003\125\004\013\023\013\145\055\123\172\151\147\156\157\040
\103\101\061\042\060\040\006\003\125\004\003\023\031\115\151\143
\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040\122
\157\157\164\040\103\101\202\021\000\314\270\347\277\116\051\032
\375\242\334\146\245\034\054\017\021\060\035\006\003\125\035\016
\004\026\004\024\307\240\111\165\026\141\204\333\061\113\204\322
\361\067\100\220\357\116\334\367\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\323\023\234\146
\143\131\056\312\134\160\014\374\203\274\125\261\364\216\007\154
\146\047\316\301\073\040\251\034\273\106\124\160\356\132\314\240
\167\352\150\104\047\353\362\051\335\167\251\325\373\343\324\247
\004\304\225\270\013\341\104\150\140\007\103\060\061\102\141\345
\356\331\345\044\325\033\337\341\112\033\252\237\307\137\370\172
\021\352\023\223\000\312\212\130\261\356\355\016\115\264\327\250
\066\046\174\340\072\301\325\127\202\361\165\266\375\211\137\332
\363\250\070\237\065\006\010\316\042\225\276\315\325\374\276\133
\336\171\153\334\172\251\145\146\276\261\045\132\137\355\176\323
\254\106\155\114\364\062\207\264\040\004\340\154\170\260\167\321
\205\106\113\246\022\267\165\350\112\311\126\154\327\222\253\235
\365\111\070\322\117\123\343\125\220\021\333\230\226\306\111\362
\076\364\237\033\340\367\210\334\045\142\231\104\330\163\277\077
\060\363\014\067\076\324\302\050\200\163\261\001\267\235\132\226
\024\001\113\251\021\235\051\152\056\320\135\201\300\317\262\040
\103\307\003\340\067\116\135\012\334\131\040\045

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Microsec e-Szigno Root CA"
Issuer: CN=Microsec e-Szigno Root CA,OU=e-Szigno CA,O=Microsec Ltd.,L=Budapest,C=HU
Serial Number:cc:b8:e7:bf:4e:29:1a:fd:a2:dc:66:a5:1c:2c:0f:11
Subject: CN=Microsec e-Szigno Root CA,OU=e-Szigno CA,O=Microsec Ltd.,L=Budapest,C=HU
Not Valid Before: Wed Apr 06 12:28:44 2005


```
# Not Valid After: Thu Apr 06 12:28:44 2017
# Fingerprint (MD5): f0:96:b6:2f:c5:10:d5:67:8e:83:25:32:e8:5e:2e:e5
# Fingerprint (SHA1): 23:88:c9:d3:71:cc:9e:96:3d:ff:7d:3c:a7:ce:fc:d6:25:ec:19:0d
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\043\210\311\323\161\314\236\226\075\377\175\074\247\316\374\326
\045\354\031\015
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\360\226\266\057\305\020\325\147\216\203\045\062\350\136\056\345
END
CKA_ISSUER MULTILINE_OCTAL
\060\162\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\023\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\024\060\022\006\003
\125\004\013\023\013\145\055\123\172\151\147\156\157\040\103\101
\061\042\060\040\006\003\125\004\003\023\031\115\151\143\162\157
\163\145\143\040\145\055\123\172\151\147\156\157\040\122\157\157
\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\314\270\347\277\116\051\032\375\242\334\146\245\034
\054\017\021
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "LGPKI"
# Issuer: OU=Application CA G2,O=LGPKI,C=JP
# Serial Number: 49 (0x31)
# Subject: OU=Application CA G2,O=LGPKI,C=JP
# Not Valid Before: Fri Mar 31 15:00:00 2006
# Not Valid After: Thu Mar 31 14:59:59 2016
# Fingerprint (MD5): f3:d7:52:a8:75:fd:18:ec:e1:7d:35:b1:70:6e:a5:9c
# Fingerprint (SHA1): 96:83:38:f1:13:e3:6a:7b:ab:dd:08:f7:77:63:91:a6:87:36:58:2e
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "LGPKI"
```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\016\060\014\006\003\125\004\012\023\005\114\107\120\113\111\061
\032\060\030\006\003\125\004\013\023\021\101\160\160\154\151\143
\141\164\151\157\156\040\103\101\040\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\016\060\014\006\003\125\004\012\023\005\114\107\120\113\111\061
\032\060\030\006\003\125\004\013\023\021\101\160\160\154\151\143
\141\164\151\157\156\040\103\101\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\061

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\240\060\202\002\210\240\003\002\001\002\002\001\061
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\071\061\013\060\011\006\003\125\004\006\023\002\112\120\061\016
\060\014\006\003\125\004\012\023\005\114\107\120\113\111\061\032
\060\030\006\003\125\004\013\023\021\101\160\160\154\151\143\141
\164\151\157\156\040\103\101\040\107\062\060\036\027\015\060\066
\060\063\063\061\061\065\060\060\060\060\132\027\015\061\066\060
\063\063\061\061\064\065\071\065\071\132\060\071\061\013\060\011
\006\003\125\004\006\023\002\112\120\061\016\060\014\006\003\125
\004\012\023\005\114\107\120\113\111\061\032\060\030\006\003\125
\004\013\023\021\101\160\160\154\151\143\141\164\151\157\156\040
\103\101\040\107\062\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\271\065\306\020\370\333\150\333\007\304
\100\114\260\035\036\066\334\303\101\366\317\125\025\155\010\177
\134\306\150\125\345\347\127\361\226\121\346\341\115\170\017\156
\100\025\160\073\145\376\021\337\347\323\326\130\065\073\341\237
\002\374\224\122\106\056\263\236\140\233\002\236\311\202\322\366
\343\256\011\117\204\104\266\142\233\000\121\150\270\072\255\354
\144\321\062\113\351\224\104\203\264\016\316\041\211\153\260\066
\300\230\306\113\234\302\076\133\140\052\011\061\053\055\253\114
\336\261\240\375\130\126\302\203\035\040\274\304\204\011\207\173
\250\225\227\306\045\216\203\340\076\223\015\321\307\175\163\251
\250\374\031\000\100\056\042\270\172\063\101\365\170\375\132\161
\347\202\331\110\210\134\354\250\205\207\055\155\200\211\147\032
\151\276\020\300\132\216\355\210\175\076\157\054\070\153\067\316
\107\330\242\061\060\336\176\123\145\154\213\206\123\101\040\154
\275\110\245\176\257\000\132\126\022\130\201\321\334\211\131\371
\265\356\370\115\232\330\104\051\213\171\247\367\042\252\352\174
\134\264\026\210\040\015\002\003\001\000\001\243\201\262\060\201

\257\060\035\006\003\125\035\016\004\026\004\024\177\270\135\216
\304\030\153\306\175\314\056\351\256\316\064\347\027\135\340\241
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\114\006\003\125\035\037\004\105\060\103\060\101\240\077\240
\075\244\073\060\071\061\013\060\011\006\003\125\004\006\023\002
\112\120\061\016\060\014\006\003\125\004\012\023\005\114\107\120
\113\111\061\032\060\030\006\003\125\004\013\023\021\101\160\160
\154\151\143\141\164\151\157\156\040\103\101\040\107\062\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\037\006\003\125\035\043\004\030\060\026\200\024\177\270\135\216
\304\030\153\306\175\314\056\351\256\316\064\347\027\135\340\241
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\074\330\163\066\100\006\110\112\124\031\365\047
\110\071\045\245\156\102\347\266\315\033\313\071\064\267\233\354
\117\052\276\167\344\312\204\374\035\353\233\042\100\325\364\373
\150\207\162\374\107\135\152\016\122\112\343\265\135\110\306\042
\226\346\063\155\155\253\366\315\327\313\044\132\214\250\105\236
\076\141\202\175\224\325\005\360\032\065\137\161\057\056\124\265
\101\005\357\206\015\122\357\234\230\033\361\054\114\072\321\363
\206\323\214\076\172\057\206\105\216\203\062\046\133\277\123\312
\016\121\126\334\232\302\132\060\031\015\247\236\325\252\233\040
\071\151\170\041\364\227\155\321\016\021\114\056\323\033\132\260
\371\227\170\134\052\217\122\145\356\114\102\045\302\067\060\016
\155\053\065\224\203\006\350\257\105\073\004\146\247\060\273\371
\340\041\073\143\156\175\104\135\072\152\123\357\021\027\044\375
\124\262\132\154\163\126\041\311\154\055\227\244\102\263\047\141
\005\041\143\155\352\050\274\117\032\157\102\334\230\253\125\323
\036\033\300\222\077\233\301\346\073\027\126\342\304\230\103\045
\356\266\313\000

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "LGPKI"
Issuer: OU=Application CA G2,O=LGPKI,C=JP
Serial Number: 49 (0x31)
Subject: OU=Application CA G2,O=LGPKI,C=JP
Not Valid Before: Fri Mar 31 15:00:00 2006
Not Valid After: Thu Mar 31 14:59:59 2016
Fingerprint (MD5): f3:d7:52:a8:75:fd:18:ec:e1:7d:35:b1:70:6e:a5:9c
Fingerprint (SHA1): 96:83:38:f1:13:e3:6a:7b:ab:dd:08:f7:77:63:91:a6:87:36:58:2e
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "LGPKI"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\226\203\070\361\023\343\152\173\253\335\010\367\167\143\221\246
\207\066\130\056
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\363\327\122\250\165\375\030\354\341\175\065\261\160\156\245\234
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\016\060\014\006\003\125\004\012\023\005\114\107\120\113\111\061
\032\060\030\006\003\125\004\013\023\021\101\160\160\154\151\143
\141\164\151\157\156\040\103\101\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\061
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "AC RAIZ DNIE"
# Issuer: CN=AC RAIZ DNIE,OU=DNIE,O=DIRECCION GENERAL DE LA POLICIA,C=ES
# Serial Number:d2:85:70:fd:ae:a7:d6:5f:11:84:15:c6:31:b5:cb
# Subject: CN=AC RAIZ DNIE,OU=DNIE,O=DIRECCION GENERAL DE LA POLICIA,C=ES
# Not Valid Before: Thu Feb 16 10:37:25 2006
# Not Valid After: Fri Feb 08 22:59:59 2036
# Fingerprint (MD5): 15:5e:f5:11:7a:a2:c1:15:0e:92:7e:66:fe:3b:84:c3
# Fingerprint (SHA1): b3:8f:ec:ec:0b:14:8a:a6:86:c3:d0:0f:01:ec:c8:84:8e:80:85:eb
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ DNIE"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\050\060\046\006\003\125\004\012\014\037\104\111\122\105\103\103
\111\117\116\040\107\105\116\105\122\101\114\040\104\105\040\114
\101\040\120\117\114\111\103\111\101\061\015\060\013\006\003\125
\004\013\014\004\104\116\111\105\061\025\060\023\006\003\125\004
\003\014\014\101\103\040\122\101\111\132\040\104\116\111\105
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\050\060\046\006\003\125\004\012\014\037\104\111\122\105\103\103

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\111\117\116\040\107\105\116\105\122\101\114\040\104\105\040\114
\101\040\120\117\114\111\103\111\101\061\015\060\013\006\003\125
\004\013\014\004\104\116\111\105\061\025\060\023\006\003\125\004
\003\014\014\101\103\040\122\101\111\132\040\104\116\111\105

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\000\322\205\160\375\256\247\326\137\021\204\025\306\061
\265\313

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\277\060\202\003\247\240\003\002\001\002\002\020\000
\322\205\160\375\256\247\326\137\021\204\025\306\061\265\313\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\135
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\050\060
\046\006\003\125\004\012\014\037\104\111\122\105\103\103\111\117
\116\040\107\105\116\105\122\101\114\040\104\105\040\114\101\040
\120\117\114\111\103\111\101\061\015\060\013\006\003\125\004\013
\014\004\104\116\111\105\061\025\060\023\006\003\125\004\003\014
\014\101\103\040\122\101\111\132\040\104\116\111\105\060\036\027
\015\060\066\060\062\061\066\061\060\063\067\062\065\132\027\015
\063\066\060\062\060\070\062\062\065\071\065\071\132\060\135\061
\013\060\011\006\003\125\004\006\023\002\105\123\061\050\060\046
\006\003\125\004\012\014\037\104\111\122\105\103\103\111\117\116
\040\107\105\116\105\122\101\114\040\104\105\040\114\101\040\120
\117\114\111\103\111\101\061\015\060\013\006\003\125\004\013\014
\004\104\116\111\105\061\025\060\023\006\003\125\004\003\014\014
\101\103\040\122\101\111\132\040\104\116\111\105\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\200\000\255
\014\303\243\040\007\243\143\377\367\064\240\315\356\152\124\010
\027\135\261\001\025\247\346\271\137\212\161\377\014\302\035\352
\067\363\336\223\177\326\005\115\204\262\325\327\034\014\364\304
\221\160\100\016\132\310\230\244\200\350\015\063\300\007\363\267
\365\254\241\070\172\300\146\124\044\374\122\314\060\052\362\303
\304\241\054\166\277\301\300\277\202\361\233\360\150\172\023\100
\310\227\274\034\045\007\010\012\267\226\357\314\051\124\340\346
\145\055\352\262\056\261\011\151\022\116\060\325\330\370\274\000
\200\057\115\223\017\315\056\127\033\063\273\237\060\116\304\245
\313\171\247\373\342\064\030\266\040\236\033\237\135\247\311\072
\255\105\144\263\030\316\021\022\234\155\036\125\105\050\204\234
\127\147\115\371\313\342\213\217\130\011\324\071\377\310\066\322
\070\342\014\145\177\025\016\175\301\007\335\251\042\337\221\000
\304\154\161\064\164\334\071\352\352\117\104\151\177\130\333\130
\012\122\161\053\354\251\035\120\164\063\371\051\152\372\376\231
\364\347\314\105\105\155\312\132\045\242\022\343\316\327\070\005
\071\360\032\011\365\166\131\316\142\157\172\064\015\054\321\274
\004\022\354\075\123\310\372\320\002\313\316\075\041\265\305\340
\071\063\145\317\071\123\311\233\106\371\235\063\363\131\200\010

\101\276\157\113\240\372\112\316\244\166\034\205\342\257\257\024
\235\145\254\367\177\227\344\063\111\246\257\276\316\053\067\361
\056\301\163\005\234\234\140\114\235\060\015\227\124\236\201\142
\273\347\340\057\367\024\007\024\251\167\221\351\334\221\225\216
\323\210\220\063\107\157\161\303\024\151\372\246\055\001\036\033
\352\323\056\342\177\013\334\317\347\042\360\361\101\243\001\222
\345\200\323\276\251\142\250\125\210\013\064\064\354\334\041\025
\252\357\326\042\136\211\365\121\222\023\052\157\200\026\331\261
\015\331\056\370\020\270\302\376\122\105\063\234\035\070\174\334
\025\151\064\163\277\240\054\273\021\173\224\315\370\067\055\157
\075\357\203\132\306\036\233\164\111\217\331\302\215\276\026\166
\120\310\132\321\045\026\366\366\314\214\234\132\060\236\145\276
\320\232\110\223\327\372\150\015\165\061\207\371\367\002\003\001
\000\001\243\173\060\171\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026
\004\024\216\105\364\237\163\305\377\057\033\005\333\001\107\140
\033\003\212\201\267\272\060\067\006\003\125\035\040\004\060\060
\056\060\054\006\004\125\035\040\000\060\044\060\042\006\010\053
\006\001\005\005\007\002\001\026\026\150\164\164\160\072\057\057
\167\167\167\056\144\156\151\145\056\145\163\057\144\160\143\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\002\001\000\165\345\163\311\121\121\057\213\031\240\207\351\377
\256\066\066\246\374\101\037\343\036\327\161\140\031\306\157\232
\002\060\275\142\161\255\163\376\221\055\116\344\046\100\104\251
\256\170\046\043\061\151\334\232\163\226\036\111\121\013\340\357
\301\270\103\357\161\234\356\101\267\305\120\037\062\204\236\042
\206\361\367\037\217\331\255\053\116\332\227\050\227\273\226\232
\032\370\261\331\172\004\363\124\231\022\031\226\025\200\147\071
\377\002\137\172\374\125\102\120\132\346\271\242\377\270\250\142
\036\024\315\331\077\276\243\145\110\305\073\327\067\316\015\372
\050\220\332\277\371\343\121\107\045\175\112\323\147\115\207\252
\142\274\136\354\172\200\104\174\367\237\012\275\145\127\224\312
\362\021\146\326\122\177\344\072\160\165\004\315\073\227\324\066
\162\367\121\126\277\064\365\322\101\341\264\332\250\103\376\153
\022\111\022\264\135\317\042\102\226\214\010\043\046\214\262\020
\116\135\252\123\356\001\057\165\345\271\242\021\063\304\327\152
\375\370\016\312\156\202\331\347\273\131\043\116\265\371\021\035
\057\153\043\365\173\021\040\352\101\022\220\062\106\333\061\073
\251\301\133\163\150\072\106\033\214\376\227\267\126\271\141\231
\314\116\360\203\372\067\361\336\034\235\034\161\213\003\223\303
\304\163\202\056\250\230\035\144\242\232\214\367\124\010\115\317
\352\201\313\365\133\011\231\143\257\165\214\226\370\171\065\325
\334\353\101\201\171\070\204\136\157\361\157\142\166\333\221\316
\132\205\140\071\035\133\342\052\057\103\045\333\302\172\044\323
\025\260\242\361\214\240\175\153\110\011\023\377\242\114\146\212
\354\160\122\011\123\214\060\314\270\325\272\044\334\060\231\076
\241\136\267\337\201\254\354\067\276\116\233\047\130\336\176\241

```
\233\124\177\006\266\057\344\062\120\375\347\020\273\250\315\332
\030\033\324\143\146\075\352\121\161\071\364\234\076\337\132\364
\332\307\114\046\355\213\265\041\272\064\171\002\163\141\020\332
\230\061\250\140\313\176\007\247\320\267\005\103\211\133\315\205
\046\331\260\121\257\367\214\122\252\022\247\130\337\222\233\147
\362\235\362\346\364\151\061\364\026\347\336\167\133\036\335\232
\005\001\255
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "AC RAIZ DNIE"

Issuer: CN=AC RAIZ DNIE,OU=DNIE,O=DIRECCION GENERAL DE LA POLICIA,C=ES

Serial Number:d2:85:70:fd:ae:a7:d6:5f:11:84:15:c6:31:b5:cb

Subject: CN=AC RAIZ DNIE,OU=DNIE,O=DIRECCION GENERAL DE LA POLICIA,C=ES

Not Valid Before: Thu Feb 16 10:37:25 2006

Not Valid After: Fri Feb 08 22:59:59 2036

Fingerprint (MD5): 15:5e:f5:11:7a:a2:c1:15:0e:92:7e:66:fe:3b:84:c3

Fingerprint (SHA1): b3:8f:ec:ec:0b:14:8a:a6:86:c3:d0:0f:01:ec:c8:84:8e:80:85:eb

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AC RAIZ DNIE"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\263\217\354\354\013\024\212\246\206\303\320\017\001\354\310\204
\216\200\205\353
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\025\136\365\021\172\242\301\025\016\222\176\146\376\073\204\303
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\050\060\046\006\003\125\004\012\014\037\104\111\122\105\103\103
\111\117\116\040\107\105\116\105\122\101\114\040\104\105\040\114
\101\040\120\117\114\111\103\111\101\061\015\060\013\006\003\125
\004\013\014\004\104\116\111\105\061\025\060\023\006\003\125\004
\003\014\014\101\103\040\122\101\111\132\040\104\116\111\105
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\000\322\205\160\375\256\247\326\137\021\204\025\306\061
\265\313
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "TÜRKTRUST Elektronik Sertifika Hizmet Salaycs"

Issuer: O=TÜRKTRUST Bilgi letiim ve Biliim Güvenlii Hizmetleri A.. (c) Kasm
2005,L=Ankara,C=TR,CN=TÜRKTRUST Elektronik Sertifika Hizmet Salaycs

Serial Number: 1 (0x1)

Subject: O=TÜRKTRUST Bilgi letiim ve Biliim Güvenlii Hizmetleri A.. (c) Kasm
2005,L=Ankara,C=TR,CN=TÜRKTRUST Elektronik Sertifika Hizmet Salaycs

Not Valid Before: Mon Nov 07 10:07:57 2005

Not Valid After: Wed Sep 16 10:07:57 2015

Fingerprint (MD5): 37:a5:6e:d4:b1:25:84:97:b7:fd:56:15:7a:f9:a2:00

Fingerprint (SHA1): b4:35:d4:e1:11:9d:1c:66:90:a7:49:eb:b3:94:bd:63:7b:a7:82:b7

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TÜRKTRUST Elektronik Sertifika Hizmet Salaycs"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\276\061\077\060\075\006\003\125\004\003\014\066\124\303
\234\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157
\156\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151
\172\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304
\261\163\304\261\061\013\060\011\006\003\125\004\006\023\002\124
\122\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141
\162\141\061\135\060\133\006\003\125\004\012\014\124\124\303\234
\122\113\124\122\125\123\124\040\102\151\154\147\151\040\304\260
\154\145\164\151\305\237\151\155\040\166\145\040\102\151\154\151
\305\237\151\155\040\107\303\274\166\145\156\154\151\304\237\151
\040\110\151\172\155\145\164\154\145\162\151\040\101\056\305\236
\056\040\050\143\051\040\113\141\163\304\261\155\040\062\060\060
\065

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\276\061\077\060\075\006\003\125\004\003\014\066\124\303
\234\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157
\156\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151
\172\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304
\261\163\304\261\061\013\060\011\006\003\125\004\006\023\002\124
\122\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141
\162\141\061\135\060\133\006\003\125\004\012\014\124\124\303\234
\122\113\124\122\125\123\124\040\102\151\154\147\151\040\304\260
\154\145\164\151\305\237\151\155\040\166\145\040\102\151\154\151
\305\237\151\155\040\107\303\274\166\145\156\154\151\304\237\151
\040\110\151\172\155\145\164\154\145\162\151\040\101\056\305\236
\056\040\050\143\051\040\113\141\163\304\261\155\040\062\060\060

\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\074\060\202\003\044\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\276\061\077\060\075\006\003\125\004\003\014\066\124\303\234
\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157\156
\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151\172
\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304\261
\163\304\261\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\135\060\133\006\003\125\004\012\014\124\124\303\234\122
\113\124\122\125\123\124\040\102\151\154\147\151\040\304\260\154
\145\164\151\305\237\151\155\040\166\145\040\102\151\154\151\305
\237\151\155\040\107\303\274\166\145\156\154\151\304\237\151\040
\110\151\172\155\145\164\154\145\162\151\040\101\056\305\236\056
\040\050\143\051\040\113\141\163\304\261\155\040\062\060\060\065
\060\036\027\015\060\065\061\061\060\067\061\060\060\067\065\067
\132\027\015\061\065\060\071\061\066\061\060\060\067\065\067\132
\060\201\276\061\077\060\075\006\003\125\004\003\014\066\124\303
\234\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157
\156\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151
\172\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304
\261\163\304\261\061\013\060\011\006\003\125\004\006\023\002\124
\122\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141
\162\141\061\135\060\133\006\003\125\004\012\014\124\124\303\234
\122\113\124\122\125\123\124\040\102\151\154\147\151\040\304\260
\154\145\164\151\305\237\151\155\040\166\145\040\102\151\154\151
\305\237\151\155\040\107\303\274\166\145\156\154\151\304\237\151
\040\110\151\172\155\145\164\154\145\162\151\040\101\056\305\236
\056\040\050\143\051\040\113\141\163\304\261\155\040\062\060\060
\065\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\251\066\176\303\221\103\114\303\031\230\010\310\307\130
\173\117\026\214\245\316\111\001\037\163\016\254\165\023\246\372
\236\054\040\336\330\220\016\012\321\151\322\047\373\252\167\237
\047\122\045\342\313\135\330\330\203\120\027\175\212\265\202\077
\004\216\264\325\360\111\247\144\267\036\056\137\040\234\120\165
\117\257\341\265\101\024\364\230\222\210\307\345\345\144\107\141
\107\171\375\300\121\361\301\231\347\334\316\152\373\257\265\001
\060\334\106\034\357\212\354\225\357\334\377\257\020\034\353\235
\330\260\252\152\205\030\015\027\311\076\277\361\233\320\011\211
\102\375\240\102\264\235\211\121\125\051\317\033\160\274\204\124
\255\301\023\037\230\364\056\166\140\213\135\077\232\255\312\014
\277\247\126\133\217\167\270\325\236\171\111\222\077\340\361\227

\044\172\154\233\027\017\155\357\123\230\221\053\344\017\276\131
\171\007\170\273\227\225\364\237\151\324\130\207\012\251\343\314
\266\130\031\237\046\041\261\304\131\215\262\101\165\300\255\151
\316\234\000\010\362\066\377\076\360\241\017\032\254\024\375\246
\140\017\002\003\001\000\001\243\103\060\101\060\035\006\003\125
\035\016\004\026\004\024\331\067\263\116\005\375\331\317\237\022
\026\256\266\211\057\353\045\072\210\034\060\017\006\003\125\035
\017\001\001\377\004\005\003\003\007\006\000\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\162\140\226\267\311\334\330\051\136\043\205\137\262\263\055\166
\373\210\327\027\376\173\155\105\270\366\205\154\237\042\374\052
\020\042\354\252\271\060\366\253\130\326\071\020\061\231\051\000
\275\211\146\101\373\164\336\221\301\030\013\237\265\141\313\235
\072\276\365\250\224\243\042\125\156\027\111\377\322\051\361\070
\046\135\357\245\252\072\371\161\173\346\332\130\035\323\164\302
\001\372\076\151\130\137\255\313\150\276\024\056\233\154\300\266
\334\240\046\372\167\032\342\044\332\032\067\340\147\255\321\163
\203\015\245\032\035\156\022\222\176\204\142\000\027\275\274\045
\030\127\362\327\251\157\131\210\274\064\267\056\205\170\235\226
\334\024\303\054\212\122\233\226\214\122\146\075\206\026\213\107
\270\121\011\214\352\175\315\210\162\263\140\063\261\360\012\104
\357\017\365\011\067\210\044\016\054\153\040\072\242\372\021\362
\100\065\234\104\150\143\073\254\063\157\143\274\054\273\362\322
\313\166\175\175\210\330\035\310\005\035\156\274\224\251\146\214
\167\161\307\372\221\372\057\121\236\351\071\122\266\347\004\102
END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "TÜRKTRUST Elektronik Sertifika Hizmet Salaycs"
Issuer: O=TÜRKTRUST Bilgi letiim ve Biliim Güvenlii Hizmetleri A.. (c) Kasm
2005,L=Ankara,C=TR,CN=TÜRKTRUST Elektronik Sertifika Hizmet Salaycs
Serial Number: 1 (0x1)
Subject: O=TÜRKTRUST Bilgi letiim ve Biliim Güvenlii Hizmetleri A.. (c) Kasm
2005,L=Ankara,C=TR,CN=TÜRKTRUST Elektronik Sertifika Hizmet Salaycs
Not Valid Before: Mon Nov 07 10:07:57 2005
Not Valid After: Wed Sep 16 10:07:57 2015
Fingerprint (MD5): 37:a5:6e:d4:b1:25:84:97:b7:fd:56:15:7a:f9:a2:00
Fingerprint (SHA1): b4:35:d4:e1:11:9d:1c:66:90:a7:49:eb:b3:94:bd:63:7b:a7:82:b7
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TÜRKTRUST Elektronik Sertifika Hizmet Salaycs"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\264\065\324\341\021\235\034\146\220\247\111\353\263\224\275\143
\173\247\202\267

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\067\245\156\324\261\045\204\227\267\375\126\025\172\371\242\000

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\276\061\077\060\075\006\003\125\004\003\014\066\124\303
\234\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157
\156\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151
\172\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304
\261\163\304\261\061\013\060\011\006\003\125\004\006\023\002\124
\122\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141
\162\141\061\135\060\133\006\003\125\004\012\014\124\124\303\234
\122\113\124\122\125\123\124\040\102\151\154\147\151\040\304\260
\154\145\164\151\305\237\151\155\040\166\145\040\102\151\154\151
\305\237\151\155\040\107\303\274\166\145\156\154\151\304\237\151
\040\110\151\172\155\145\164\154\145\162\151\040\101\056\305\236
\056\040\050\143\051\040\113\141\163\304\261\155\040\062\060\060
\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "A-Trust-nQual-03"

Issuer: CN=A-Trust-nQual-03,OU=A-Trust-nQual-03,O=A-Trust Ges. f. Sicherheitssysteme im elektr.
Datenverkehr GmbH,C=AT

Serial Number: 93214 (0x16c1e)

Subject: CN=A-Trust-nQual-03,OU=A-Trust-nQual-03,O=A-Trust Ges. f. Sicherheitssysteme im elektr.
Datenverkehr GmbH,C=AT

Not Valid Before: Wed Aug 17 22:00:00 2005

Not Valid After: Mon Aug 17 22:00:00 2015

Fingerprint (MD5): 49:63:ae:27:f4:d5:95:3d:d8:db:24:86:b8:9c:07:53

Fingerprint (SHA1): d3:c0:63:f2:19:ed:07:3e:34:ad:5d:75:0b:32:76:29:ff:d5:9a:f2

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "A-Trust-nQual-03"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\215\061\013\060\011\006\003\125\004\006\023\002\101\124

\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162\165
\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150\145
\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151\155
\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166\145
\162\153\145\150\162\040\107\155\142\110\061\031\060\027\006\003
\125\004\013\014\020\101\055\124\162\165\163\164\055\156\121\165
\141\154\055\060\063\061\031\060\027\006\003\125\004\003\014\020
\101\055\124\162\165\163\164\055\156\121\165\141\154\055\060\063
END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\215\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162\165
\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150\145
\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151\155
\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166\145
\162\153\145\150\162\040\107\155\142\110\061\031\060\027\006\003
\125\004\013\014\020\101\055\124\162\165\163\164\055\156\121\165
\141\154\055\060\063\061\031\060\027\006\003\125\004\003\014\020
\101\055\124\162\165\163\164\055\156\121\165\141\154\055\060\063
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\001\154\036

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\317\060\202\002\267\240\003\002\001\002\002\003\001
\154\036\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\201\215\061\013\060\011\006\003\125\004\006\023\002\101
\124\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162
\165\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150
\145\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151
\155\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166
\145\162\153\145\150\162\040\107\155\142\110\061\031\060\027\006
\003\125\004\013\014\020\101\055\124\162\165\163\164\055\156\121
\165\141\154\055\060\063\061\031\060\027\006\003\125\004\003\014
\020\101\055\124\162\165\163\164\055\156\121\165\141\154\055\060
\063\060\036\027\015\060\065\060\070\061\067\062\062\060\060\060
\060\132\027\015\061\065\060\070\061\067\062\062\060\060\060\060
\132\060\201\215\061\013\060\011\006\003\125\004\006\023\002\101
\124\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162
\165\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150
\145\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151
\155\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166
\145\162\153\145\150\162\040\107\155\142\110\061\031\060\027\006
\003\125\004\013\014\020\101\055\124\162\165\163\164\055\156\121
\165\141\154\055\060\063\061\031\060\027\006\003\125\004\003\014
\020\101\055\124\162\165\163\164\055\156\121\165\141\154\055\060
\063\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001

\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\255\075\141\156\003\363\220\073\300\101\013\204\200\315
\354\052\243\235\153\273\156\302\102\204\367\121\024\341\240\250
\055\121\243\121\362\336\043\360\064\104\377\224\353\314\005\043
\225\100\271\007\170\245\045\366\012\275\105\206\350\331\275\300
\004\216\205\104\141\357\177\247\311\372\301\045\314\205\054\143
\077\005\140\163\111\005\340\140\170\225\020\113\334\371\021\131
\316\161\177\100\233\212\252\044\337\013\102\342\333\126\274\112
\322\245\014\233\267\103\076\335\203\323\046\020\002\317\352\043
\304\111\116\345\323\351\264\210\253\014\256\142\222\324\145\207
\331\152\327\364\205\237\344\063\042\045\245\345\310\063\272\303
\307\101\334\137\306\152\314\000\016\155\062\250\266\207\066\000
\142\167\233\036\037\064\313\220\074\170\210\164\005\353\171\365
\223\161\145\312\235\307\153\030\055\075\134\116\347\325\370\077
\061\175\217\207\354\012\042\057\043\351\376\273\175\311\340\364
\354\353\174\304\260\303\055\142\265\232\161\326\261\152\350\354
\331\355\325\162\354\276\127\001\316\005\125\237\336\321\140\210
\020\263\002\003\001\000\001\243\066\060\064\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\021\006\003
\125\035\016\004\012\004\010\104\152\225\147\125\171\021\117\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\001\001\000\125\324\124\321\131\110\134\263\223\205\252\277\143
\057\344\200\316\064\243\064\142\076\366\330\356\147\210\061\004
\003\157\013\324\007\373\116\165\017\323\056\323\300\027\307\306
\050\354\006\015\021\044\016\016\245\135\277\214\262\023\226\161
\334\324\316\016\015\012\150\062\154\271\101\061\031\253\261\007
\173\115\230\323\134\260\321\360\247\102\240\265\304\216\257\376
\361\077\364\357\117\106\000\166\353\002\373\371\235\322\100\226
\307\210\072\270\237\021\171\363\200\145\250\275\037\323\170\201
\240\121\114\067\264\246\135\045\160\321\146\311\150\371\056\021
\024\150\361\124\230\010\254\046\222\017\336\211\236\324\372\263
\171\053\322\243\171\324\354\213\254\207\123\150\102\114\121\121
\164\036\033\047\056\343\365\037\051\164\115\355\257\367\341\222
\231\201\350\276\072\307\027\120\366\267\306\374\233\260\212\153
\326\210\003\221\217\006\167\072\205\002\335\230\325\103\170\077
\306\060\025\254\233\153\313\127\267\211\121\213\072\350\311\204
\014\333\261\120\040\012\032\112\272\152\032\275\354\033\310\305
\204\232\315

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "A-Trust-nQual-03"

Issuer: CN=A-Trust-nQual-03,OU=A-Trust-nQual-03,O=A-Trust Ges. f. Sicherheitssysteme im elektr.

Datenverkehr GmbH,C=AT

```

# Serial Number: 93214 (0x16c1e)
# Subject: CN=A-Trust-nQual-03,OU=A-Trust-nQual-03,O=A-Trust Ges. f. Sicherheitssysteme im elektr.
Datenverkehr GmbH,C=AT
# Not Valid Before: Wed Aug 17 22:00:00 2005
# Not Valid After: Mon Aug 17 22:00:00 2015
# Fingerprint (MD5): 49:63:ae:27:f4:d5:95:3d:d8:db:24:86:b8:9c:07:53
# Fingerprint (SHA1): d3:c0:63:f2:19:ed:07:3e:34:ad:5d:75:0b:32:76:29:ff:d5:9a:f2
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "A-Trust-nQual-03"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\323\300\143\362\031\355\007\076\064\255\135\165\013\062\166\051
\377\325\232\362
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\111\143\256\047\364\325\225\075\330\333\044\206\270\234\007\123
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\215\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\110\060\106\006\003\125\004\012\014\077\101\055\124\162\165
\163\164\040\107\145\163\056\040\146\056\040\123\151\143\150\145
\162\150\145\151\164\163\163\171\163\164\145\155\145\040\151\155
\040\145\154\145\153\164\162\056\040\104\141\164\145\156\166\145
\162\153\145\150\162\040\107\155\142\110\061\031\060\027\006\003
\125\004\013\014\020\101\055\124\162\165\163\164\055\156\121\165
\141\154\055\060\063\061\031\060\027\006\003\125\004\003\014\020
\101\055\124\162\165\163\164\055\156\121\165\141\154\055\060\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\154\036
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "CertRSA01"
# Issuer: CN=CertRSA01,OU=ROOTCA,O=KISA,C=KR
# Serial Number: 3 (0x3)
# Subject: CN=CertRSA01,OU=ROOTCA,O=KISA,C=KR
# Not Valid Before: Thu Mar 02 15:00:00 2000
# Not Valid After: Wed Mar 03 14:59:59 2010
# Fingerprint (MD5): 9f:6c:1f:0f:07:ac:19:21:f9:15:bb:d5:c7:2c:d8:2a
# Fingerprint (SHA1): f5:c2:7c:f5:ff:f3:02:9a:cf:1a:1a:4b:ec:7e:e1:96:4c:77:d7:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CertRSA01"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\015\060\013\006\003\125\004\012\023\004\113\111\123\101\061\017
\060\015\006\003\125\004\013\023\006\122\117\117\124\103\101\061
\022\060\020\006\003\125\004\003\023\011\103\145\162\164\122\123
\101\060\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\015\060\013\006\003\125\004\012\023\004\113\111\123\101\061\017
\060\015\006\003\125\004\013\023\006\122\117\117\124\103\101\061
\022\060\020\006\003\125\004\003\023\011\103\145\162\164\122\123
\101\060\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\003
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\112\060\202\003\062\240\003\002\001\002\002\001\003
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\101\061\013\060\011\006\003\125\004\006\023\002\113\122\061\015
\060\013\006\003\125\004\012\023\004\113\111\123\101\061\017\060
\015\006\003\125\004\013\023\006\122\117\117\124\103\101\061\022
\060\020\006\003\125\004\003\023\011\103\145\162\164\122\123\101
\060\061\060\036\027\015\060\060\060\063\060\062\061\065\060\060
\060\060\132\027\015\061\060\060\063\060\063\061\064\065\071\065
\071\132\060\101\061\013\060\011\006\003\125\004\006\023\002\113
\122\061\015\060\013\006\003\125\004\012\023\004\113\111\123\101
\061\017\060\015\006\003\125\004\013\023\006\122\117\117\124\103
\101\061\022\060\020\006\003\125\004\003\023\011\103\145\162\164
\122\123\101\060\061\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\316\317\355\341\350\126\035\311\113\062
\140\233\052\267\227\207\141\006\064\150\313\027\256\300\170\305
\306\021\133\113\174\227\253\271\154\116\057\000\366\123\054\351
\341\234\132\220\152\075\172\070\070\065\132\255\034\012\131\205
\273\365\143\147\011\023\351\046\117\330\074\135\357\123\102\336
\105\142\344\076\315\162\244\372\263\300\340\037\216\224\342\145
\055\125\301\025\222\054\157\363\103\324\065\005\005\064\067\240
\054\264\163\133\361\047\046\224\232\365\272\022\314\372\170\065
\242\255\124\325\146\217\021\352\246\031\115\327\023\065\124\173
\221\227\003\107\143\260\251\017\150\276\322\364\236\352\215\265
```

\173\104\265\271\055\070\311\000\343\345\277\306\165\211\003\231
\377\214\113\010\017\302\005\061\244\115\027\021\316\303\165\017
\153\260\137\320\254\206\255\175\351\240\210\271\306\022\326\300
\072\054\322\157\154\047\035\252\377\105\233\306\003\020\002\151
\371\006\357\237\042\240\070\070\202\310\044\021\254\241\236\217
\115\276\170\137\337\272\077\203\003\175\121\243\370\307\135\250
\221\150\037\036\162\335\002\003\001\000\001\243\202\001\113\060
\202\001\107\060\035\006\003\125\035\016\004\026\004\024\377\212
\106\162\063\130\350\110\210\042\252\027\150\332\026\110\011\213
\065\221\060\037\006\003\125\035\043\004\030\060\026\200\024\377
\212\106\162\063\130\350\110\210\042\252\027\150\332\026\110\011
\213\065\221\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\025\006\003\125\035\040\004\016\060\014\060\012
\006\010\052\203\032\214\232\104\002\001\060\060\006\003\125\035
\021\004\051\060\047\244\045\060\043\061\041\060\037\006\003\125
\004\003\014\030\355\225\234\352\265\255\354\240\225\353\263\264
\353\263\264\355\230\270\354\204\274\355\204\260\060\060\006\003
\125\035\022\004\051\060\047\244\045\060\043\061\041\060\037\006
\003\125\004\003\014\030\355\225\234\352\265\255\354\240\225\353
\263\264\353\263\264\355\230\270\354\204\274\355\204\260\060\022
\006\003\125\035\023\001\001\377\004\010\060\006\001\001\377\002
\001\001\060\014\006\003\125\035\044\004\005\060\003\200\001\000
\060\130\006\003\125\035\037\004\121\060\117\060\115\240\113\240
\111\206\107\154\144\141\160\072\057\057\144\151\162\163\171\163
\056\162\157\157\164\143\141\056\157\162\056\153\162\072\063\070
\071\057\103\116\075\122\117\117\124\055\122\123\101\055\103\122
\114\054\040\117\125\075\122\117\117\124\103\101\054\040\117\075
\113\111\123\101\054\040\103\075\113\122\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\054\074
\244\043\154\102\370\211\050\107\120\174\343\346\347\043\055\066
\066\306\210\052\221\230\373\036\174\017\253\235\021\255\165\254
\344\134\153\061\021\164\063\142\157\324\006\221\021\306\162\164
\230\057\260\142\373\064\051\257\024\362\306\144\340\277\253\313
\127\271\141\234\363\142\115\063\171\327\146\052\121\314\334\000
\124\005\001\126\176\214\266\216\023\364\055\231\121\341\232\170
\274\125\121\112\111\332\133\013\202\373\103\075\332\315\223\011
\313\265\243\011\303\260\175\131\110\242\233\330\373\067\303\157
\016\067\352\005\227\277\322\156\241\310\350\303\373\363\255\062
\310\125\222\064\102\340\324\022\345\324\355\041\212\347\230\222
\377\134\327\245\146\252\277\361\072\174\055\302\340\125\065\005
\332\221\152\007\123\321\205\261\224\307\046\015\033\150\051\010
\301\041\223\017\153\242\140\270\123\257\104\331\144\135\323\156
\233\204\022\170\061\030\332\163\277\254\044\370\253\055\277\016
\176\272\173\011\312\132\211\250\054\122\314\114\164\255\331\137
\263\267\326\005\367\101\137\161\345\146\031\006\045\171

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "CertRSA01"

Issuer: CN=CertRSA01,OU=ROOTCA,O=KISA,C=KR

Serial Number: 3 (0x3)

Subject: CN=CertRSA01,OU=ROOTCA,O=KISA,C=KR

Not Valid Before: Thu Mar 02 15:00:00 2000

Not Valid After: Wed Mar 03 14:59:59 2010

Fingerprint (MD5): 9f:6c:1f:0f:07:ac:19:21:f9:15:bb:d5:c7:2c:d8:2a

Fingerprint (SHA1): f5:c2:7c:f5:ff:f3:02:9a:cf:1a:1a:4b:ec:7e:e1:96:4c:77:d7:84

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "CertRSA01"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\365\302\174\365\377\363\002\232\317\032\032\113\354\176\341\226
\114\167\327\204

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\237\154\037\017\007\254\031\041\371\025\273\325\307\054\330\052

END

CKA_ISSUER MULTILINE_OCTAL

\060\101\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\015\060\013\006\003\125\004\012\023\004\113\111\123\101\061\017
\060\015\006\003\125\004\013\023\006\122\117\117\124\103\101\061
\022\060\020\006\003\125\004\003\023\011\103\145\162\164\122\123
\101\060\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\003

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "KISA RootCA 1"

Issuer: CN=KISA RootCA 1,OU=Korea Certification Authority Central,O=KISA,C=KR

Serial Number: 4 (0x4)

Subject: CN=KISA RootCA 1,OU=Korea Certification Authority Central,O=KISA,C=KR

Not Valid Before: Wed Aug 24 08:05:46 2005

Not Valid After: Sun Aug 24 08:05:46 2025

Fingerprint (MD5): 68:9b:17:c6:54:e0:e0:e0:99:55:16:42:f7:5a:86:d8

Fingerprint (SHA1): 02:72:68:29:3e:5f:5d:17:aa:a4:b3:c3:e6:36:1e:1f:92:57:5e:aa

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "KISA RootCA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\015\060\013\006\003\125\004\012\014\004\113\111\123\101\061\056
\060\054\006\003\125\004\013\014\045\113\157\162\145\141\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\103\145\156\164\162\141\154\061\026
\060\024\006\003\125\004\003\014\015\113\111\123\101\040\122\157
\157\164\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\015\060\013\006\003\125\004\012\014\004\113\111\123\101\061\056
\060\054\006\003\125\004\013\014\045\113\157\162\145\141\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\103\145\156\164\162\141\154\061\026
\060\024\006\003\125\004\003\014\015\113\111\123\101\040\122\157
\157\164\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\004
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\163\060\202\002\133\240\003\002\001\002\002\001\004
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\144\061\013\060\011\006\003\125\004\006\023\002\113\122\061\015
\060\013\006\003\125\004\012\014\004\113\111\123\101\061\056\060
\054\006\003\125\004\013\014\045\113\157\162\145\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\040\103\145\156\164\162\141\154\061\026\060
\024\006\003\125\004\003\014\015\113\111\123\101\040\122\157\157
\164\103\101\040\061\060\036\027\015\060\065\060\070\062\064\060
\070\060\065\064\066\132\027\015\062\065\060\070\062\064\060\070
\060\065\064\066\132\060\144\061\013\060\011\006\003\125\004\006
\023\002\113\122\061\015\060\013\006\003\125\004\012\014\004\113
\111\123\101\061\056\060\054\006\003\125\004\013\014\045\113\157
\162\145\141\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\103\145\156\164
\162\141\154\061\026\060\024\006\003\125\004\003\014\015\113\111
\123\101\040\122\157\157\164\103\101\040\061\060\202\001\040\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\015\000\060\202\001\010\002\202\001\001\000\274\004\344\372
\023\071\360\064\226\040\153\154\150\273\372\333\167\377\047\367
```

\254\354\057\347\375\360\177\155\157\214\052\315\045\011\133\044
\364\241\150\374\050\354\311\045\342\254\355\336\310\063\204\365
\260\245\011\072\247\261\107\110\305\314\117\214\171\234\371\006
\127\175\335\356\070\366\317\024\262\234\352\323\300\135\167\142
\360\107\015\271\032\100\123\134\144\160\257\010\132\300\367\317
\165\371\154\215\144\050\036\040\376\267\033\031\323\132\146\203
\162\342\260\233\275\323\045\025\015\062\157\144\067\224\205\106
\310\162\276\167\325\156\037\050\057\307\151\355\347\203\211\063
\130\323\336\240\277\100\350\103\120\356\334\115\153\274\245\352
\246\310\141\216\365\303\144\257\006\025\334\051\213\077\165\214
\274\161\104\333\374\255\265\027\035\155\211\203\317\306\063\275
\277\105\242\376\012\237\243\021\137\017\271\037\234\032\302\106
\314\234\050\146\237\160\046\074\056\337\252\200\376\214\305\004
\011\045\117\315\223\107\074\067\352\002\147\222\376\374\042\044
\134\254\322\054\340\134\001\063\212\301\031\333\002\001\003\243
\062\060\060\060\035\006\003\125\035\016\004\026\004\024\277\266
\047\330\003\132\166\145\114\141\001\101\126\061\345\213\173\072
\331\314\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\003\202\001\001\000\023\257\121\013\336\212\152\133\346
\232\012\310\261\220\112\116\241\002\235\314\210\322\253\146\275
\075\354\273\261\102\225\152\262\134\132\377\241\143\144\226\251
\150\025\177\045\136\212\370\244\163\301\200\212\205\012\016\122
\350\062\347\105\370\116\145\200\221\231\164\103\345\105\235\111
\052\360\224\225\335\351\341\060\322\023\156\311\116\261\167\345
\004\317\255\132\036\224\011\132\327\074\010\034\256\172\351\024
\062\301\105\255\322\046\110\162\254\250\101\332\360\041\207\071
\136\337\374\144\377\141\164\052\234\331\233\213\137\302\067\223
\330\243\067\057\073\223\153\262\033\007\247\177\011\120\357\323
\072\276\041\153\212\220\073\047\112\121\116\153\236\234\207\235
\370\170\220\061\355\021\047\306\250\131\276\374\030\013\373\216
\176\056\102\341\355\347\011\041\275\271\023\305\126\147\364\046
\246\102\103\220\104\124\264\161\233\166\344\032\022\254\032\050
\000\337\233\301\325\370\333\134\243\370\222\261\275\264\324\371
\120\331\000\002\117\333\203\320\021\117\244\102\126\141\072\176
\023\062\323\204\037\311\272

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "KISA RootCA 1"
Issuer: CN=KISA RootCA 1,OU=Korea Certification Authority Central,O=KISA,C=KR
Serial Number: 4 (0x4)
Subject: CN=KISA RootCA 1,OU=Korea Certification Authority Central,O=KISA,C=KR
Not Valid Before: Wed Aug 24 08:05:46 2005
Not Valid After: Sun Aug 24 08:05:46 2025

```

# Fingerprint (MD5): 68:9b:17:c6:54:e0:e0:e0:99:55:16:42:f7:5a:86:d8
# Fingerprint (SHA1): 02:72:68:29:3e:5f:5d:17:aa:a4:b3:c3:e6:36:1e:1f:92:57:5e:aa
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "KISA RootCA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\002\162\150\051\076\137\135\027\252\244\263\303\346\066\036\037
\222\127\136\252
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\150\233\027\306\124\340\340\340\231\125\026\102\367\132\206\330
END
CKA_ISSUER MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\015\060\013\006\003\125\004\012\014\004\113\111\123\101\061\056
\060\054\006\003\125\004\013\014\045\113\157\162\145\141\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\103\145\156\164\162\141\154\061\026
\060\024\006\003\125\004\003\014\015\113\111\123\101\040\122\157
\157\164\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\004
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "KISA RootCA 3"
# Issuer: CN=KISA RootCA 3,OU=Korea Certification Authority Central,O=KISA,C=KR
# Serial Number: 2 (0x2)
# Subject: CN=KISA RootCA 3,OU=Korea Certification Authority Central,O=KISA,C=KR
# Not Valid Before: Fri Nov 19 06:39:51 2004
# Not Valid After: Wed Nov 19 06:39:51 2014
# Fingerprint (MD5): 93:eb:36:13:0b:c1:54:f1:3e:75:05:e5:e0:1c:d4:37
# Fingerprint (SHA1): 5f:4e:1f:cf:31:b7:91:3b:85:0b:54:f6:e5:ff:50:1a:2b:6f:c6:cf
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "KISA RootCA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\113\122\061

```

\015\060\013\006\003\125\004\012\023\004\113\111\123\101\061\056
\060\054\006\003\125\004\013\023\045\113\157\162\145\141\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\103\145\156\164\162\141\154\061\026
\060\024\006\003\125\004\003\023\015\113\111\123\101\040\122\157
\157\164\103\101\040\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\015\060\013\006\003\125\004\012\023\004\113\111\123\101\061\056
\060\054\006\003\125\004\013\023\045\113\157\162\145\141\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\103\145\156\164\162\141\154\061\026
\060\024\006\003\125\004\003\023\015\113\111\123\101\040\122\157
\157\164\103\101\040\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\002

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\122\060\202\004\072\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\144\061\013\060\011\006\003\125\004\006\023\002\113\122\061\015
\060\013\006\003\125\004\012\023\004\113\111\123\101\061\056\060
\054\006\003\125\004\013\023\045\113\157\162\145\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\040\103\145\156\164\162\141\154\061\026\060
\024\006\003\125\004\003\023\015\113\111\123\101\040\122\157\157
\164\103\101\040\063\060\036\027\015\060\064\061\061\061\071\060
\066\063\071\065\061\132\027\015\061\064\061\061\061\071\060\066
\063\071\065\061\132\060\144\061\013\060\011\006\003\125\004\006
\023\002\113\122\061\015\060\013\006\003\125\004\012\023\004\113
\111\123\101\061\056\060\054\006\003\125\004\013\023\045\113\157
\162\145\141\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\103\145\156\164
\162\141\154\061\026\060\024\006\003\125\004\003\023\015\113\111
\123\101\040\122\157\157\164\103\101\040\063\060\202\001\040\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\015\000\060\202\001\010\002\202\001\001\000\336\272\355\027
\145\256\321\275\112\075\254\333\200\162\314\130\341\347\341\223
\332\314\060\172\317\357\013\256\055\247\103\253\277\247\102\317
\010\126\010\244\107\035\175\372\206\357\330\060\227\046\064\141
\074\200\016\370\324\353\237\374\042\060\033\241\155\076\343\114
\322\125\116\026\100\067\302\366\007\156\333\007\265\245\214\226
\201\342\233\134\176\224\141\310\316\204\074\261\372\000\346\162
\323\011\205\167\351\334\136\041\117\264\344\116\364\342\027\253
\120\257\034\377\241\071\130\165\133\022\262\226\271\215\360\160

\142\110\133\126\050\052\245\207\221\066\271\036\044\365\271\272
\173\266\122\121\133\027\132\140\005\154\234\302\346\306\214\076
\371\352\335\074\214\377\211\336\103\160\254\035\270\361\165\315
\070\312\123\015\107\150\152\306\074\030\312\275\341\264\276\016
\364\320\343\322\023\372\260\121\021\021\324\101\253\350\364\071
\216\341\064\204\117\013\223\252\152\070\374\345\306\170\107\256
\166\027\372\241\200\067\006\000\025\010\375\153\043\216\372\162
\015\225\326\113\142\261\150\302\335\064\233\135\002\001\003\243
\202\002\017\060\202\002\013\060\037\006\003\125\035\043\004\030
\060\026\200\024\217\201\360\332\246\315\164\074\276\146\364\025
\153\106\244\376\006\050\314\252\060\035\006\003\125\035\016\004
\026\004\024\217\201\360\332\246\315\164\074\276\146\364\025\153
\106\244\376\006\050\314\252\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\202\001\056\006\003\125\035\040
\004\202\001\045\060\202\001\041\060\202\001\035\006\004\125\035
\040\000\060\202\001\023\060\060\006\010\053\006\001\005\005\007
\002\001\026\044\150\164\164\160\072\057\057\167\167\167\056\162
\157\157\164\143\141\056\157\162\056\153\162\057\162\143\141\057
\143\160\163\056\150\164\155\154\060\201\336\006\010\053\006\001
\005\005\007\002\002\060\201\321\036\201\316\307\164\000\040\307
\170\311\235\301\034\262\224\000\040\254\365\307\170\307\170\311
\235\301\034\307\205\262\310\262\344\000\050\000\124\000\150\000
\151\000\163\000\040\000\143\000\145\000\162\000\164\000\151\000
\146\000\151\000\143\000\141\000\164\000\145\000\040\000\151\000
\163\000\040\000\141\000\143\000\143\000\162\000\145\000\144\000
\151\000\164\000\145\000\144\000\040\000\165\000\156\000\144\000
\145\000\162\000\040\000\105\000\154\000\145\000\143\000\164\000
\162\000\157\000\156\000\151\000\143\000\040\000\123\000\151\000
\147\000\156\000\141\000\164\000\165\000\162\000\145\000\040\000
\101\000\143\000\164\000\040\000\157\000\146\000\040\000\164\000
\150\000\145\000\040\000\122\000\145\000\160\000\165\000\142\000
\154\000\151\000\143\000\040\000\157\000\146\000\040\000\113\000
\157\000\162\000\145\000\141\000\051\060\063\006\003\125\035\021
\004\054\060\052\244\050\060\046\061\044\060\042\006\003\125\004
\003\014\033\355\225\234\352\265\255\354\240\225\353\263\264\353
\263\264\355\230\270\354\247\204\355\235\245\354\233\220\060\063
\006\003\125\035\022\004\054\060\052\244\050\060\046\061\044\060
\042\006\003\125\004\003\014\033\355\225\234\352\265\255\354\240
\225\353\263\264\353\263\264\355\230\270\354\247\204\355\235\245
\354\233\220\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\014\006\003\125\035\044\004\005\060\003\200
\001\000\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\003\202\001\001\000\317\326\367\016\375\260\214\156\005\025
\216\250\134\053\262\132\321\036\127\246\136\030\252\202\021\010
\374\231\267\133\247\343\310\322\242\323\371\044\064\367\343\344
\256\211\124\107\323\151\111\311\200\301\021\353\342\051\307\366
\006\213\137\272\342\136\317\253\303\316\317\356\222\045\334\237
\071\036\016\003\364\336\220\133\241\160\231\134\307\163\116\311

```
\244\165\111\173\045\241\237\202\222\215\115\354\141\305\014\062
\247\307\070\070\200\125\072\052\203\035\234\144\171\271\015\247
\065\112\150\357\217\377\005\330\272\116\126\141\330\370\112\160
\230\010\226\223\330\140\307\072\354\137\237\035\053\065\117\110
\024\241\232\273\157\356\322\003\206\123\361\020\307\007\124\142
\136\066\216\342\034\053\035\027\115\346\365\132\357\212\272\202
\350\167\331\050\021\176\067\207\112\224\012\311\100\351\065\245
\072\373\144\076\362\137\026\172\363\166\327\316\356\077\104\035
\105\252\137\021\252\123\034\072\037\122\121\142\124\017\243\220
\065\317\115\157\272\307\276\054\011\361\065\370\001\273\044\335
\060\274\110\017\356\331
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "KISA RootCA 3"

Issuer: CN=KISA RootCA 3,OU=Korea Certification Authority Central,O=KISA,C=KR

Serial Number: 2 (0x2)

Subject: CN=KISA RootCA 3,OU=Korea Certification Authority Central,O=KISA,C=KR

Not Valid Before: Fri Nov 19 06:39:51 2004

Not Valid After: Wed Nov 19 06:39:51 2014

Fingerprint (MD5): 93:eb:36:13:0b:c1:54:f1:3e:75:05:e5:e0:1c:d4:37

Fingerprint (SHA1): 5f:4e:1f:cf:31:b7:91:3b:85:0b:54:f6:e5:ff:50:1a:2b:6f:c6:cf

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "KISA RootCA 3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\137\116\037\317\061\267\221\073\205\013\124\366\345\377\120\032
\053\157\306\317
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\223\353\066\023\013\301\124\361\076\165\005\345\340\034\324\067
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\144\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\015\060\013\006\003\125\004\012\023\004\113\111\123\101\061\056
\060\054\006\003\125\004\013\023\045\113\157\162\145\141\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\103\145\156\164\162\141\154\061\026
\060\024\006\003\125\004\003\023\015\113\111\123\101\040\122\157
\157\164\103\101\040\063
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\002
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "NetLock Minositett Kozjegyzoi (Class QA) Tanusitvanykiado"
# Issuer: 1.2.840.113549.1.9.1=info@netlock.hu,CN=NetLock Minositett Kozjegyzoi (Class QA)
Tanusitvanykiado,OU=Tanusitvanykiadok,O=NetLock Halozatbiztonsagi Kft.,L=Budapest,C=HU
# Serial Number: 123 (0x7b)
# Subject: 1.2.840.113549.1.9.1=info@netlock.hu,CN=NetLock Minositett Kozjegyzoi (Class QA)
Tanusitvanykiado,OU=Tanusitvanykiadok,O=NetLock Halozatbiztonsagi Kft.,L=Budapest,C=HU
# Not Valid Before: Sun Mar 30 01:47:11 2003
# Not Valid After: Thu Dec 15 01:47:11 2022
# Fingerprint (MD5): d4:80:65:68:24:f9:89:22:28:db:f5:a4:9a:17:8f:14
# Fingerprint (SHA1): 01:68:97:e1:a0:b8:f2:c3:b1:34:66:5c:20:a7:27:b7:a1:58:e2:8f
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Minositett Kozjegyzoi (Class QA) Tanusitvanykiado"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\311\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160
\145\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145
\164\114\157\143\153\040\110\141\154\157\172\141\164\142\151\172
\164\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030
\006\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141
\156\171\153\151\141\144\157\153\061\102\060\100\006\003\125\004
\003\023\071\116\145\164\114\157\143\153\040\115\151\156\157\163
\151\164\145\164\164\040\113\157\172\152\145\147\171\172\157\151
\040\050\103\154\141\163\163\040\121\101\051\040\124\141\156\165
\163\151\164\166\141\156\171\153\151\141\144\157\061\036\060\034
\006\011\052\206\110\206\367\015\001\011\001\026\017\151\156\146
\157\100\156\145\164\154\157\143\153\056\150\165
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\311\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160
\145\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145
\164\114\157\143\153\040\110\141\154\157\172\141\164\142\151\172
\164\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030
\006\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141
\156\171\153\151\141\144\157\153\061\102\060\100\006\003\125\004
\003\023\071\116\145\164\114\157\143\153\040\115\151\156\157\163

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\151\164\145\164\164\040\113\157\172\152\145\147\171\172\157\151
\040\050\103\154\141\163\163\040\121\101\051\040\124\141\156\165
\163\151\164\166\141\156\171\153\151\141\144\157\061\036\060\034
\006\011\052\206\110\206\367\015\001\011\001\026\017\151\156\146
\157\100\156\145\164\154\157\143\153\056\150\165

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\173

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\321\060\202\005\271\240\003\002\001\002\002\001\173
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\311\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160\145
\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145\164
\114\157\143\153\040\110\141\154\157\172\141\164\142\151\172\164
\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030\006
\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141\156
\171\153\151\141\144\157\153\061\102\060\100\006\003\125\004\003
\023\071\116\145\164\114\157\143\153\040\115\151\156\157\163\151
\164\145\164\164\040\113\157\172\152\145\147\171\172\157\151\040
\050\103\154\141\163\163\040\121\101\051\040\124\141\156\165\163
\151\164\166\141\156\171\153\151\141\144\157\061\036\060\034\006
\011\052\206\110\206\367\015\001\011\001\026\017\151\156\146\157
\100\156\145\164\154\157\143\153\056\150\165\060\036\027\015\060
\063\060\063\063\060\060\061\064\067\061\061\132\027\015\062\062
\061\062\061\065\060\061\064\067\061\061\132\060\201\311\061\013
\060\011\006\003\125\004\006\023\002\110\125\061\021\060\017\006
\003\125\004\007\023\010\102\165\144\141\160\145\163\164\061\047
\060\045\006\003\125\004\012\023\036\116\145\164\114\157\143\153
\040\110\141\154\157\172\141\164\142\151\172\164\157\156\163\141
\147\151\040\113\146\164\056\061\032\060\030\006\003\125\004\013
\023\021\124\141\156\165\163\151\164\166\141\156\171\153\151\141
\144\157\153\061\102\060\100\006\003\125\004\003\023\071\116\145
\164\114\157\143\153\040\115\151\156\157\163\151\164\145\164\164
\040\113\157\172\152\145\147\171\172\157\151\040\050\103\154\141
\163\163\040\121\101\051\040\124\141\156\165\163\151\164\166\141
\156\171\153\151\141\144\157\061\036\060\034\006\011\052\206\110
\206\367\015\001\011\001\026\017\151\156\146\157\100\156\145\164
\154\157\143\153\056\150\165\060\202\001\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060
\202\001\012\002\202\001\001\000\307\122\045\262\330\075\324\204
\125\011\247\033\275\154\271\024\364\212\002\333\166\374\152\052
\170\253\345\167\360\156\340\214\043\147\333\245\144\231\271\335
\001\076\157\357\055\232\074\042\360\135\311\127\240\125\101\177
\362\103\136\130\202\123\061\145\316\036\362\046\272\000\124\036
\257\260\274\034\344\122\214\240\062\257\267\067\261\123\147\150
\164\147\120\366\055\056\144\336\256\046\171\337\337\231\206\253

\253\177\205\354\240\373\200\314\364\270\014\036\223\105\143\271
\334\270\133\233\355\133\071\324\137\142\260\247\216\174\146\070
\054\252\261\010\143\027\147\175\314\275\263\361\303\077\317\120
\071\355\321\031\203\025\333\207\022\047\226\267\332\352\345\235
\274\272\352\071\117\213\357\164\232\347\305\320\322\352\206\121
\034\344\376\144\010\050\004\171\005\353\312\305\161\016\013\357
\253\352\354\022\021\241\030\005\062\151\321\014\054\032\075\045
\231\077\265\174\312\155\260\256\231\231\372\010\140\347\031\302
\362\275\121\323\314\323\002\254\301\021\014\200\316\253\334\224
\235\153\243\071\123\072\326\205\002\003\000\305\175\243\202\002
\300\060\202\002\274\060\022\006\003\125\035\023\001\001\377\004
\010\060\006\001\001\377\002\001\004\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\202\002\165\006\011\140
\206\110\001\206\370\102\001\015\004\202\002\146\026\202\002\142
\106\111\107\131\105\114\105\115\041\040\105\172\145\156\040\164
\141\156\165\163\151\164\166\141\156\171\040\141\040\116\145\164
\114\157\143\153\040\113\146\164\056\040\115\151\156\157\163\151
\164\145\164\164\040\123\172\157\154\147\141\154\164\141\164\141
\163\151\040\123\172\141\142\141\154\171\172\141\164\141\142\141
\156\040\154\145\151\162\164\040\145\154\152\141\162\141\163\157
\153\040\141\154\141\160\152\141\156\040\153\145\163\172\165\154
\164\056\040\101\040\155\151\156\157\163\151\164\145\164\164\040
\145\154\145\153\164\162\157\156\151\153\165\163\040\141\154\141
\151\162\141\163\040\152\157\147\150\141\164\141\163\040\145\162
\166\145\156\171\145\163\165\154\145\163\145\156\145\153\054\040
\166\141\154\141\155\151\156\164\040\145\154\146\157\147\141\144
\141\163\141\156\141\153\040\146\145\154\164\145\164\145\154\145
\040\141\040\115\151\156\157\163\151\164\145\164\164\040\123\172
\157\154\147\141\154\164\141\164\141\163\151\040\123\172\141\142
\141\154\171\172\141\164\142\141\156\054\040\141\172\040\101\154
\164\141\154\141\156\157\163\040\123\172\145\162\172\157\144\145
\163\151\040\106\145\154\164\145\164\145\154\145\153\142\145\156
\040\145\154\157\151\162\164\040\145\154\154\145\156\157\162\172
\145\163\151\040\145\154\152\141\162\141\163\040\155\145\147\164
\145\164\145\154\145\056\040\101\040\144\157\153\165\155\145\156
\164\165\155\157\153\040\155\145\147\164\141\154\141\154\150\141
\164\157\153\040\141\040\150\164\164\160\163\072\057\057\167\167
\167\056\156\145\164\154\157\143\153\056\150\165\057\144\157\143
\163\057\040\143\151\155\145\156\040\166\141\147\171\040\153\145
\162\150\145\164\157\153\040\141\172\040\151\156\146\157\100\156
\145\164\154\157\143\153\056\156\145\164\040\145\055\155\141\151
\154\040\143\151\155\145\156\056\040\127\101\122\116\111\116\107
\041\040\124\150\145\040\151\163\163\165\141\156\143\145\040\141
\156\144\040\164\150\145\040\165\163\145\040\157\146\040\164\150
\151\163\040\143\145\162\164\151\146\151\143\141\164\145\040\141
\162\145\040\163\165\142\152\145\143\164\040\164\157\040\164\150
\145\040\116\145\164\114\157\143\153\040\121\165\141\154\151\146
\151\145\144\040\103\120\123\040\141\166\141\151\154\141\142\154

```
\145\040\141\164\040\150\164\164\160\163\072\057\057\167\167\167
\056\156\145\164\154\157\143\153\056\150\165\057\144\157\143\163
\057\040\157\162\040\142\171\040\145\055\155\141\151\154\040\141
\164\040\151\156\146\157\100\156\145\164\154\157\143\153\056\156
\145\164\060\035\006\003\125\035\016\004\026\004\024\011\152\142
\026\222\260\132\273\125\016\313\165\062\072\062\345\262\041\311
\050\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\221\152\120\234\333\170\201\233\077\213\102
\343\073\374\246\303\356\103\340\317\363\342\200\065\111\105\166
\002\342\343\057\005\305\361\052\347\300\101\063\306\266\233\320
\063\071\315\300\333\241\255\154\067\002\114\130\101\073\362\227
\222\306\110\250\315\345\212\071\211\141\371\122\227\351\275\366
\371\224\164\350\161\016\274\167\206\303\006\314\132\174\112\176
\064\120\060\056\373\177\062\232\215\075\363\040\133\370\152\312
\206\363\061\114\054\131\200\002\175\376\070\311\060\165\034\267
\125\343\274\237\272\250\155\204\050\005\165\263\213\015\300\221
\124\041\347\246\013\264\231\365\121\101\334\315\243\107\042\331
\307\001\201\304\334\107\117\046\352\037\355\333\315\015\230\364
\243\234\264\163\062\112\226\231\376\274\177\310\045\130\370\130
\363\166\146\211\124\244\246\076\304\120\134\272\211\030\202\165
\110\041\322\117\023\350\140\176\007\166\333\020\265\121\346\252
\271\150\252\315\366\235\220\165\022\352\070\032\312\104\350\267
\231\247\052\150\225\146\225\253\255\357\211\313\140\251\006\022
\306\224\107\351\050
```

END

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CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "NetLock Minositett Kozjegyzoi (Class QA) Tanusitvanykiado"
# Issuer: 1.2.840.113549.1.9.1=info@netlock.hu,CN=NetLock Minositett Kozjegyzoi (Class QA)
Tanusitvanykiado,OU=Tanusitvanykiadok,O=NetLock Halozatbiztonsagi Kft.,L=Budapest,C=HU
# Serial Number: 123 (0x7b)
# Subject: 1.2.840.113549.1.9.1=info@netlock.hu,CN=NetLock Minositett Kozjegyzoi (Class QA)
Tanusitvanykiado,OU=Tanusitvanykiadok,O=NetLock Halozatbiztonsagi Kft.,L=Budapest,C=HU
# Not Valid Before: Sun Mar 30 01:47:11 2003
# Not Valid After: Thu Dec 15 01:47:11 2022
# Fingerprint (MD5): d4:80:65:68:24:f9:89:22:28:db:f5:a4:9a:17:8f:14
# Fingerprint (SHA1): 01:68:97:e1:a0:b8:f2:c3:b1:34:66:5c:20:a7:27:b7:a1:58:e2:8f
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Minositett Kozjegyzoi (Class QA) Tanusitvanykiado"
CKA_CERT_SHA1_HASH MULTILINE OCTAL
\001\150\227\341\240\270\362\303\261\064\146\134\040\247\047\267
\241\130\342\217
```

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END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\324\200\145\150\044\371\211\042\050\333\365\244\232\027\217\024
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\311\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160
\145\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145
\164\114\157\143\153\040\110\141\154\157\172\141\164\142\151\172
\164\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030
\006\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141
\156\171\153\151\141\144\157\153\061\102\060\100\006\003\125\004
\003\023\071\116\145\164\114\157\143\153\040\115\151\156\157\163
\151\164\145\164\164\040\113\157\172\152\145\147\171\172\157\151
\040\050\103\154\141\163\163\040\121\101\051\040\124\141\156\165
\163\151\164\166\141\156\171\153\151\141\144\157\061\036\060\034
\006\011\052\206\110\206\367\015\001\011\001\026\017\151\156\146
\157\100\156\145\164\154\157\143\153\056\150\165
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\173
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "A-CERT ADVANCED"
# Issuer: 1.2.840.113549.1.9.1=info@a-cert.at,CN=A-CERT ADVANCED,OU=A-CERT Certification
Service,O=ARGE DATEN - Austrian Society for Data Protection,L=Vienna,ST=Austria,C=AT
# Serial Number: 0 (0x0)
# Subject: 1.2.840.113549.1.9.1=info@a-cert.at,CN=A-CERT ADVANCED,OU=A-CERT Certification
Service,O=ARGE DATEN - Austrian Society for Data Protection,L=Vienna,ST=Austria,C=AT
# Not Valid Before: Sat Oct 23 14:14:14 2004
# Not Valid After: Sun Oct 23 14:14:14 2011
# Fingerprint (MD5): b4:4a:db:e8:59:16:46:1e:5a:d8:6e:da:06:43:52:62
# Fingerprint (SHA1): 29:64:b6:86:13:5b:5d:fd:dd:32:53:a8:9b:bc:24:d7:4b:08:c6:4d
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "A-CERT ADVANCED"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\314\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\020\060\016\006\003\125\004\010\023\007\101\165\163\164\162
\151\141\061\017\060\015\006\003\125\004\007\023\006\126\151\145

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\156\156\141\061\072\060\070\006\003\125\004\012\023\061\101\122
\107\105\040\104\101\124\105\116\040\055\040\101\165\163\164\162
\151\141\156\040\123\157\143\151\145\164\171\040\146\157\162\040
\104\141\164\141\040\120\162\157\164\145\143\164\151\157\156\061
\045\060\043\006\003\125\004\013\023\034\101\055\103\105\122\124
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123
\145\162\166\151\143\145\061\030\060\026\006\003\125\004\003\023
\017\101\055\103\105\122\124\040\101\104\126\101\116\103\105\104
\061\035\060\033\006\011\052\206\110\206\367\015\001\011\001\026
\016\151\156\146\157\100\141\055\143\145\162\164\056\141\164

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\314\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\020\060\016\006\003\125\004\010\023\007\101\165\163\164\162
\151\141\061\017\060\015\006\003\125\004\007\023\006\126\151\145
\156\156\141\061\072\060\070\006\003\125\004\012\023\061\101\122
\107\105\040\104\101\124\105\116\040\055\040\101\165\163\164\162
\151\141\156\040\123\157\143\151\145\164\171\040\146\157\162\040
\104\141\164\141\040\120\162\157\164\145\143\164\151\157\156\061
\045\060\043\006\003\125\004\013\023\034\101\055\103\105\122\124
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123
\145\162\166\151\143\145\061\030\060\026\006\003\125\004\003\023
\017\101\055\103\105\122\124\040\101\104\126\101\116\103\105\104
\061\035\060\033\006\011\052\206\110\206\367\015\001\011\001\026
\016\151\156\146\157\100\141\055\143\145\162\164\056\141\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\323\060\202\005\273\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\314\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\020\060\016\006\003\125\004\010\023\007\101\165\163\164\162\151
\141\061\017\060\015\006\003\125\004\007\023\006\126\151\145\156
\156\141\061\072\060\070\006\003\125\004\012\023\061\101\122\107
\105\040\104\101\124\105\116\040\055\040\101\165\163\164\162\151
\141\156\040\123\157\143\151\145\164\171\040\146\157\162\040\104
\141\164\141\040\120\162\157\164\145\143\164\151\157\156\061\045
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CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "A-CERT ADVANCED"

Issuer: 1.2.840.113549.1.9.1=info@a-cert.at,CN=A-CERT ADVANCED,OU=A-CERT Certification Service,O=ARGE DATEN - Austrian Society for Data Protection,L=Vienna,ST=Austria,C=AT

Serial Number: 0 (0x0)

Subject: 1.2.840.113549.1.9.1=info@a-cert.at,CN=A-CERT ADVANCED,OU=A-CERT Certification Service,O=ARGE DATEN - Austrian Society for Data Protection,L=Vienna,ST=Austria,C=AT

Not Valid Before: Sat Oct 23 14:14:14 2004

Not Valid After: Sun Oct 23 14:14:14 2011

Fingerprint (MD5): b4:4a:db:e8:59:16:46:1e:5a:d8:6e:da:06:43:52:62

Fingerprint (SHA1): 29:64:b6:86:13:5b:5d:fd:dd:32:53:a8:9b:bc:24:d7:4b:08:c6:4d

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "A-CERT ADVANCED"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

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END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

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END

CKA_ISSUER MULTILINE_OCTAL

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CKA_SERIAL_NUMBER MULTILINE_OCTAL

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END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE


```
# Microsoft Code Signing Only Certificate
# Certificate "A-Trust-Qual-01"
# Issuer: CN=A-Trust-Qual-01,OU=A-Trust-Qual-01,O=A-Trust Ges. für Sicherheitssysteme im elektr.
Datenverkehr GmbH,C=AT
# Serial Number: 57923 (0xe243)
# Subject: CN=A-Trust-Qual-01,OU=A-Trust-Qual-01,O=A-Trust Ges. für Sicherheitssysteme im elektr.
Datenverkehr GmbH,C=AT
# Not Valid Before: Tue Nov 30 23:00:00 2004
# Not Valid After: Sun Nov 30 23:00:00 2014
# Fingerprint (MD5): a7:71:fd:26:fc:3c:e5:40:f1:99:06:eb:c1:93:6d:e9
# Fingerprint (SHA1): e6:19:d2:5b:38:0b:7b:13:fd:a3:3e:8a:58:cd:82:d8:a8:8e:05:15
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "A-Trust-Qual-01"
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CKA_ID UTF8 "0"
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\372\171\110\344\152\373\011\227\274\177\241\304\232\022\146\012
\325\020\261\324\002\271\361\240\225\030\170\117\353\110\032\043
\106\162\174\225\020\166\175\336\144\225\172\221\153\325\120\066
\364\044\321\076\327\256\032\060\074\326\067\200\317\332\136\142
\041\104\324\045\357\304\257\134\046\053\364\005\300\013\024\265
\246\000\060\250\104\274\310\105\230\100\372\300\060\141\111\260
\063\132\352\124\043\300\336\100\120\274\200\275\346\334\220\274
\334\266\164\155\025\263\343\272\077\002\332\065\177\354\271\051
\104\225\015\072\137\151\165\127\003\032\141\276\057\144\241\152
\067\106\316\204\025\304\126
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "A-Trust-Qual-01"
```

```
# Issuer: CN=A-Trust-Qual-01,OU=A-Trust-Qual-01,O=A-Trust Ges. für Sicherheitssysteme im elektr.
Datenverkehr GmbH,C=AT
```

```
# Serial Number: 57923 (0xe243)
```

```
# Subject: CN=A-Trust-Qual-01,OU=A-Trust-Qual-01,O=A-Trust Ges. für Sicherheitssysteme im elektr.
Datenverkehr GmbH,C=AT
```

```
# Not Valid Before: Tue Nov 30 23:00:00 2004
```

```
# Not Valid After: Sun Nov 30 23:00:00 2014
```

```
# Fingerprint (MD5): a7:71:fd:26:fc:3c:e5:40:f1:99:06:eb:c1:93:6d:e9
```

```
# Fingerprint (SHA1): e6:19:d2:5b:38:0b:7b:13:fd:a3:3e:8a:58:cd:82:d8:a8:8e:05:15
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```

CKA_LABEL UTF8 "A-Trust-Qual-01"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\346\031\322\133\070\013\173\023\375\243\076\212\130\315\202\330
\250\216\005\025
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\247\161\375\046\374\074\345\100\361\231\006\353\301\223\155\351
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\317\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\201\213\060\201\210\006\003\125\004\012\036\201\200\000\101
\000\055\000\124\000\162\000\165\000\163\000\164\000\040\000\107
\000\145\000\163\000\056\000\040\000\146\000\374\000\162\000\040
\000\123\000\151\000\143\000\150\000\145\000\162\000\150\000\145
\000\151\000\164\000\163\000\163\000\171\000\163\000\164\000\145
\000\155\000\145\000\040\000\151\000\155\000\040\000\145\000\154
\000\145\000\153\000\164\000\162\000\056\000\040\000\104\000\141
\000\164\000\145\000\156\000\166\000\145\000\162\000\153\000\145
\000\150\000\162\000\040\000\107\000\155\000\142\000\110\061\030
\060\026\006\003\125\004\013\023\017\101\055\124\162\165\163\164
\055\121\165\141\154\055\060\061\061\030\060\026\006\003\125\004
\003\023\017\101\055\124\162\165\163\164\055\121\165\141\154\055
\060\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\000\342\103
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "A-Trust-nQual-01"
# Issuer: CN=A-Trust-nQual-01,OU=A-Trust-nQual-01,O=A-Trust,C=AT
# Serial Number: 57922 (0xe242)
# Subject: CN=A-Trust-nQual-01,OU=A-Trust-nQual-01,O=A-Trust,C=AT
# Not Valid Before: Tue Nov 30 23:00:00 2004
# Not Valid After: Sun Nov 30 23:00:00 2014
# Fingerprint (MD5): c9:19:62:d0:da:7e:10:20:fc:a4:cd:03:80:87:2d:f5
# Fingerprint (SHA1): 51:a4:4c:28:f3:13:e3:f9:cb:5e:7c:0a:1e:0e:0d:d2:84:37:58:ae
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "A-Trust-nQual-01"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\125\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\020\060\016\006\003\125\004\012\023\007\101\055\124\162\165\163
\164\061\031\060\027\006\003\125\004\013\023\020\101\055\124\162
\165\163\164\055\156\121\165\141\154\055\060\061\061\031\060\027
\006\003\125\004\003\023\020\101\055\124\162\165\163\164\055\156
\121\165\141\154\055\060\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\125\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\020\060\016\006\003\125\004\012\023\007\101\055\124\162\165\163
\164\061\031\060\027\006\003\125\004\013\023\020\101\055\124\162
\165\163\164\055\156\121\165\141\154\055\060\061\061\031\060\027
\006\003\125\004\003\023\020\101\055\124\162\165\163\164\055\156
\121\165\141\154\055\060\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\000\342\102

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\135\060\202\002\105\240\003\002\001\002\002\003\000
\342\102\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\125\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\020\060\016\006\003\125\004\012\023\007\101\055\124\162\165
\163\164\061\031\060\027\006\003\125\004\013\023\020\101\055\124
\162\165\163\164\055\156\121\165\141\154\055\060\061\061\031\060
\027\006\003\125\004\003\023\020\101\055\124\162\165\163\164\055
\156\121\165\141\154\055\060\061\060\036\027\015\060\064\061\061
\063\060\062\063\060\060\060\060\132\027\015\061\064\061\061\063
\060\062\063\060\060\060\060\132\060\125\061\013\060\011\006\003
\125\004\006\023\002\101\124\061\020\060\016\006\003\125\004\012
\023\007\101\055\124\162\165\163\164\061\031\060\027\006\003\125
\004\013\023\020\101\055\124\162\165\163\164\055\156\121\165\141
\154\055\060\061\061\031\060\027\006\003\125\004\003\023\020\101
\055\124\162\165\163\164\055\156\121\165\141\154\055\060\061\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\377\365\034\200\021\236\236\036\150\130\314\322\167\333\307\364
\216\147\122\120\130\272\022\244\152\073\026\367\214\163\117\114
\212\112\363\140\221\353\076\145\231\051\331\100\325\056\010\360
\376\206\326\315\145\367\335\330\062\225\007\116\215\073\046\165
\333\067\016\060\050\043\340\153\144\146\212\204\323\063\351\075
\075\333\246\201\071\346\171\031\145\357\352\130\105\377\353\214
\063\374\277\370\021\331\057\050\064\212\033\365\054\077\276\114
\266\140\225\143\231\266\022\016\367\105\121\121\317\207\034\004
\203\051\035\351\170\227\061\052\112\107\103\265\223\230\345\371
\344\254\115\367\336\034\172\356\174\152\333\133\330\360\114\237
\360\356\037\075\016\121\264\337\036\242\024\002\160\364\065\317

\254\251\123\124\173\067\330\317\106\231\310\373\054\314\072\054
\035\337\344\034\052\021\342\326\150\202\316\215\051\220\346\201
\324\054\046\176\304\362\066\137\052\123\103\111\120\277\123\153
\247\036\153\265\223\207\004\342\132\211\166\310\077\074\161\335
\234\313\177\074\306\226\315\221\372\302\076\146\115\030\272\025
\002\003\001\000\001\243\066\060\064\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\021\006\003\125\035
\016\004\012\004\010\116\131\316\307\002\062\207\060\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\353\322\075\107\130\124\364\146\345\366\365\173\133\260\007
\102\225\011\002\121\100\276\375\210\267\367\230\362\235\250\271
\005\017\125\244\231\212\106\212\264\006\053\010\077\332\257\067
\327\007\215\320\172\337\235\063\240\251\036\311\374\212\106\021
\275\002\236\076\065\357\334\113\337\370\055\133\307\002\100\212
\147\047\145\136\226\371\263\116\116\227\150\362\125\345\217\031
\046\174\337\231\345\057\227\316\362\266\266\325\055\077\201\055
\140\345\132\304\174\066\230\363\015\156\360\336\143\347\350\046
\110\201\237\162\230\214\146\233\061\244\174\232\206\152\241\376
\150\176\076\042\113\365\262\152\144\331\266\056\257\375\362\261
\237\133\310\043\357\356\132\107\061\127\220\323\347\352\375\034
\272\047\320\326\005\321\130\067\327\265\241\372\005\203\127\237
\125\146\217\235\163\002\103\157\351\036\142\243\005\142\212\251
\357\264\206\221\221\256\343\124\274\064\146\044\101\215\327\366
\263\107\106\100\333\055\372\112\140\071\262\350\326\247\244\341
\065\020\165\265\376\303\122\024\013\070\336\246\131\050\221\020
\306

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "A-Trust-nQual-01"
Issuer: CN=A-Trust-nQual-01,OU=A-Trust-nQual-01,O=A-Trust,C=AT
Serial Number: 57922 (0xe242)
Subject: CN=A-Trust-nQual-01,OU=A-Trust-nQual-01,O=A-Trust,C=AT
Not Valid Before: Tue Nov 30 23:00:00 2004
Not Valid After: Sun Nov 30 23:00:00 2014
Fingerprint (MD5): c9:19:62:d0:da:7e:10:20:fc:a4:cd:03:80:87:2d:f5
Fingerprint (SHA1): 51:a4:4c:28:f3:13:e3:f9:cb:5e:7c:0a:1e:0e:0d:d2:84:37:58:ae
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "A-Trust-nQual-01"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\121\244\114\050\363\023\343\371\313\136\174\012\036\016\015\322

```

\204\067\130\256
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\311\031\142\320\332\176\020\040\374\244\315\003\200\207\055\365
END
CKA_ISSUER MULTILINE_OCTAL
\060\125\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\020\060\016\006\003\125\004\012\023\007\101\055\124\162\165\163
\164\061\031\060\027\006\003\125\004\013\023\020\101\055\124\162
\165\163\164\055\156\121\165\141\154\055\060\061\061\031\060\027
\006\003\125\004\003\023\020\101\055\124\162\165\163\164\055\156
\121\165\141\154\055\060\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\000\342\102
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Staat der Nederlanden Root CA"
# Issuer: CN=Staat der Nederlanden Root CA,O=Staat der Nederlanden,C=NL
# Serial Number:98:96:8a
# Subject: CN=Staat der Nederlanden Root CA,O=Staat der Nederlanden,C=NL
# Not Valid Before: Tue Dec 17 09:23:49 2002
# Not Valid After: Wed Dec 16 09:15:38 2015
# Fingerprint (MD5): 60:84:7c:5a:ce:db:0c:d4:cb:a7:e9:fe:02:c6:a9:c0
# Fingerprint (SHA1): 10:1d:fa:3f:d5:0b:cb:bb:9b:b5:60:0c:19:55:a4:1a:f4:73:3a:04
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\125\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\023\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\046\060\044\006\003\125\004\003\023\035\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\125\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\023\025\123\164\141\141\164\040

```

\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\046\060\044\006\003\125\004\003\023\035\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\000\230\226\212

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\272\060\202\002\242\240\003\002\001\002\002\004\000
\230\226\212\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\125\061\013\060\011\006\003\125\004\006\023\002\116
\114\061\036\060\034\006\003\125\004\012\023\025\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\061\046\060\044\006\003\125\004\003\023\035\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\040\122\157\157\164\040\103\101\060\036\027\015\060\062\061
\062\061\067\060\071\062\063\064\071\132\027\015\061\065\061\062
\061\066\060\071\061\065\063\070\132\060\125\061\013\060\011\006
\003\125\004\006\023\002\116\114\061\036\060\034\006\003\125\004
\012\023\025\123\164\141\141\164\040\144\145\162\040\116\145\144
\145\162\154\141\156\144\145\156\061\046\060\044\006\003\125\004
\003\023\035\123\164\141\141\164\040\144\145\162\040\116\145\144
\145\162\154\141\156\144\145\156\040\122\157\157\164\040\103\101
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\230\322\265\121\021\172\201\246\024\230\161\155\276\314\347
\023\033\326\047\016\172\263\152\030\034\266\141\132\325\141\011
\277\336\220\023\307\147\356\335\363\332\305\014\022\236\065\125
\076\054\047\210\100\153\367\334\335\042\141\365\302\307\016\365
\366\325\166\123\115\217\214\274\030\166\067\205\235\350\312\111
\307\322\117\230\023\011\242\076\042\210\234\177\326\362\020\145
\264\356\137\030\325\027\343\370\305\375\342\235\242\357\123\016
\205\167\242\017\341\060\107\356\000\347\063\175\104\147\032\013
\121\350\213\240\236\120\230\150\064\122\037\056\155\001\362\140
\105\362\061\353\251\061\150\051\273\172\101\236\306\031\177\224
\264\121\071\003\177\262\336\247\062\233\264\107\216\157\264\112
\256\345\257\261\334\260\033\141\274\231\162\336\344\211\267\172
\046\135\332\063\111\133\122\234\016\365\212\255\303\270\075\350
\006\152\302\325\052\013\154\173\204\275\126\005\313\206\145\222
\354\104\053\260\216\271\334\160\013\106\332\255\274\143\210\071
\372\333\152\376\043\372\274\344\110\364\147\053\152\021\020\041
\111\002\003\001\000\001\243\201\221\060\201\216\060\014\006\003
\125\035\023\004\005\060\003\001\001\377\060\117\006\003\125\035
\040\004\110\060\106\060\104\006\004\125\035\040\000\060\074\060
\072\006\010\053\006\001\005\005\007\002\001\026\056\150\164\164
\160\072\057\057\167\167\167\056\160\153\151\157\166\145\162\150
\145\151\144\056\156\154\057\160\157\154\151\143\151\145\163\057


```
\162\157\157\164\055\160\157\154\151\143\171\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125
\035\016\004\026\004\024\250\175\353\274\143\244\164\023\164\000
\354\226\340\323\064\301\054\277\154\370\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\005\204
\207\125\164\066\141\301\273\321\324\306\025\250\023\264\237\244
\376\273\356\025\264\057\006\014\051\362\250\222\244\141\015\374
\253\134\010\133\121\023\053\115\302\052\141\310\370\011\130\374
\055\002\262\071\175\231\146\201\277\156\134\225\105\040\154\346
\171\247\321\330\034\051\374\302\040\047\121\310\361\174\135\064
\147\151\205\021\060\306\000\322\327\363\323\174\266\360\061\127
\050\022\202\163\351\063\057\246\125\264\013\221\224\107\234\372
\273\172\102\062\350\256\176\055\310\274\254\024\277\331\017\331
\133\374\301\371\172\225\341\175\176\226\374\161\260\302\114\310
\337\105\064\311\316\015\362\234\144\010\320\073\303\051\305\262
\355\220\004\301\261\051\221\305\060\157\301\251\162\063\314\376
\135\026\027\054\021\151\347\176\376\305\203\010\337\274\334\042
\072\056\040\151\043\071\126\140\147\220\213\056\166\071\373\021
\210\227\366\174\275\113\270\040\026\147\005\215\342\073\301\162
\077\224\225\067\307\135\271\236\330\223\241\027\217\377\014\146
\025\301\044\174\062\174\003\035\073\241\130\105\062\223
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "Staat der Nederlanden Root CA"
# Issuer: CN=Staat der Nederlanden Root CA,O=Staat der Nederlanden,C=NL
# Serial Number:98:96:8a
# Subject: CN=Staat der Nederlanden Root CA,O=Staat der Nederlanden,C=NL
# Not Valid Before: Tue Dec 17 09:23:49 2002
# Not Valid After: Wed Dec 16 09:15:38 2015
# Fingerprint (MD5): 60:84:7c:5a:ce:db:0c:d4:cb:a7:e9:fe:02:c6:a9:c0
# Fingerprint (SHA1): 10:1d:fa:3f:d5:0b:cb:bb:9b:b5:60:0c:19:55:a4:1a:f4:73:3a:04
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\020\035\372\077\325\013\313\273\233\265\140\014\031\125\244\032
\364\163\072\004
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\140\204\174\132\316\333\014\324\313\247\351\376\002\306\251\300
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\125\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\023\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\046\060\044\006\003\125\004\003\023\035\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\004\000\230\226\212
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Serasa Certificate Authority II"

Issuer: CN=Serasa Certificate Authority II,OU=Serasa CA II,O=Serasa S.A.,C=BR

Serial Number:46:2b:56:c6:ef:a7:91:a0

Subject: CN=Serasa Certificate Authority II,OU=Serasa CA II,O=Serasa S.A.,C=BR

Not Valid Before: Fri Nov 26 12:34:48 2004

Not Valid After: Thu Nov 21 12:44:48 2024

Fingerprint (MD5): 1b:d7:5f:76:73:4c:c0:dc:98:ca:44:2b:cc:0f:78:dd

Fingerprint (SHA1): 31:e2:c5:2c:e1:08:9b:ef:fd:da:db:26:dd:7c:78:2e:bc:40:37:bd

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Serasa Certificate Authority II"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\144\061\013\060\011\006\003\125\004\006\023\002\102\122\061
\024\060\022\006\003\125\004\012\023\013\123\145\162\141\163\141
\040\123\056\101\056\061\025\060\023\006\003\125\004\013\023\014
\123\145\162\141\163\141\040\103\101\040\111\111\061\050\060\046
\006\003\125\004\003\023\037\123\145\162\141\163\141\040\103\145
\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162
\151\164\171\040\111\111
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\144\061\013\060\011\006\003\125\004\006\023\002\102\122\061
\024\060\022\006\003\125\004\012\023\013\123\145\162\141\163\141
\040\123\056\101\056\061\025\060\023\006\003\125\004\013\023\014
\123\145\162\141\163\141\040\103\101\040\111\111\061\050\060\046
\006\003\125\004\003\023\037\123\145\162\141\163\141\040\103\145
\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162
\151\164\171\040\111\111
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\106\053\126\306\357\247\221\240

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\026\060\202\002\376\240\003\002\001\002\002\010\106
\053\126\306\357\247\221\240\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\144\061\013\060\011\006\003\125\004
\006\023\002\102\122\061\024\060\022\006\003\125\004\012\023\013
\123\145\162\141\163\141\040\123\056\101\056\061\025\060\023\006
\003\125\004\013\023\014\123\145\162\141\163\141\040\103\101\040
\111\111\061\050\060\046\006\003\125\004\003\023\037\123\145\162
\141\163\141\040\103\145\162\164\151\146\151\143\141\164\145\040
\101\165\164\150\157\162\151\164\171\040\111\111\060\036\027\015
\060\064\061\061\062\066\061\062\063\064\064\070\132\027\015\062
\064\061\061\062\061\061\062\064\064\064\070\132\060\144\061\013
\060\011\006\003\125\004\006\023\002\102\122\061\024\060\022\006
\003\125\004\012\023\013\123\145\162\141\163\141\040\123\056\101
\056\061\025\060\023\006\003\125\004\013\023\014\123\145\162\141
\163\141\040\103\101\040\111\111\061\050\060\046\006\003\125\004
\003\023\037\123\145\162\141\163\141\040\103\145\162\164\151\146
\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040
\111\111\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\255\037\211\262\146\235\133\267\251\325\345\362\140
\104\204\371\224\155\342\171\135\156\300\245\256\272\061\143\240
\251\236\121\136\134\156\007\331\112\105\164\137\215\236\151\070
\266\050\103\222\256\117\202\240\374\066\121\065\076\215\240\347
\016\051\010\014\065\267\043\075\357\113\032\016\060\130\127\100
\000\022\361\200\232\200\043\112\301\240\206\215\101\070\210\120
\163\150\361\137\123\210\224\012\021\041\305\140\264\242\140\145
\053\030\372\020\073\221\222\077\370\325\142\116\276\126\136\305
\220\205\112\065\200\256\156\073\101\014\225\022\356\247\052\003
\116\274\147\075\113\200\031\022\342\164\056\135\353\110\271\117
\073\157\074\367\302\260\037\032\104\075\233\134\300\275\272\006
\145\014\347\164\147\037\311\144\076\367\237\215\054\033\101\222
\370\035\334\251\137\220\322\123\160\065\215\004\252\044\176\364
\315\245\046\116\350\366\363\070\025\060\276\255\032\363\107\044
\217\112\120\047\047\123\376\141\232\172\134\330\154\307\117\126
\364\051\054\245\243\024\227\337\142\015\274\222\043\133\243\112
\364\072\225\002\003\001\000\001\243\201\313\060\201\310\060\047
\006\003\125\035\045\004\040\060\036\006\010\053\006\001\005\005
\007\003\001\006\010\053\006\001\005\005\007\003\003\006\010\053
\006\001\005\005\007\003\010\060\135\006\003\125\035\037\004\126
\060\124\060\122\240\120\240\116\206\114\150\164\164\160\072\057
\057\167\167\167\056\143\145\162\164\151\146\151\143\141\144\157
\144\151\147\151\164\141\154\056\143\157\155\056\142\162\057\162
\145\160\157\163\151\164\157\162\151\157\057\163\145\162\141\163

```
\141\143\141\057\143\162\154\057\123\145\162\141\163\141\103\101
\111\111\056\143\162\154\060\035\006\003\125\035\016\004\026\004
\024\236\354\231\020\000\111\153\314\212\077\333\157\006\345\312
\024\030\162\223\203\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\001\001\000\240\013\266\247\335\315
\065\110\350\156\217\250\150\340\261\233\221\044\041\311\126\351
\232\365\356\160\241\064\260\344\174\076\252\312\227\350\200\377
\142\005\344\354\100\354\331\345\234\145\133\000\231\264\242\060
\105\004\134\057\265\320\223\257\332\221\005\351\337\231\061\365
\212\204\017\045\330\147\336\051\153\034\267\110\375\266\336\223
\022\257\167\252\001\351\303\341\060\024\252\137\170\250\107\177
\324\272\122\141\061\361\031\270\333\036\053\250\211\236\306\060
\162\221\006\260\043\251\003\031\150\362\247\004\253\356\316\122
\066\140\312\110\333\123\372\234\247\174\265\365\064\057\103\176
\254\364\204\266\225\062\245\244\276\351\152\252\213\101\231\312
\002\275\022\073\347\007\321\261\362\105\247\164\247\046\344\274
\150\157\314\031\041\360\224\312\310\102\137\376\071\367\333\072
\136\063\245\233\006\252\320\062\254\310\252\176\213\261\070\210
\277\346\114\350\240\345\217\234\104\036\036\040\036\360\057\141
\252\151\206\174\325\365\267\316\311\053\305\014\335\312\267\050
\302\005\336\147\031\253\055\215\243\147
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "Serasa Certificate Authority II"
# Issuer: CN=Serasa Certificate Authority II,OU=Serasa CA II,O=Serasa S.A.,C=BR
# Serial Number:46:2b:56:c6:ef:a7:91:a0
# Subject: CN=Serasa Certificate Authority II,OU=Serasa CA II,O=Serasa S.A.,C=BR
# Not Valid Before: Fri Nov 26 12:34:48 2004
# Not Valid After: Thu Nov 21 12:44:48 2024
# Fingerprint (MD5): 1b:d7:5f:76:73:4c:c0:dc:98:ca:44:2b:cc:0f:78:dd
# Fingerprint (SHA1): 31:e2:c5:2c:e1:08:9b:ef:fd:da:db:26:dd:7c:78:2e:bc:40:37:bd
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Serasa Certificate Authority II"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\061\342\305\054\341\010\233\357\375\332\333\046\335\174\170\056
\274\100\067\275
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\327\137\166\163\114\300\334\230\312\104\053\314\017\170\335
```

```

END
CKA_ISSUER MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\102\122\061
\024\060\022\006\003\125\004\012\023\013\123\145\162\141\163\141
\040\123\056\101\056\061\025\060\023\006\003\125\004\013\023\014
\123\145\162\141\163\141\040\103\101\040\111\111\061\050\060\046
\006\003\125\004\003\023\037\123\145\162\141\163\141\040\103\145
\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162
\151\164\171\040\111\111
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\106\053\126\306\357\247\221\240
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "TDC Internet"
# Issuer: OU=TDC Internet Root CA,O=TDC Internet,C=DK
# Serial Number:3a:cc:a5:4c
# Subject: OU=TDC Internet Root CA,O=TDC Internet,C=DK
# Not Valid Before: Thu Apr 05 16:33:17 2001
# Not Valid After: Mon Apr 05 17:03:17 2021
# Fingerprint (MD5): 91:f4:03:55:20:a1:f8:63:2c:62:de:ac:fb:61:1c:8e
# Fingerprint (SHA1): 21:fc:bd:8e:7f:6c:af:05:1b:d1:b3:43:ec:a8:e7:61:47:f2:0f:8a
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TDC Internet"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\104\113\061
\025\060\023\006\003\125\004\012\023\014\124\104\103\040\111\156
\164\145\162\156\145\164\061\035\060\033\006\003\125\004\013\023
\024\124\104\103\040\111\156\164\145\162\156\145\164\040\122\157
\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\104\113\061
\025\060\023\006\003\125\004\012\023\014\124\104\103\040\111\156
\164\145\162\156\145\164\061\035\060\033\006\003\125\004\013\023
\024\124\104\103\040\111\156\164\145\162\156\145\164\040\122\157
\157\164\040\103\101
END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\072\314\245\114

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\053\060\202\003\023\240\003\002\001\002\002\004\072
\314\245\114\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\103\061\013\060\011\006\003\125\004\006\023\002\104
\113\061\025\060\023\006\003\125\004\012\023\014\124\104\103\040
\111\156\164\145\162\156\145\164\061\035\060\033\006\003\125\004
\013\023\024\124\104\103\040\111\156\164\145\162\156\145\164\040
\122\157\157\164\040\103\101\060\036\027\015\060\061\060\064\060
\065\061\066\063\063\061\067\132\027\015\062\061\060\064\060\065
\061\067\060\063\061\067\132\060\103\061\013\060\011\006\003\125
\004\006\023\002\104\113\061\025\060\023\006\003\125\004\012\023
\014\124\104\103\040\111\156\164\145\162\156\145\164\061\035\060
\033\006\003\125\004\013\023\024\124\104\103\040\111\156\164\145
\162\156\145\164\040\122\157\157\164\040\103\101\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\304\270\100
\274\221\325\143\037\327\231\240\213\014\100\036\164\267\110\235
\106\214\002\262\340\044\137\360\031\023\247\067\203\153\135\307
\216\371\204\060\316\032\073\372\373\316\213\155\043\306\303\156
\146\237\211\245\337\340\102\120\147\372\037\154\036\364\320\005
\326\277\312\326\116\344\150\140\154\106\252\034\135\143\341\007
\206\016\145\000\247\056\246\161\306\274\271\201\250\072\175\032
\322\371\321\254\113\313\316\165\257\334\173\372\201\163\324\374
\272\275\101\210\324\164\263\371\136\070\072\074\103\250\322\225
\116\167\155\023\014\235\217\170\001\267\132\040\037\003\067\065
\342\054\333\113\053\054\170\271\111\333\304\320\307\234\234\344
\212\040\011\041\026\126\146\377\005\354\133\343\360\317\253\044
\044\136\303\177\160\172\022\304\322\265\020\240\266\041\341\215
\170\151\125\104\151\365\312\226\034\064\205\027\045\167\342\366
\057\047\230\170\375\171\006\072\242\326\132\103\301\377\354\004
\073\356\023\357\323\130\132\377\222\353\354\256\332\362\067\003
\107\101\266\227\311\055\012\101\042\273\273\346\247\002\003\001
\000\001\243\202\001\045\060\202\001\041\060\021\006\011\140\206
\110\001\206\370\102\001\001\004\004\003\002\000\007\060\145\006
\003\125\035\037\004\136\060\134\060\132\240\130\240\126\244\124
\060\122\061\013\060\011\006\003\125\004\006\023\002\104\113\061
\025\060\023\006\003\125\004\012\023\014\124\104\103\040\111\156
\164\145\162\156\145\164\061\035\060\033\006\003\125\004\013\023
\024\124\104\103\040\111\156\164\145\162\156\145\164\040\122\157
\157\164\040\103\101\061\015\060\013\006\003\125\004\003\023\004
\103\122\114\061\060\053\006\003\125\035\020\004\044\060\042\200
\017\062\060\060\061\060\064\060\065\061\066\063\063\061\067\132
\201\017\062\060\062\061\060\064\060\065\061\067\060\063\061\067
\132\060\013\006\003\125\035\017\004\004\003\002\001\006\060\037
\006\003\125\035\043\004\030\060\026\200\024\154\144\001\307\375

```
\205\155\254\310\332\236\120\010\205\010\265\074\126\250\120\060
\035\006\003\125\035\016\004\026\004\024\154\144\001\307\375\205
\155\254\310\332\236\120\010\205\010\265\074\126\250\120\060\014
\006\003\125\035\023\004\005\060\003\001\001\377\060\035\006\011
\052\206\110\206\366\175\007\101\000\004\020\060\016\033\010\126
\065\056\060\072\064\056\060\003\002\004\220\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\116
\103\314\321\335\035\020\033\006\177\267\244\372\323\331\115\373
\043\237\043\124\133\346\213\057\004\050\213\265\047\155\211\241
\354\230\151\334\347\215\046\203\005\171\164\354\264\271\243\227
\301\065\000\375\025\332\071\201\072\225\061\220\336\227\351\206
\250\231\167\014\345\132\240\204\377\022\026\254\156\270\215\303
\173\222\302\254\056\320\175\050\354\266\363\140\070\151\157\076
\330\004\125\076\236\314\125\322\272\376\273\107\004\327\012\331
\026\012\064\051\365\130\023\325\117\317\217\126\113\263\036\356
\323\230\171\332\010\036\014\157\270\370\026\047\357\302\157\075
\366\243\113\076\016\344\155\154\333\073\101\022\233\275\015\107
\043\177\074\112\320\257\300\257\366\357\033\265\025\304\353\203
\304\011\137\164\213\331\021\373\302\126\261\074\370\160\312\064
\215\103\100\023\214\375\231\003\124\171\306\056\352\206\241\366
\072\324\011\274\364\274\146\314\075\130\320\127\111\012\356\045
\342\101\356\023\371\233\070\064\321\000\365\176\347\224\035\374
\151\003\142\270\231\005\005\075\153\170\022\275\260\157\145
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "TDC Internet"
# Issuer: OU=TDC Internet Root CA,O=TDC Internet,C=DK
# Serial Number:3a:cc:a5:4c
# Subject: OU=TDC Internet Root CA,O=TDC Internet,C=DK
# Not Valid Before: Thu Apr 05 16:33:17 2001
# Not Valid After: Mon Apr 05 17:03:17 2021
# Fingerprint (MD5): 91:f4:03:55:20:a1:f8:63:2c:62:de:ac:fb:61:1c:8e
# Fingerprint (SHA1): 21:fc:bd:8e:7f:6c:af:05:1b:d1:b3:43:ec:a8:e7:61:47:f2:0f:8a
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TDC Internet"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\041\374\275\216\177\154\257\005\033\321\263\103\354\250\347\141
\107\362\017\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\221\364\003\125\040\241\370\143\054\142\336\254\373\141\034\216
```

END

CKA_ISSUER MULTILINE_OCTAL

\060\103\061\013\060\011\006\003\125\004\006\023\002\104\113\061
\025\060\023\006\003\125\004\012\023\014\124\104\103\040\111\156
\164\145\162\156\145\164\061\035\060\033\006\003\125\004\013\023
\024\124\104\103\040\111\156\164\145\162\156\145\164\040\122\157
\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\072\314\245\114

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "America Online Root Certification Authority 2"

Issuer: CN=America Online Root Certification Authority 2,O=America Online Inc.,C=US

Serial Number: 1 (0x1)

Subject: CN=America Online Root Certification Authority 2,O=America Online Inc.,C=US

Not Valid Before: Tue May 28 06:00:00 2002

Not Valid After: Tue Sep 29 14:08:00 2037

Fingerprint (MD5): d6:ed:3c:ca:e2:66:0f:af:10:43:0d:77:9b:04:09:bf

Fingerprint (SHA1): 85:b5:ff:67:9b:0c:79:96:1f:c8:6e:44:22:00:46:13:db:17:92:84

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "America Online Root Certification Authority 2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060
\064\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040
\117\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\040\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060
\064\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040
\117\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162

\151\164\171\040\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\244\060\202\003\214\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\034
\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143\141
\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060\064
\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040\117
\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\062\060\036\027\015\060\062\060\065\062\070\060\066
\060\060\060\060\132\027\015\063\067\060\071\062\071\061\064\060
\070\060\060\132\060\143\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\034\060\032\006\003\125\004\012\023\023\101\155
\145\162\151\143\141\040\117\156\154\151\156\145\040\111\156\143
\056\061\066\060\064\006\003\125\004\003\023\055\101\155\145\162
\151\143\141\040\117\156\154\151\156\145\040\122\157\157\164\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165
\164\150\157\162\151\164\171\040\062\060\202\002\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017
\000\060\202\002\012\002\202\002\001\000\314\101\105\035\351\075
\115\020\366\214\261\101\311\340\136\313\015\267\277\107\163\323
\360\125\115\335\306\014\372\261\146\005\152\315\170\264\334\002
\333\116\201\363\327\247\174\161\274\165\143\240\135\343\007\014
\110\354\045\304\003\040\364\377\016\073\022\377\233\215\341\306
\325\033\264\155\042\343\261\333\177\041\144\257\206\274\127\042
\052\326\107\201\127\104\202\126\123\275\206\024\001\013\374\177
\164\244\132\256\361\272\021\265\233\130\132\200\264\067\170\011
\063\174\062\107\003\134\304\245\203\110\364\127\126\156\201\066
\047\030\117\354\233\050\302\324\264\327\174\014\076\014\053\337
\312\004\327\306\216\352\130\116\250\244\245\030\034\154\105\230
\243\101\321\055\322\307\155\215\031\361\255\171\267\201\077\275
\006\202\047\055\020\130\005\265\170\005\271\057\333\014\153\220
\220\176\024\131\070\273\224\044\023\345\321\235\024\337\323\202
\115\106\360\200\071\122\062\017\343\204\262\172\103\362\136\336
\137\077\035\335\343\262\033\240\241\052\043\003\156\056\001\025
\207\134\246\165\165\307\227\141\276\336\206\334\324\110\333\275
\052\277\112\125\332\350\175\120\373\264\200\027\270\224\277\001
\075\352\332\272\174\340\130\147\027\271\130\340\210\206\106\147
\154\235\020\107\130\062\320\065\174\171\052\220\242\132\020\021
\043\065\255\057\314\344\112\133\247\310\047\362\203\336\136\273
\136\167\347\350\245\156\143\302\015\135\141\320\214\322\154\132
\041\016\312\050\243\316\052\351\225\307\110\317\226\157\035\222
\045\310\306\306\301\301\014\005\254\046\304\322\165\322\341\052

\147\300\075\133\245\232\353\317\173\032\250\235\024\105\345\017
\240\232\145\336\057\050\275\316\157\224\146\203\110\051\330\352
\145\214\257\223\331\144\237\125\127\046\277\157\313\067\061\231
\243\140\273\034\255\211\064\062\142\270\103\041\006\162\014\241
\134\155\106\305\372\051\317\060\336\211\334\161\133\335\266\067
\076\337\120\365\270\007\045\046\345\274\265\376\074\002\263\267
\370\276\103\301\207\021\224\236\043\154\027\212\270\212\047\014
\124\107\360\251\263\300\200\214\240\047\353\035\031\343\007\216
\167\160\312\053\364\175\166\340\170\147\002\003\001\000\001\243
\143\060\141\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\115
\105\301\150\070\273\163\251\151\241\040\347\355\365\042\241\043
\024\327\236\060\037\006\003\125\035\043\004\030\060\026\200\024
\115\105\301\150\070\273\163\251\151\241\040\347\355\365\042\241
\043\024\327\236\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001
\005\005\000\003\202\002\001\000\147\153\006\271\137\105\073\052
\113\063\263\346\033\153\131\116\042\314\271\267\244\045\311\247
\304\360\124\226\013\144\363\261\130\117\136\121\374\262\227\173
\047\145\302\345\312\347\015\014\045\173\142\343\372\237\264\207
\267\105\106\257\203\245\227\110\214\245\275\361\026\053\233\166
\054\172\065\140\154\021\200\227\314\251\222\122\346\053\346\151
\355\251\370\066\055\054\167\277\141\110\321\143\013\271\133\122
\355\030\260\103\102\042\246\261\167\256\336\151\305\315\307\034
\241\261\245\034\020\373\030\276\032\160\335\301\222\113\276\051
\132\235\077\065\276\345\175\121\370\125\340\045\165\043\207\036
\134\334\272\235\260\254\263\151\333\027\203\311\367\336\014\274
\010\334\221\236\250\320\327\025\067\163\245\065\270\374\176\305
\104\100\006\303\353\370\042\200\134\107\316\002\343\021\237\104
\377\375\232\062\314\175\144\121\016\353\127\046\166\072\343\036
\042\074\302\246\066\335\031\357\247\374\022\363\046\300\131\061
\205\114\234\330\317\337\244\314\314\051\223\377\224\155\166\134
\023\010\227\362\355\245\013\115\335\350\311\150\016\146\323\000
\016\063\022\133\274\225\345\062\220\250\263\306\154\203\255\167
\356\213\176\176\261\251\253\323\341\361\266\300\261\352\210\300
\347\323\220\351\050\222\224\173\150\173\227\052\012\147\055\205
\002\070\020\344\003\141\324\332\045\066\307\010\130\055\241\247
\121\257\060\012\111\365\246\151\207\007\055\104\106\166\216\052
\345\232\073\327\030\242\374\234\070\020\314\306\073\322\265\027
\072\157\375\256\045\275\365\162\131\144\261\164\052\070\137\030
\114\337\317\161\004\132\066\324\277\057\231\234\350\331\272\261
\225\346\002\113\041\241\133\325\301\117\217\256\151\155\123\333
\001\223\265\134\036\030\335\144\132\312\030\050\076\143\004\021
\375\034\215\000\017\270\067\337\147\212\235\146\251\002\152\221
\377\023\312\057\135\203\274\207\223\154\334\044\121\026\004\045
\146\372\263\331\302\272\051\276\232\110\070\202\231\364\277\073
\112\061\031\371\277\216\041\063\024\312\117\124\137\373\316\373
\217\161\177\375\136\031\240\017\113\221\270\304\124\274\006\260

\105\217\046\221\242\216\376\251

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "America Online Root Certification Authority 2"

Issuer: CN=America Online Root Certification Authority 2,O=America Online Inc.,C=US

Serial Number: 1 (0x1)

Subject: CN=America Online Root Certification Authority 2,O=America Online Inc.,C=US

Not Valid Before: Tue May 28 06:00:00 2002

Not Valid After: Tue Sep 29 14:08:00 2037

Fingerprint (MD5): d6:ed:3c:ca:e2:66:0f:af:10:43:0d:77:9b:04:09:bf

Fingerprint (SHA1): 85:b5:ff:67:9b:0c:79:96:1f:c8:6e:44:22:00:46:13:db:17:92:84

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "America Online Root Certification Authority 2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\205\265\377\147\233\014\171\226\037\310\156\104\042\000\106\023

\333\027\222\204

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\326\355\074\312\342\146\017\257\020\103\015\167\233\004\011\277

END

CKA_ISSUER MULTILINE_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\034\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143

\141\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060

\064\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040

\117\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164

\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162

\151\164\171\040\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "RSA Security Inc"

Issuer: OU=RSA Security 2048 V3,O=RSA Security Inc

Serial Number:0a:01:01:01:00:00:02:7c:00:00:00:0a:00:00:00:02

```
# Subject: OU=RSA Security 2048 V3,O=RSA Security Inc
# Not Valid Before: Thu Feb 22 20:39:23 2001
# Not Valid After: Sun Feb 22 20:39:23 2026
# Fingerprint (MD5): 77:0d:19:b1:21:fd:00:42:9c:3e:0c:a5:dd:0b:02:8e
# Fingerprint (SHA1): 25:01:90:19:cf:fb:d9:99:1c:b7:68:25:74:8d:94:5f:30:93:95:42
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "RSA Security Inc"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\072\061\031\060\027\006\003\125\004\012\023\020\122\123\101
\040\123\145\143\165\162\151\164\171\040\111\156\143\061\035\060
\033\006\003\125\004\013\023\024\122\123\101\040\123\145\143\165
\162\151\164\171\040\062\060\064\070\040\126\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\072\061\031\060\027\006\003\125\004\012\023\020\122\123\101
\040\123\145\143\165\162\151\164\171\040\111\156\143\061\035\060
\033\006\003\125\004\013\023\024\122\123\101\040\123\145\143\165
\162\151\164\171\040\062\060\064\070\040\126\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\001\001\000\000\002\174\000\000\000\012\000\000
\000\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\141\060\202\002\111\240\003\002\001\002\002\020\012
\001\001\001\000\000\002\174\000\000\000\012\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\072
\061\031\060\027\006\003\125\004\012\023\020\122\123\101\040\123
\145\143\165\162\151\164\171\040\111\156\143\061\035\060\033\006
\003\125\004\013\023\024\122\123\101\040\123\145\143\165\162\151
\164\171\040\062\060\064\070\040\126\063\060\036\027\015\060\061
\060\062\062\062\062\060\063\071\062\063\132\027\015\062\066\060
\062\062\062\062\060\063\071\062\063\132\060\072\061\031\060\027
\006\003\125\004\012\023\020\122\123\101\040\123\145\143\165\162
\151\164\171\040\111\156\143\061\035\060\033\006\003\125\004\013
\023\024\122\123\101\040\123\145\143\165\162\151\164\171\040\062
\060\064\070\040\126\063\060\202\001\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\267\217\125\161\322\200\335\173\151
\171\247\360\030\120\062\074\142\147\366\012\225\007\335\346\033
\363\236\331\322\101\124\153\255\237\174\276\031\315\373\106\253
\101\150\036\030\352\125\310\057\221\170\211\050\373\047\051\140
\377\337\217\214\073\311\111\233\265\244\224\316\001\352\076\265
```

\143\173\177\046\375\031\335\300\041\275\204\321\055\117\106\303
\116\334\330\067\071\073\050\257\313\235\032\352\053\257\041\245
\301\043\042\270\270\033\132\023\207\127\203\321\360\040\347\350
\117\043\102\260\000\245\175\211\351\351\141\163\224\230\161\046
\274\055\152\340\367\115\360\361\266\052\070\061\201\015\051\341
\000\301\121\017\114\122\370\004\132\252\175\162\323\270\207\052
\273\143\020\003\052\263\241\117\015\132\136\106\267\075\016\365
\164\354\231\237\371\075\044\201\210\246\335\140\124\350\225\066
\075\306\011\223\232\243\022\200\000\125\231\031\107\275\320\245
\174\303\272\373\037\367\365\017\370\254\271\265\364\067\230\023
\030\336\205\133\267\014\202\073\207\157\225\071\130\060\332\156
\001\150\027\042\314\300\013\002\003\001\000\001\243\143\060\141
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\037\006\003\125\035\043\004\030\060\026\200\024\007\303
\121\060\244\252\351\105\256\065\044\372\377\044\054\063\320\261
\235\214\060\035\006\003\125\035\016\004\026\004\024\007\303\121
\060\244\252\351\105\256\065\044\372\377\044\054\063\320\261\235
\214\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\137\076\206\166\156\270\065\074\116\066\034
\036\171\230\277\375\325\022\021\171\122\016\356\061\211\274\335
\177\371\321\306\025\041\350\212\001\124\015\072\373\124\271\326
\143\324\261\252\226\115\242\102\115\324\123\037\213\020\336\177
\145\276\140\023\047\161\210\244\163\343\204\143\321\244\125\341
\120\223\346\033\016\171\320\147\274\106\310\277\077\027\015\225
\346\306\220\151\336\347\264\057\336\225\175\320\022\077\075\076
\177\115\077\024\150\365\021\120\325\301\364\220\245\010\035\061
\140\377\140\214\043\124\012\257\376\241\156\305\321\172\052\150
\170\317\036\202\012\040\264\037\255\345\205\262\152\150\165\116
\255\045\067\224\205\276\275\241\324\352\267\014\113\074\235\350
\022\000\360\137\254\015\341\254\160\143\163\367\177\171\237\062
\045\102\164\005\200\050\277\275\301\044\226\130\025\261\027\041
\351\211\113\333\007\210\147\364\025\255\160\076\057\115\205\073
\302\267\333\376\230\150\043\211\341\164\017\336\364\305\204\143
\051\033\314\313\007\311\000\244\251\327\302\042\117\147\327\167
\354\040\005\141\336

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "RSA Security Inc"
Issuer: OU=RSA Security 2048 V3,O=RSA Security Inc
Serial Number:0a:01:01:01:00:00:02:7c:00:00:0a:00:00:02
Subject: OU=RSA Security 2048 V3,O=RSA Security Inc
Not Valid Before: Thu Feb 22 20:39:23 2001
Not Valid After: Sun Feb 22 20:39:23 2026

```
# Fingerprint (MD5): 77:0d:19:b1:21:fd:00:42:9c:3e:0c:a5:dd:0b:02:8e
# Fingerprint (SHA1): 25:01:90:19:cf:fb:d9:99:1c:b7:68:25:74:8d:94:5f:30:93:95:42
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "RSA Security Inc"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\045\001\220\031\317\373\331\231\034\267\150\045\164\215\224\137
\060\223\225\102
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\167\015\031\261\041\375\000\102\234\076\014\245\335\013\002\216
END
CKA_ISSUER MULTILINE_OCTAL
\060\072\061\031\060\027\006\003\125\004\012\023\020\122\123\101
\040\123\145\143\165\162\151\164\171\040\111\156\143\061\035\060
\033\006\003\125\004\013\023\024\122\123\101\040\123\145\143\165
\162\151\164\171\040\062\060\064\070\040\126\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\001\001\000\000\002\174\000\000\000\012\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Public Notary Root"
# Issuer: CN=Public Notary Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF A82743287,C=EU
# Serial Number: 0 (0x0)
# Subject: CN=Public Notary Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Not Valid Before: Tue Sep 30 16:14:49 2003
# Not Valid After: Wed Sep 30 16:14:49 2037
# Fingerprint (MD5): cd:99:6c:db:2a:c2:96:15:5a:bf:87:9e:ae:a5:ee:93
# Fingerprint (SHA1): ee:29:d6:ea:98:e6:32:c6:e5:27:e0:90:6f:02:80:68:8b:df:44:dc
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Public Notary Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
```

\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\033\060
\031\006\003\125\004\003\023\022\120\165\142\154\151\143\040\116
\157\164\141\162\171\040\122\157\157\164

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\170\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\033\060
\031\006\003\125\004\003\023\022\120\165\142\154\151\143\040\116
\157\164\141\162\171\040\122\157\157\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\276\060\202\003\246\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\170\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047
\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145
\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070
\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141
\155\142\145\162\163\151\147\156\056\157\162\147\061\033\060\031
\006\003\125\004\003\023\022\120\165\142\154\151\143\040\116\157
\164\141\162\171\040\122\157\157\164\060\036\027\015\060\063\060
\071\063\060\061\066\061\064\064\071\132\027\015\063\067\060\071
\063\060\061\066\061\064\064\071\132\060\170\061\013\060\011\006
\003\125\004\006\023\002\105\125\061\047\060\045\006\003\125\004
\012\023\036\101\103\040\103\141\155\145\162\146\151\162\155\141
\040\123\101\040\103\111\106\040\101\070\062\067\064\063\062\070
\067\061\043\060\041\006\003\125\004\013\023\032\150\164\164\160
\072\057\057\167\167\167\056\143\150\141\155\142\145\162\163\151
\147\156\056\157\162\147\061\033\060\031\006\003\125\004\003\023
\022\120\165\142\154\151\143\040\116\157\164\141\162\171\040\122
\157\157\164\060\202\001\037\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\014\000\060\202\001\007\002
\202\001\000\130\172\002\274\176\354\223\146\355\313\021\116\247
\335\016\313\225\215\307\036\067\141\011\347\000\305\331\351\005
\173\352\374\236\264\323\130\266\031\106\344\150\227\117\201\155
\254\256\001\236\232\100\070\154\170\104\171\170\071\217\347\342
\304\365\172\154\377\062\114\123\313\107\216\326\220\075\254\105

\174\047\312\102\317\176\164\323\251\351\063\116\320\245\230\145
\252\120\014\124\206\035\200\152\216\160\152\235\154\102\053\307
\066\225\300\234\102\021\054\150\150\376\154\376\152\146\275\133
\262\327\245\316\233\120\071\004\235\241\044\037\266\020\157\056
\027\166\344\073\120\173\300\171\002\000\210\333\065\107\345\261
\037\331\047\377\155\065\320\271\154\126\364\265\365\117\164\127
\055\230\162\004\307\031\007\177\176\275\055\125\242\254\216\211
\260\110\053\116\337\164\005\333\124\145\006\065\325\161\074\341
\072\331\064\321\257\136\007\110\034\035\000\164\052\041\005\016
\301\037\167\116\012\345\342\223\200\016\334\126\264\273\006\340
\077\110\102\123\371\011\065\011\145\270\102\163\077\074\215\113
\344\001\245\002\001\003\243\202\001\124\060\202\001\120\060\022
\006\003\125\035\023\001\001\377\004\010\060\006\001\001\377\002
\001\014\060\100\006\003\125\035\037\004\071\060\067\060\065\240
\063\240\061\206\057\150\164\164\160\072\057\057\143\162\154\056
\143\150\141\155\142\145\162\163\151\147\156\056\157\162\147\057
\160\165\142\154\151\143\156\157\164\141\162\171\162\157\157\164
\056\143\162\154\060\035\006\003\125\035\016\004\026\004\024\032
\130\207\314\317\144\306\073\360\242\063\164\111\144\135\006\303
\253\347\371\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\021\006\011\140\206\110\001\206\370\102\001\001
\004\004\003\002\000\007\060\053\006\003\125\035\021\004\044\060
\042\201\040\160\165\142\154\151\143\156\157\164\141\162\171\162
\157\157\164\100\143\150\141\155\142\145\162\163\151\147\156\056
\157\162\147\060\053\006\003\125\035\022\004\044\060\042\201\040
\160\165\142\154\151\143\156\157\164\141\162\171\162\157\157\164
\100\143\150\141\155\142\145\162\163\151\147\156\056\157\162\147
\060\134\006\003\125\035\040\004\125\060\123\060\121\006\013\053
\006\001\004\001\201\207\056\012\002\001\060\102\060\100\006\010
\053\006\001\005\005\007\002\001\026\064\150\164\164\160\072\057
\057\143\160\163\056\143\150\141\155\142\145\162\163\151\147\156
\056\157\162\147\057\143\160\163\057\160\165\142\154\151\143\156
\157\164\141\162\171\162\157\157\164\056\150\164\155\154\060\015
\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001
\001\000\025\050\051\376\270\042\262\125\277\143\037\161\231\001
\344\263\210\155\267\165\267\057\121\231\221\116\352\151\327\135
\260\236\177\112\043\223\270\107\306\176\217\376\176\003\236\211
\226\122\076\057\241\033\366\075\160\303\075\246\336\101\303\104
\020\136\247\047\257\265\017\342\172\223\304\275\314\213\373\274
\266\163\115\037\062\043\244\243\173\320\341\203\135\277\303\236
\301\124\110\103\037\051\056\336\345\317\112\134\354\263\230\131
\273\101\017\205\071\346\006\244\034\277\251\155\232\344\051\141
\074\235\350\035\120\067\266\254\237\060\257\236\347\060\354\046
\374\052\044\241\241\123\250\076\375\021\170\327\000\155\070\262
\270\254\337\322\037\277\206\130\005\357\034\045\305\115\071\032
\054\104\123\122\302\327\040\001\054\302\131\117\276\344\333\026
\325\263\133\372\016\017\366\146\231\302\130\153\227\350\014\020
\055\055\257\313\335\157\043\263\227\235\110\106\172\102\023\002


```
\241\215\066\137\362\356\326\241\230\352\067\174\351\274\241\030
\226\002\266\312\130\052\032\070\325\262\161\276\170\246\114\367
\352\307
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "Public Notary Root"

Issuer: CN=Public Notary Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF A82743287,C=EU

Serial Number: 0 (0x0)

Subject: CN=Public Notary Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU

Not Valid Before: Tue Sep 30 16:14:49 2003

Not Valid After: Wed Sep 30 16:14:49 2037

Fingerprint (MD5): cd:99:6c:db:2a:c2:96:15:5a:bf:87:9e:ae:a5:ee:93

Fingerprint (SHA1): ee:29:d6:ea:98:e6:32:c6:e5:27:e0:90:6f:02:80:68:8b:df:44:dc

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Public Notary Root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\356\051\326\352\230\346\062\306\345\047\340\220\157\002\200\150
\213\337\104\334
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\315\231\154\333\052\302\226\025\132\277\207\236\256\245\356\223
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\033\060
\031\006\003\125\004\003\023\022\120\165\142\154\151\143\040\116
\157\164\141\162\171\040\122\157\157\164
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\000
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "GeoTrust Global CA"
# Issuer: CN=GeoTrust Global CA,O=GeoTrust Inc.,C=US
# Serial Number: 144470 (0x23456)
# Subject: CN=GeoTrust Global CA,O=GeoTrust Inc.,C=US
# Not Valid Before: Tue May 21 04:00:00 2002
# Not Valid After: Sat May 21 04:00:00 2022
# Fingerprint (MD5): f7:75:ab:29:fb:51:4e:b7:77:5e:ff:05:3c:99:8e:f5
# Fingerprint (SHA1): de:28:f4:a4:ff:e5:b9:2f:a3:c5:03:d1:a3:49:a7:f9:96:2a:82:12
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Global CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\102\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\033\060\031\006\003\125\004\003
\023\022\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\033\060\031\006\003\125\004\003
\023\022\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\002\064\126
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\124\060\202\002\074\240\003\002\001\002\002\003\002
\064\126\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\102\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\033\060\031\006\003\125\004
\003\023\022\107\145\157\124\162\165\163\164\040\107\154\157\142
\141\154\040\103\101\060\036\027\015\060\062\060\065\062\061\060
\064\060\060\060\060\132\027\015\062\062\060\065\062\061\060\064
\060\060\060\060\132\060\102\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015\107
\145\157\124\162\165\163\164\040\111\156\143\056\061\033\060\031
\006\003\125\004\003\023\022\107\145\157\124\162\165\163\164\040
\107\154\157\142\141\154\040\103\101\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
```

\000\060\202\001\012\002\202\001\001\000\332\314\030\143\060\375
\364\027\043\032\126\176\133\337\074\154\070\344\161\267\170\221
\324\274\241\330\114\370\250\103\266\003\351\115\041\007\010\210
\332\130\057\146\071\051\275\005\170\213\235\070\350\005\267\152
\176\161\244\346\304\140\246\260\357\200\344\211\050\017\236\045
\326\355\203\363\255\246\221\307\230\311\102\030\065\024\235\255
\230\106\222\056\117\312\361\207\103\301\026\225\127\055\120\357
\211\055\200\172\127\255\362\356\137\153\322\000\215\271\024\370
\024\025\065\331\300\106\243\173\162\310\221\277\311\125\053\315
\320\227\076\234\046\144\314\337\316\203\031\161\312\116\346\324
\325\173\251\031\315\125\336\310\354\322\136\070\123\345\134\117
\214\055\376\120\043\066\374\146\346\313\216\244\071\031\000\267
\225\002\071\221\013\016\376\070\056\321\035\005\232\366\115\076
\157\017\007\035\257\054\036\217\140\071\342\372\066\123\023\071
\324\136\046\053\333\075\250\024\275\062\353\030\003\050\122\004
\161\345\253\063\075\341\070\273\007\066\204\142\234\171\352\026
\060\364\137\300\053\350\161\153\344\371\002\003\001\000\001\243
\123\060\121\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\300
\172\230\150\215\211\373\253\005\144\014\021\175\252\175\145\270
\312\314\116\060\037\006\003\125\035\043\004\030\060\026\200\024
\300\172\230\150\215\211\373\253\005\144\014\021\175\252\175\145
\270\312\314\116\060\015\006\011\052\206\110\206\367\015\001\001
\005\005\000\003\202\001\001\000\065\343\051\152\345\057\135\124
\216\051\120\224\237\231\032\024\344\217\170\052\142\224\242\047
\147\236\320\317\032\136\107\351\301\262\244\317\335\101\032\005
\116\233\113\356\112\157\125\122\263\044\241\067\012\353\144\166
\052\056\054\363\375\073\165\220\277\372\161\330\307\075\067\322
\265\005\225\142\271\246\336\211\075\066\173\070\167\110\227\254
\246\040\217\056\246\311\014\302\262\231\105\000\307\316\021\121
\042\042\340\245\352\266\025\110\011\144\352\136\117\164\367\005
\076\307\212\122\014\333\025\264\275\155\233\345\306\261\124\150
\251\343\151\220\266\232\245\017\270\271\077\040\175\256\112\265
\270\234\344\035\266\253\346\224\245\301\307\203\255\333\365\047
\207\016\004\154\325\377\335\240\135\355\207\122\267\053\025\002
\256\071\246\152\164\351\332\304\347\274\115\064\036\251\134\115
\063\137\222\011\057\210\146\135\167\227\307\035\166\023\251\325
\345\361\026\011\021\065\325\254\333\044\161\160\054\230\126\013
\331\027\264\321\343\121\053\136\165\350\325\320\334\117\064\355
\302\005\146\200\241\313\346\063

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "GeoTrust Global CA"
Issuer: CN=GeoTrust Global CA,O=GeoTrust Inc.,C=US

```
# Serial Number: 144470 (0x23456)
# Subject: CN=GeoTrust Global CA,O=GeoTrust Inc.,C=US
# Not Valid Before: Tue May 21 04:00:00 2002
# Not Valid After: Sat May 21 04:00:00 2022
# Fingerprint (MD5): f7:75:ab:29:fb:51:4e:b7:77:5e:ff:05:3c:99:8e:f5
# Fingerprint (SHA1): de:28:f4:a4:ff:e5:b9:2f:a3:c5:03:d1:a3:49:a7:f9:96:2a:82:12
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Global CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\336\050\364\244\377\345\271\057\243\305\003\321\243\111\247\371
\226\052\202\022
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\367\165\253\051\373\121\116\267\167\136\377\005\074\231\216\365
END
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\033\060\031\006\003\125\004\003
\023\022\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\002\064\126
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "GeoTrust Global CA 2"
# Issuer: CN=GeoTrust Global CA 2,O=GeoTrust Inc.,C=US
# Serial Number: 1 (0x1)
# Subject: CN=GeoTrust Global CA 2,O=GeoTrust Inc.,C=US
# Not Valid Before: Thu Mar 04 05:00:00 2004
# Not Valid After: Mon Mar 04 05:00:00 2019
# Fingerprint (MD5): 0e:40:a7:6c:de:03:5d:8f:d1:0f:e4:d1:8d:f9:6c:a9
# Fingerprint (SHA1): a9:e9:78:08:14:37:58:88:f2:05:19:b0:6d:2b:0d:2b:60:16:90:7d
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Global CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

CKA_SUBJECT MULTILINE_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\035\060\033\006\003\125\004\003
\023\024\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101\040\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\035\060\033\006\003\125\004\003
\023\024\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101\040\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\146\060\202\002\116\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061\026
\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165\163
\164\040\111\156\143\056\061\035\060\033\006\003\125\004\003\023
\024\107\145\157\124\162\165\163\164\040\107\154\157\142\141\154
\040\103\101\040\062\060\036\027\015\060\064\060\063\060\064\060
\065\060\060\060\060\132\027\015\061\071\060\063\060\064\060\065
\060\060\060\060\132\060\104\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015\107
\145\157\124\162\165\163\164\040\111\156\143\056\061\035\060\033
\006\003\125\004\003\023\024\107\145\157\124\162\165\163\164\040
\107\154\157\142\141\154\040\103\101\040\062\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\357\074\115\100
\075\020\337\073\123\000\341\147\376\224\140\025\076\205\210\361
\211\015\220\310\050\043\231\005\350\053\040\235\306\363\140\106
\330\301\262\325\214\061\331\334\040\171\044\201\277\065\062\374
\143\151\333\261\052\153\356\041\130\362\010\351\170\313\157\313
\374\026\122\310\221\304\377\075\163\336\261\076\247\302\175\146
\301\365\176\122\044\032\342\325\147\221\320\202\020\327\170\113
\117\053\102\071\275\144\055\100\240\260\020\323\070\110\106\210
\241\014\273\072\063\052\142\230\373\000\235\023\131\177\157\073
\162\252\356\246\017\206\371\005\141\352\147\177\014\067\226\213
\346\151\026\107\021\302\047\131\003\263\246\140\302\041\100\126
\372\240\307\175\072\023\343\354\127\307\263\326\256\235\211\200
\367\001\347\054\366\226\053\023\015\171\054\331\300\344\206\173
\113\214\014\162\202\212\373\027\315\000\154\072\023\074\260\204
\207\113\026\172\051\262\117\333\035\324\013\363\146\067\275\330

\366\127\273\136\044\172\270\074\213\271\372\222\032\032\204\236
\330\164\217\252\033\177\136\364\376\105\042\041\002\003\001\000
\001\243\143\060\141\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\161\070\066\362\002\061\123\107\053\156\272\145\106\251\020
\025\130\040\005\011\060\037\006\003\125\035\043\004\030\060\026
\200\024\161\070\066\362\002\061\123\107\053\156\272\145\106\251
\020\025\130\040\005\011\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\001\001\000\003\367\265\053\253\135
\020\374\173\262\262\136\254\233\016\176\123\170\131\076\102\004
\376\165\243\255\254\201\116\327\002\213\136\304\055\310\122\166
\307\054\037\374\201\062\230\321\113\306\222\223\063\065\061\057
\374\330\035\104\335\340\201\177\235\351\213\341\144\221\142\013
\071\010\214\254\164\235\131\331\172\131\122\227\021\271\026\173
\157\105\323\226\331\061\175\002\066\017\234\073\156\317\054\015
\003\106\105\353\240\364\177\110\104\306\010\100\314\336\033\160
\265\051\255\272\213\073\064\145\165\033\161\041\035\054\024\012
\260\226\225\270\326\352\362\145\373\051\272\117\352\221\223\164
\151\266\362\377\341\032\320\014\321\166\205\313\212\045\275\227
\136\054\157\025\231\046\347\266\051\377\042\354\311\002\307\126
\000\315\111\271\263\154\173\123\004\032\342\250\311\252\022\005
\043\302\316\347\273\004\002\314\300\107\242\344\304\051\057\133
\105\127\211\121\356\074\353\122\010\377\007\065\036\237\065\152
\107\112\126\230\321\132\205\037\214\365\042\277\253\316\203\363
\342\042\051\256\175\203\100\250\272\154

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "GeoTrust Global CA 2"
Issuer: CN=GeoTrust Global CA 2,O=GeoTrust Inc.,C=US
Serial Number: 1 (0x1)
Subject: CN=GeoTrust Global CA 2,O=GeoTrust Inc.,C=US
Not Valid Before: Thu Mar 04 05:00:00 2004
Not Valid After: Mon Mar 04 05:00:00 2019
Fingerprint (MD5): 0e:40:a7:6c:de:03:5d:8f:d1:0f:e4:d1:8d:f9:6c:a9
Fingerprint (SHA1): a9:e9:78:08:14:37:58:88:f2:05:19:b0:6d:2b:0d:2b:60:16:90:7d
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Global CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\251\351\170\010\024\067\130\210\362\005\031\260\155\053\015\053
\140\026\220\175

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\016\100\247\154\336\003\135\217\321\017\344\321\215\371\154\251
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\035\060\033\006\003\125\004\003
\023\024\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "GeoTrust Universal CA"
# Issuer: CN=GeoTrust Universal CA,O=GeoTrust Inc.,C=US
# Serial Number: 1 (0x1)
# Subject: CN=GeoTrust Universal CA,O=GeoTrust Inc.,C=US
# Not Valid Before: Thu Mar 04 05:00:00 2004
# Not Valid After: Sun Mar 04 05:00:00 2029
# Fingerprint (MD5): 92:65:58:8b:a2:1a:31:72:73:68:5c:b4:a5:7a:07:48
# Fingerprint (SHA1): e6:21:f3:35:43:79:05:9a:4b:68:30:9d:8a:2f:74:22:15:87:ec:79
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Universal CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\036\060\034\006\003\125\004\003
\023\025\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\036\060\034\006\003\125\004\003
\023\025\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101

```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\150\060\202\003\120\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061\026
\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165\163
\164\040\111\156\143\056\061\036\060\034\006\003\125\004\003\023
\025\107\145\157\124\162\165\163\164\040\125\156\151\166\145\162
\163\141\154\040\103\101\060\036\027\015\060\064\060\063\060\064
\060\065\060\060\060\060\132\027\015\062\071\060\063\060\064\060
\065\060\060\060\060\132\060\105\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015
\107\145\157\124\162\165\163\164\040\111\156\143\056\061\036\060
\034\006\003\125\004\003\023\025\107\145\157\124\162\165\163\164
\040\125\156\151\166\145\162\163\141\154\040\103\101\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\246\025
\125\240\243\306\340\037\214\235\041\120\327\301\276\053\133\265
\244\236\241\331\162\130\275\000\033\114\277\141\311\024\035\105
\202\253\306\035\200\326\075\353\020\234\072\257\155\044\370\274
\161\001\236\006\365\174\137\036\301\016\125\312\203\232\131\060
\256\031\313\060\110\225\355\042\067\215\364\112\232\162\146\076
\255\225\300\340\026\000\340\020\037\053\061\016\327\224\124\323
\102\063\240\064\035\036\105\166\335\117\312\030\067\354\205\025
\172\031\010\374\325\307\234\360\362\251\056\020\251\222\346\075
\130\075\251\026\150\074\057\165\041\030\177\050\167\245\341\141
\027\267\246\351\370\036\231\333\163\156\364\012\242\041\154\356
\332\252\205\222\146\257\366\172\153\202\332\272\042\010\065\017
\317\102\361\065\372\152\356\176\053\045\314\072\021\344\155\257
\163\262\166\035\255\320\262\170\147\032\244\071\034\121\013\147
\126\203\375\070\135\015\316\335\360\273\053\226\037\336\173\062
\122\375\035\273\265\006\241\262\041\136\245\326\225\150\177\360
\231\236\334\105\010\076\347\322\011\015\065\224\335\200\116\123
\227\327\265\011\104\040\144\026\027\003\002\114\123\015\150\336
\325\252\162\115\223\155\202\016\333\234\275\317\264\363\134\135
\124\172\151\011\226\326\333\021\301\215\165\250\264\317\071\310
\316\074\274\044\174\346\142\312\341\275\175\247\275\127\145\013
\344\376\045\355\266\151\020\334\050\032\106\275\001\035\320\227
\265\341\230\073\300\067\144\326\075\224\356\013\341\365\050\256
\013\126\277\161\213\043\051\101\216\206\305\113\122\173\330\161
\253\037\212\025\246\073\203\132\327\130\001\121\306\114\101\331
\177\330\101\147\162\242\050\337\140\203\251\236\310\173\374\123
\163\162\131\365\223\172\027\166\016\316\367\345\134\331\013\125
\064\242\252\133\265\152\124\347\023\312\127\354\227\155\364\136
\006\057\105\213\130\324\043\026\222\344\026\156\050\143\131\060

\337\120\001\234\143\211\032\237\333\027\224\202\160\067\303\044
\236\232\107\326\132\312\116\250\151\211\162\037\221\154\333\176
\236\033\255\307\037\163\335\054\117\031\145\375\177\223\100\020
\056\322\360\355\074\236\056\050\076\151\046\063\305\173\002\003
\001\000\001\243\143\060\141\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\332\273\056\252\260\014\270\210\046\121\164\134\155
\003\323\300\330\217\172\326\060\037\006\003\125\035\043\004\030
\060\026\200\024\332\273\056\252\260\014\270\210\046\121\164\134
\155\003\323\300\330\217\172\326\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\002\001\000\061\170\346\307
\265\337\270\224\100\311\161\304\250\065\354\106\035\302\205\363
\050\130\206\260\013\374\216\262\071\217\104\125\253\144\204\134
\151\251\320\232\070\074\372\345\037\065\345\104\343\200\171\224
\150\244\273\304\237\075\341\064\315\060\106\213\124\053\225\245
\357\367\077\231\204\375\065\346\317\061\306\334\152\277\247\327
\043\010\341\230\136\303\132\010\166\251\246\257\167\057\267\140
\275\104\106\152\357\227\377\163\225\301\216\350\223\373\375\061
\267\354\127\021\021\105\233\060\361\032\210\071\301\117\074\247
\000\325\307\374\253\155\200\042\160\245\014\340\135\004\051\002
\373\313\240\221\321\174\326\303\176\120\325\235\130\276\101\070
\353\271\165\074\025\331\233\311\112\203\131\300\332\123\375\063
\273\066\030\233\205\017\025\335\356\055\254\166\223\271\331\001
\215\110\020\250\373\365\070\206\361\333\012\306\275\204\243\043
\101\336\326\167\157\205\324\205\034\120\340\256\121\212\272\215
\076\166\342\271\312\047\362\137\237\357\156\131\015\006\330\053
\027\244\322\174\153\273\137\024\032\110\217\032\114\347\263\107
\034\216\114\105\053\040\356\110\337\347\335\011\216\030\250\332
\100\215\222\046\021\123\141\163\135\353\275\347\304\115\051\067
\141\353\254\071\055\147\056\026\326\365\000\203\205\241\314\177
\166\304\175\344\267\113\146\357\003\105\140\151\266\014\122\226
\222\204\136\246\243\265\244\076\053\331\314\330\033\107\252\362
\104\332\117\371\003\350\360\024\313\077\363\203\336\320\301\124
\343\267\350\012\067\115\213\040\131\003\060\031\241\054\310\275
\021\037\337\256\311\112\305\363\047\146\146\206\254\150\221\377
\331\346\123\034\017\213\134\151\145\012\046\310\036\064\303\135
\121\173\327\251\234\006\241\066\335\325\211\224\274\331\344\055
\014\136\011\154\010\227\174\243\075\174\223\377\077\241\024\247
\317\265\135\353\333\333\034\304\166\337\210\271\275\105\005\225
\033\256\374\106\152\114\257\110\343\316\256\017\322\176\353\346
\154\234\117\201\152\172\144\254\273\076\325\347\313\166\056\305
\247\110\301\134\220\017\313\310\077\372\346\062\341\215\033\157
\244\346\216\330\371\051\110\212\316\163\376\054

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
# Trust for "GeoTrust Universal CA"
# Issuer: CN=GeoTrust Universal CA,O=GeoTrust Inc.,C=US
# Serial Number: 1 (0x1)
# Subject: CN=GeoTrust Universal CA,O=GeoTrust Inc.,C=US
# Not Valid Before: Thu Mar 04 05:00:00 2004
# Not Valid After: Sun Mar 04 05:00:00 2029
# Fingerprint (MD5): 92:65:58:8b:a2:1a:31:72:73:68:5c:b4:a5:7a:07:48
# Fingerprint (SHA1): e6:21:f3:35:43:79:05:9a:4b:68:30:9d:8a:2f:74:22:15:87:ec:79
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Universal CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\346\041\363\065\103\171\005\232\113\150\060\235\212\057\164\042
\025\207\354\171
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\222\145\130\213\242\032\061\162\163\150\134\264\245\172\007\110
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\036\060\034\006\003\125\004\003
\023\025\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "GeoTrust Universal CA 2"
# Issuer: CN=GeoTrust Universal CA 2,O=GeoTrust Inc.,C=US
# Serial Number: 1 (0x1)
# Subject: CN=GeoTrust Universal CA 2,O=GeoTrust Inc.,C=US
# Not Valid Before: Thu Mar 04 05:00:00 2004
# Not Valid After: Sun Mar 04 05:00:00 2029
# Fingerprint (MD5): 34:fc:b8:d0:36:db:9e:14:b3:c2:f2:db:8f:e4:94:c7
# Fingerprint (SHA1): 37:9a:19:7b:41:85:45:35:0c:a6:03:69:f3:3c:2e:af:47:4f:20:79
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Universal CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\040\060\036\006\003\125\004\003
\023\027\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\040\060\036\006\003\125\004\003
\023\027\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\154\060\202\003\124\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061\026
\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165\163
\164\040\111\156\143\056\061\040\060\036\006\003\125\004\003\023
\027\107\145\157\124\162\165\163\164\040\125\156\151\166\145\162
\163\141\154\040\103\101\040\062\060\036\027\015\060\064\060\063
\060\064\060\065\060\060\060\060\132\027\015\062\071\060\063\060
\064\060\065\060\060\060\060\132\060\107\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\026\060\024\006\003\125\004\012
\023\015\107\145\157\124\162\165\163\164\040\111\156\143\056\061
\040\060\036\006\003\125\004\003\023\027\107\145\157\124\162\165
\163\164\040\125\156\151\166\145\162\163\141\154\040\103\101\040
\062\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\263\124\122\301\311\076\362\331\334\261\123\032\131\051
\347\261\303\105\050\345\327\321\355\305\305\113\241\252\164\173
\127\257\112\046\374\330\365\136\247\156\031\333\164\014\117\065
\133\062\013\001\343\333\353\172\167\065\352\252\132\340\326\350
\241\127\224\360\220\243\164\126\224\104\060\003\036\134\116\053
\205\046\164\202\172\014\166\240\157\115\316\101\055\240\025\006
\024\137\267\102\315\173\217\130\141\064\334\052\010\371\056\303
\001\246\042\104\034\114\007\202\346\133\316\320\112\174\004\323
\031\163\047\360\252\230\177\056\257\116\353\207\036\044\167\152
\135\266\350\133\105\272\334\303\241\005\157\126\216\217\020\046
```

\245\111\303\056\327\101\207\042\340\117\206\312\140\265\352\241
\143\300\001\227\020\171\275\000\074\022\155\053\025\261\254\113
\261\356\030\271\116\226\334\334\166\377\073\276\317\137\003\300
\374\073\350\276\106\033\377\332\100\302\122\367\376\343\072\367
\152\167\065\320\332\215\353\136\030\152\061\307\036\272\074\033
\050\326\153\124\306\252\133\327\242\054\033\031\314\242\002\366
\233\131\275\067\153\206\265\155\202\272\330\352\311\126\274\251
\066\130\375\076\031\363\355\014\046\251\223\070\370\117\301\135
\042\006\320\227\352\341\255\306\125\340\201\053\050\203\072\372
\364\173\041\121\000\276\122\070\316\315\146\171\250\364\201\126
\342\320\203\011\107\121\133\120\152\317\333\110\032\135\076\367
\313\366\145\367\154\361\225\370\002\073\062\126\202\071\172\133
\275\057\211\033\277\241\264\350\377\177\215\214\337\003\361\140
\116\130\021\114\353\243\077\020\053\203\232\001\163\331\224\155
\204\000\047\146\254\360\160\100\011\102\222\255\117\223\015\141
\011\121\044\330\222\325\013\224\141\262\207\262\355\377\232\065
\377\205\124\312\355\104\103\254\033\074\026\153\110\112\012\034
\100\210\037\222\302\013\000\005\377\362\310\002\112\244\252\251
\314\231\226\234\057\130\340\175\341\276\273\007\334\137\004\162
\134\061\064\303\354\137\055\340\075\144\220\042\346\321\354\270
\056\335\131\256\331\241\067\277\124\065\334\163\062\117\214\004
\036\063\262\311\106\361\330\134\310\125\120\311\150\275\250\272
\066\011\002\003\001\000\001\243\143\060\141\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\166\363\125\341\372\244\066\373\360
\237\134\142\161\355\074\364\107\070\020\053\060\037\006\003\125
\035\043\004\030\060\026\200\024\166\363\125\341\372\244\066\373
\360\237\134\142\161\355\074\364\107\070\020\053\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\206\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001\000
\146\301\306\043\363\331\340\056\156\137\350\317\256\260\260\045
\115\053\370\073\130\233\100\044\067\132\313\253\026\111\377\263
\165\171\063\241\057\155\160\027\064\221\376\147\176\217\354\233
\345\136\202\251\125\037\057\334\324\121\007\022\376\254\026\076
\054\065\306\143\374\334\020\353\015\243\252\320\174\314\321\320
\057\121\056\304\024\132\336\350\031\341\076\306\314\244\051\347
\056\204\252\006\060\170\166\124\163\050\230\131\070\340\000\015
\142\323\102\175\041\237\256\075\072\214\325\372\167\015\030\053
\026\016\137\066\341\374\052\265\060\044\317\340\143\014\173\130
\032\376\231\272\102\022\261\221\364\174\150\342\310\350\257\054
\352\311\176\256\273\052\075\015\025\334\064\225\266\030\164\250
\152\017\307\264\364\023\304\344\133\355\012\322\244\227\114\052
\355\057\154\022\211\075\361\047\160\252\152\003\122\041\237\100
\250\147\120\362\363\132\037\337\337\043\366\334\170\116\346\230
\117\125\072\123\343\357\362\364\237\307\174\330\130\257\051\042
\227\270\340\275\221\056\260\166\354\127\021\317\357\051\104\363
\351\205\172\140\143\344\135\063\211\027\331\061\252\332\326\363
\030\065\162\317\207\053\057\143\043\204\135\204\214\077\127\240

```
\210\374\231\221\050\046\151\231\324\217\227\104\276\216\325\110
\261\244\050\051\361\025\264\341\345\236\335\370\217\246\157\046
\327\011\074\072\034\021\016\246\154\067\367\255\104\207\054\050
\307\330\164\202\263\320\157\112\127\273\065\051\047\240\213\350
\041\247\207\144\066\135\314\330\026\254\307\262\047\100\222\125
\070\050\215\121\156\335\024\147\123\154\161\134\046\204\115\165
\132\266\176\140\126\251\115\255\373\233\036\227\363\015\331\322
\227\124\167\332\075\022\267\340\036\357\010\006\254\371\205\207
\351\242\334\257\176\030\022\203\375\126\027\101\056\325\051\202
\175\231\364\061\366\161\251\317\054\001\047\245\005\271\252\262
\110\116\052\357\237\223\122\121\225\074\122\163\216\126\114\027
\100\300\011\050\344\213\152\110\123\333\354\315\125\125\361\306
\370\351\242\054\114\246\321\046\137\176\257\132\114\332\037\246
\362\034\054\176\256\002\026\322\126\320\057\127\123\107\350\222
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "GeoTrust Universal CA 2"
# Issuer: CN=GeoTrust Universal CA 2,O=GeoTrust Inc.,C=US
# Serial Number: 1 (0x1)
# Subject: CN=GeoTrust Universal CA 2,O=GeoTrust Inc.,C=US
# Not Valid Before: Thu Mar 04 05:00:00 2004
# Not Valid After: Sun Mar 04 05:00:00 2029
# Fingerprint (MD5): 34:fc:b8:d0:36:db:9e:14:b3:c2:f2:db:8f:e4:94:c7
# Fingerprint (SHA1): 37:9a:19:7b:41:85:45:35:0c:a6:03:69:f3:3c:2e:af:47:4f:20:79
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Universal CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\067\232\031\173\101\205\105\065\014\246\003\151\363\074\056\257
\107\117\040\171
```

```
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\064\374\270\320\066\333\236\024\263\302\362\333\217\344\224\307
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\040\060\036\006\003\125\004\003
\023\027\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101\040\062
```

```
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```

\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "QuoVadis Root Certification Authority"
# Issuer: CN=QuoVadis Root Certification Authority,OU=Root Certification Authority,O=QuoVadis
Limited,C=BM
# Serial Number:3a:b6:50:8b
# Subject: CN=QuoVadis Root Certification Authority,OU=Root Certification Authority,O=QuoVadis
Limited,C=BM
# Not Valid Before: Mon Mar 19 18:33:33 2001
# Not Valid After: Wed Mar 17 18:33:33 2021
# Fingerprint (MD5): 27:de:36:fe:72:b7:00:03:00:9d:f4:f0:1e:6c:04:24
# Fingerprint (SHA1): de:3f:40:bd:50:93:d3:9b:6c:60:f6:da:bc:07:62:01:00:89:76:c9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\045\060\043\006\003
\125\004\013\023\034\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\056\060\054\006\003\125\004\003\023\045\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\045\060\043\006\003
\125\004\013\023\034\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\056\060\054\006\003\125\004\003\023\045\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\004\072\266\120\213

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\320\060\202\004\270\240\003\002\001\002\002\004\072
\266\120\213\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\177\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\045\060\043
\006\003\125\004\013\023\034\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\061\056\060\054\006\003\125\004\003\023\045\121\165
\157\126\141\144\151\163\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\036\027\015\060\061\060\063\061\067\061\070\063\063
\063\063\132\027\015\062\061\060\063\061\067\061\070\063\063
\063\063\132\060\177\061\013\060\011\006\003\125\004\006\023\002
\102\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157
\126\141\144\151\163\040\114\151\155\151\164\145\144\061\045\060
\043\006\003\125\004\013\023\034\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\061\056\060\054\006\003\125\004\003\023\045\121
\165\157\126\141\144\151\163\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\277\141\265\225\123\272\127\374\372\362\147
\013\072\032\337\021\200\144\225\264\321\274\315\172\317\366\051
\226\056\044\124\100\044\070\367\032\205\334\130\114\313\244\047
\102\227\320\237\203\212\303\344\006\003\133\000\245\121\036\160
\004\164\342\301\324\072\253\327\255\073\007\030\005\216\375\203
\254\352\146\331\030\033\150\212\365\127\032\230\272\365\355\166
\075\174\331\336\224\152\073\113\027\301\325\217\275\145\070\072
\225\320\075\125\066\116\337\171\127\061\052\036\330\131\145\111
\130\040\230\176\253\137\176\237\351\326\115\354\203\164\251\307
\154\330\356\051\112\205\052\006\024\371\124\346\323\332\145\007
\213\143\067\022\327\320\354\303\173\040\101\104\243\355\313\240
\027\341\161\145\316\035\146\061\367\166\001\031\310\175\003\130
\266\225\111\035\246\022\046\350\306\014\166\340\343\146\313\352
\135\246\046\356\345\314\137\275\147\247\001\047\016\242\312\124
\305\261\172\225\035\161\036\112\051\212\003\334\152\105\301\244
\031\136\157\066\315\303\242\260\267\376\134\070\342\122\274\370
\104\103\346\220\273\002\003\001\000\001\243\202\002\122\060\202
\002\116\060\075\006\010\053\006\001\005\005\007\001\001\004\061
\060\057\060\055\006\010\053\006\001\005\005\007\060\001\206\041
\150\164\164\160\163\072\057\057\157\143\163\160\056\161\165\157
\166\141\144\151\163\157\146\146\163\150\157\162\145\056\143\157
\155\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\202\001\032\006\003\125\035\040\004\202\001\021\060

\202\001\015\060\202\001\011\006\011\053\006\001\004\001\276\130
\000\001\060\201\373\060\201\324\006\010\053\006\001\005\005\007
\002\002\060\201\307\032\201\304\122\145\154\151\141\156\143\145
\040\157\156\040\164\150\145\040\121\165\157\126\141\144\151\163
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\145\040\142\171\040\141\156\171\040\160\141\162\164\171\040\141
\163\163\165\155\145\163\040\141\143\143\145\160\164\141\156\143
\145\040\157\146\040\164\150\145\040\164\150\145\156\040\141\160
\160\154\151\143\141\142\154\145\040\163\164\141\156\144\141\162
\144\040\164\145\162\155\163\040\141\156\144\040\143\157\156\144
\151\164\151\157\156\163\040\157\146\040\165\163\145\054\040\143
\145\162\164\151\146\151\143\141\164\151\157\156\040\160\162\141
\143\164\151\143\145\163\054\040\141\156\144\040\164\150\145\040
\121\165\157\126\141\144\151\163\040\103\145\162\164\151\146\151
\143\141\164\145\040\120\157\154\151\143\171\056\060\042\006\010
\053\006\001\005\005\007\002\001\026\026\150\164\164\160\072\057
\057\167\167\167\056\161\165\157\166\141\144\151\163\056\142\155
\060\035\006\003\125\035\016\004\026\004\024\213\113\155\355\323
\051\271\006\031\354\071\071\251\360\227\204\152\313\357\337\060
\201\256\006\003\125\035\043\004\201\246\060\201\243\200\024\213
\113\155\355\323\051\271\006\031\354\071\071\251\360\227\204\152
\313\357\337\241\201\204\244\201\201\060\177\061\013\060\011\006
\003\125\004\006\023\002\102\115\061\031\060\027\006\003\125\004
\012\023\020\121\165\157\126\141\144\151\163\040\114\151\155\151
\164\145\144\061\045\060\043\006\003\125\004\013\023\034\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\061\056\060\054\006\003
\125\004\003\023\045\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\202\004\072\266\120\213
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\212\324\024\265\376\364\232\222\247\031\324\244
\176\162\030\217\331\150\174\122\044\335\147\157\071\172\304\252
\136\075\342\130\260\115\160\230\204\141\350\033\343\151\030\016
\316\373\107\120\240\116\377\360\044\037\275\262\316\365\047\374
\354\057\123\252\163\173\003\075\164\156\346\026\236\353\245\056
\304\277\126\047\120\053\142\272\276\113\034\074\125\134\101\035
\044\276\202\040\107\135\325\104\176\172\026\150\337\175\115\121
\160\170\127\035\063\036\375\002\231\234\014\315\012\005\117\307
\273\216\244\165\372\112\155\261\200\216\011\126\271\234\032\140
\376\135\301\327\172\334\021\170\320\326\135\301\267\325\255\062
\231\003\072\212\314\124\045\071\061\201\173\023\042\121\272\106
\154\241\273\236\372\004\154\111\046\164\217\322\163\353\314\060
\242\346\352\131\042\207\370\227\365\016\375\352\314\222\244\026
\304\122\030\352\041\316\261\361\346\204\201\345\272\251\206\050
\362\103\132\135\022\235\254\036\331\250\345\012\152\247\177\240
\207\051\317\362\211\115\324\354\305\342\346\172\320\066\043\212


```
\112\164\066\371
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Trust for "QuoVadis Root Certification Authority"
# Issuer: CN=QuoVadis Root Certification Authority,OU=Root Certification Authority,O=QuoVadis
Limited,C=BM
# Serial Number:3a:b6:50:8b
# Subject: CN=QuoVadis Root Certification Authority,OU=Root Certification Authority,O=QuoVadis
Limited,C=BM
# Not Valid Before: Mon Mar 19 18:33:33 2001
# Not Valid After: Wed Mar 17 18:33:33 2021
# Fingerprint (MD5): 27:de:36:fe:72:b7:00:03:00:9d:f4:f0:1e:6c:04:24
# Fingerprint (SHA1): de:3f:40:bd:50:93:d3:9b:6c:60:f6:da:bc:07:62:01:00:89:76:c9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\336\077\100\275\120\223\323\233\154\140\366\332\274\007\142\001
\000\211\166\311
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\047\336\066\376\162\267\000\003\000\235\364\360\036\154\004\044
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\045\060\043\006\003
\125\004\013\023\034\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\056\060\054\006\003\125\004\003\023\045\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\072\266\120\213
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Autoridade Certificadora Raiz Brasileira"
# Issuer: CN=Autoridade Certificadora Raiz Brasileira,ST=DF,L=Brasilia,OU=Instituto Nacional de Tecnologia da
Informacao - ITI,O=ICP-Brasil,C=BR
# Serial Number: 4 (0x4)
# Subject: CN=Autoridade Certificadora Raiz Brasileira,ST=DF,L=Brasilia,OU=Instituto Nacional de Tecnologia
da Informacao - ITI,O=ICP-Brasil,C=BR
# Not Valid Before: Fri Nov 30 12:58:00 2001
# Not Valid After: Wed Nov 30 23:59:00 2011
# Fingerprint (MD5): 96:89:7d:61:d1:55:2b:27:e2:5a:39:b4:2a:6c:44:6f
# Fingerprint (SHA1): 8e:fd:ca:bc:93:e6:1e:92:5d:4d:1d:ed:18:1a:43:20:a4:67:a1:39
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridade Certificadora Raiz Brasileira"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\264\061\013\060\011\006\003\125\004\006\023\002\102\122
\061\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102
\162\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064
\111\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156
\141\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141
\040\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055
\040\111\124\111\061\021\060\017\006\003\125\004\007\023\010\102
\162\141\163\151\154\151\141\061\013\060\011\006\003\125\004\010
\023\002\104\106\061\061\060\057\006\003\125\004\003\023\050\101
\165\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146
\151\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141
\163\151\154\145\151\162\141
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\264\061\013\060\011\006\003\125\004\006\023\002\102\122
\061\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102
\162\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064
\111\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156
\141\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141
\040\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055
\040\111\124\111\061\021\060\017\006\003\125\004\007\023\010\102
\162\141\163\151\154\151\141\061\013\060\011\006\003\125\004\010
\023\002\104\106\061\061\060\057\006\003\125\004\003\023\050\101
\165\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146
\151\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141
\163\151\154\145\151\162\141
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\004
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\270\060\202\003\240\240\003\002\001\002\002\001\004
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\264\061\013\060\011\006\003\125\004\006\023\002\102\122\061
\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102\162
\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064\111
\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156\141
\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141\040
\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055\040
\111\124\111\061\021\060\017\006\003\125\004\007\023\010\102\162
\141\163\151\154\151\141\061\013\060\011\006\003\125\004\010\023
\002\104\106\061\061\060\057\006\003\125\004\003\023\050\101\165
\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146\151
\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141\163
\151\154\145\151\162\141\060\036\027\015\060\061\061\061\063\060\060
\061\062\065\070\060\060\132\027\015\061\061\061\061\063\060\062
\063\065\071\060\060\132\060\201\264\061\013\060\011\006\003\125
\004\006\023\002\102\122\061\023\060\021\006\003\125\004\012\023
\012\111\103\120\055\102\162\141\163\151\154\061\075\060\073\006
\003\125\004\013\023\064\111\156\163\164\151\164\165\164\157\040
\116\141\143\151\157\156\141\154\040\144\145\040\124\145\143\156
\157\154\157\147\151\141\040\144\141\040\111\156\146\157\162\155
\141\143\141\157\040\055\040\111\124\111\061\021\060\017\006\003
\125\004\007\023\010\102\162\141\163\151\154\151\141\061\013\060
\011\006\003\125\004\010\023\002\104\106\061\061\060\057\006\003
\125\004\003\023\050\101\165\164\157\162\151\144\141\144\145\040
\103\145\162\164\151\146\151\143\141\144\157\162\141\040\122\141
\151\172\040\102\162\141\163\151\154\145\151\162\141\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\300\363
\056\167\005\377\206\371\276\122\035\233\376\124\000\160\165\100
\212\306\246\150\271\026\166\114\017\367\364\277\264\342\210\201
\032\313\350\354\276\144\201\245\071\107\135\352\346\055\223\323
\032\377\172\124\246\007\037\064\010\364\275\211\271\202\314\243
\102\217\136\232\307\076\307\251\270\125\154\044\366\052\214\145
\040\212\344\104\044\002\257\324\267\211\373\052\342\304\327\350
\035\176\334\035\042\014\137\122\303\355\340\054\215\255\216\164
\101\136\173\050\315\224\117\314\171\256\271\263\022\072\373\114
\200\206\245\045\000\227\150\025\251\356\261\152\050\276\156\146
\021\325\012\346\131\240\122\000\156\175\056\271\053\216\266\055
\155\030\105\156\205\003\173\120\312\373\244\374\263\222\372\223
\307\074\242\112\133\036\226\275\275\343\063\264\065\102\366\303
\311\353\103\026\136\036\232\235\122\250\325\107\013\161\265\021
\310\107\215\275\231\336\125\022\200\001\116\250\273\007\143\016
\374\045\261\242\262\164\122\260\171\335\023\241\016\073\156\145
\012\201\311\276\301\135\336\115\031\067\351\103\247\117\002\003
\001\000\001\243\201\322\060\201\317\060\116\006\003\125\035\040

\004\107\060\105\060\103\006\005\140\114\001\001\000\060\072\060
\070\006\010\053\006\001\005\005\007\002\001\026\054\150\164\164
\160\072\057\057\141\143\162\141\151\172\056\151\143\160\142\162
\141\163\151\154\056\147\157\166\056\142\162\057\104\120\103\141
\143\162\141\151\172\056\160\144\146\060\075\006\003\125\035\037
\004\066\060\064\060\062\240\060\240\056\206\054\150\164\164\160
\072\057\057\141\143\162\141\151\172\056\151\143\160\142\162\141
\163\151\154\056\147\157\166\056\142\162\057\114\103\122\141\143
\162\141\151\172\056\143\162\154\060\035\006\003\125\035\016\004
\026\004\024\212\372\361\127\204\021\023\065\220\102\372\127\111
\124\151\015\244\304\360\067\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\031\003\227\065
\123\370\140\042\036\216\162\002\300\176\042\140\025\152\157\230
\066\126\252\125\167\323\366\307\026\230\374\210\032\033\045\051
\271\270\072\155\355\070\253\142\035\124\305\355\337\101\241\245
\142\062\136\373\334\335\372\054\317\105\260\152\134\365\120\003
\176\004\135\314\044\342\252\126\271\375\141\036\270\226\175\332
\361\360\007\052\112\252\372\012\344\005\301\052\373\344\132\054
\113\071\160\014\000\332\357\111\223\357\006\143\002\144\041\235
\234\166\304\236\260\175\151\123\365\124\037\113\377\311\141\342
\034\354\133\236\330\223\113\167\115\024\071\043\014\152\042\277
\267\277\136\234\243\107\020\015\237\272\221\367\274\110\240\177
\221\041\341\265\100\067\225\150\206\264\346\350\306\071\337\036
\327\101\226\153\324\301\073\153\236\145\024\111\322\171\075\056
\232\123\200\215\035\246\001\273\322\063\225\371\241\046\115\256
\147\255\167\074\223\217\147\345\010\317\002\013\263\013\151\275
\044\221\331\340\104\211\124\004\141\305\327\364\271\236\143\333
\053\357\100\343\253\035\337\172\052\053\311\374

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "Autoridade Certificadora Raiz Brasileira"

Issuer: CN=Autoridade Certificadora Raiz Brasileira,ST=DF,L=Brasilia,OU=Instituto Nacional de Tecnologia da Informacao - ITI,O=ICP-Brasil,C=BR

Serial Number: 4 (0x4)

Subject: CN=Autoridade Certificadora Raiz Brasileira,ST=DF,L=Brasilia,OU=Instituto Nacional de Tecnologia da Informacao - ITI,O=ICP-Brasil,C=BR

Not Valid Before: Fri Nov 30 12:58:00 2001

Not Valid After: Wed Nov 30 23:59:00 2011

Fingerprint (MD5): 96:89:7d:61:d1:55:2b:27:e2:5a:39:b4:2a:6c:44:6f

Fingerprint (SHA1): 8e:fd:ca:bc:93:e6:1e:92:5d:4d:1d:ed:18:1a:43:20:a4:67:a1:39

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridade Certificadora Raiz Brasileira"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\216\375\312\274\223\346\036\222\135\115\035\355\030\032\103\040
\244\147\241\071
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\226\211\175\141\321\125\053\047\342\132\071\264\052\154\104\157
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\264\061\013\060\011\006\003\125\004\006\023\002\102\122
\061\023\060\021\006\003\125\004\012\023\012\111\103\120\055\102
\162\141\163\151\154\061\075\060\073\006\003\125\004\013\023\064
\111\156\163\164\151\164\165\164\157\040\116\141\143\151\157\156
\141\154\040\144\145\040\124\145\143\156\157\154\157\147\151\141
\040\144\141\040\111\156\146\157\162\155\141\143\141\157\040\055
\040\111\124\111\061\021\060\017\006\003\125\004\007\023\010\102
\162\141\163\151\154\151\141\061\013\060\011\006\003\125\004\010
\023\002\104\106\061\061\060\057\006\003\125\004\003\023\050\101
\165\164\157\162\151\144\141\144\145\040\103\145\162\164\151\146
\151\143\141\144\157\162\141\040\122\141\151\172\040\102\162\141
\163\151\154\145\151\162\141
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\004
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Post.Trust Root CA"
# Issuer: CN=Post.Trust Root CA,OU=Post.Trust Ltd.,O=An Post,C=IE
# Serial Number:39:a2:93:e3
# Subject: CN=Post.Trust Root CA,OU=Post.Trust Ltd.,O=An Post,C=IE
# Not Valid Before: Tue Aug 22 14:56:21 2000
# Not Valid After: Fri Aug 20 13:56:21 2010
# Fingerprint (MD5): af:b8:33:6e:7c:dd:c6:02:64:ad:58:fc:0d:4f:7b:cf
# Fingerprint (SHA1): bc:7b:3c:6f:ef:26:b9:f7:ab:10:d7:a1:f6:b6:7c:5e:d2:a1:2d:3d
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Post.Trust Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\126\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\020\060\016\006\003\125\004\012\023\007\101\156\040\120\157\163
\164\061\030\060\026\006\003\125\004\013\023\017\120\157\163\164
\056\124\162\165\163\164\040\114\164\144\056\061\033\060\031\006
\003\125\004\003\023\022\120\157\163\164\056\124\162\165\163\164
\040\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\020\060\016\006\003\125\004\012\023\007\101\156\040\120\157\163
\164\061\030\060\026\006\003\125\004\013\023\017\120\157\163\164
\056\124\162\165\163\164\040\114\164\144\056\061\033\060\031\006
\003\125\004\003\023\022\120\157\163\164\056\124\162\165\163\164
\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\071\242\223\343

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\272\060\202\005\242\240\003\002\001\002\002\004\071
\242\223\343\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\126\061\013\060\011\006\003\125\004\006\023\002\111
\105\061\020\060\016\006\003\125\004\012\023\007\101\156\040\120
\157\163\164\061\030\060\026\006\003\125\004\013\023\017\120\157
\163\164\056\124\162\165\163\164\040\114\164\144\056\061\033\060
\031\006\003\125\004\003\023\022\120\157\163\164\056\124\162\165
\163\164\040\122\157\157\164\040\103\101\060\036\027\015\060\060
\060\070\062\062\061\064\065\066\062\061\132\027\015\061\060\060
\070\062\060\061\063\065\066\062\061\132\060\126\061\013\060\011
\006\003\125\004\006\023\002\111\105\061\020\060\016\006\003\125
\004\012\023\007\101\156\040\120\157\163\164\061\030\060\026\006
\003\125\004\013\023\017\120\157\163\164\056\124\162\165\163\164
\040\114\164\144\056\061\033\060\031\006\003\125\004\003\023\022
\120\157\163\164\056\124\162\165\163\164\040\122\157\157\164\040
\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\326\177\023\344\015\044\330\330\373\351\266\303\261
\122\243\116\334\267\073\342\367\016\137\201\346\001\360\246\346
\066\160\330\023\163\241\377\122\010\220\362\025\274\362\062\034
\250\327\341\006\020\173\101\250\224\307\077\075\104\025\334\200
\121\347\060\376\123\110\365\220\137\155\155\045\340\140\273\240
\373\326\306\051\370\115\160\120\032\067\240\016\315\170\052\266
\150\363\231\324\014\216\136\022\142\377\302\137\132\232\053\210
\107\252\273\241\331\165\360\054\134\376\155\302\261\133\061\314
\203\207\032\247\276\220\016\350\020\124\123\122\013\234\111\363
\200\002\376\157\047\246\243\127\060\270\333\270\320\000\004\003
\344\345\324\103\006\353\253\150\115\150\046\322\231\064\271\340

\022\226\177\113\273\153\156\041\161\346\010\105\112\035\146\015
\067\311\003\341\321\312\334\261\057\160\366\267\201\142\226\033
\144\247\376\273\341\206\353\101\237\250\234\330\312\240\341\326
\057\370\017\341\272\100\070\367\155\321\245\312\114\031\310\226
\334\314\111\034\012\266\323\250\221\072\371\332\354\035\315\163
\112\044\077\002\003\001\000\001\243\202\003\216\060\202\003\212
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\202\003\115\006\003\125\035\040\004\202\003\104\060\202
\003\100\060\202\003\074\006\007\052\202\164\273\350\042\001\060
\202\003\057\060\202\002\364\006\010\053\006\001\005\005\007\002
\002\060\202\002\346\032\202\002\342\124\150\151\163\040\143\145
\162\164\151\146\151\143\141\164\145\040\151\163\040\151\163\163
\165\145\144\040\163\165\142\152\145\143\164\040\164\157\040\164
\150\145\040\120\157\163\164\056\124\162\165\163\164\040\103\120
\123\040\164\145\162\155\163\040\141\156\144\040\143\157\156\144
\151\164\151\157\156\163\040\167\150\151\143\150\040\157\165\164
\154\151\156\145\040\164\150\145\040\167\141\162\162\141\156\164
\151\145\163\040\160\162\157\166\151\144\145\144\040\167\151\164
\150\040\164\150\151\163\040\143\145\162\164\151\146\151\143\141
\164\145\040\141\156\144\040\164\150\145\040\145\170\164\145\156
\164\040\157\146\040\164\150\145\040\154\151\141\142\151\154\151
\164\171\040\157\146\040\120\157\163\164\056\124\162\165\163\164
\040\114\151\155\151\164\145\144\056\040\040\120\157\163\164\056
\124\162\165\163\164\040\114\151\155\151\164\145\144\040\145\170
\160\162\145\163\163\154\171\040\145\170\143\154\165\144\145\163
\040\143\145\162\164\141\151\156\040\145\170\160\162\145\163\163
\040\141\156\144\040\151\155\160\154\151\145\144\040\167\141\162
\162\141\156\164\151\145\163\040\141\156\144\040\143\157\156\144
\151\164\151\157\156\163\054\040\151\156\143\154\165\144\151\156
\147\040\167\141\162\162\141\156\164\151\145\163\040\141\163\040
\164\157\040\146\151\164\156\145\163\163\040\146\157\162\040\160
\165\162\160\157\163\145\040\157\162\040\155\145\162\143\150\141
\156\164\141\142\151\154\151\164\171\054\040\141\156\144\040\167
\151\154\154\040\156\157\164\040\142\145\040\154\151\141\142\154
\145\040\146\157\162\040\151\156\144\151\162\145\143\164\040\141
\156\144\040\143\157\156\163\145\161\165\145\156\164\151\141\154
\040\164\171\160\145\040\154\157\163\163\145\163\054\040\157\162
\040\146\157\162\040\154\157\163\163\040\151\156\040\145\170\143
\145\163\163\040\157\146\040\141\040\163\160\145\143\151\146\151
\145\144\040\141\155\157\165\156\164\056\040\040\101\143\143\157
\162\144\151\156\147\154\171\054\040\164\150\145\040\103\120\123
\040\164\145\162\155\163\040\141\156\144\040\143\157\156\144\151
\164\151\157\156\163\040\155\165\163\164\040\142\145\040\162\145
\141\144\040\142\145\146\157\162\145\040\141\156\171\040\162\145
\154\151\141\156\143\145\040\143\141\156\040\142\145\040\160\154
\141\143\145\144\040\157\156\040\164\150\151\163\040\143\145\162
\164\151\146\151\143\141\164\145\054\040\141\156\144\040\142\171
\040\141\143\143\145\160\164\151\156\147\040\157\156\040\164\150

\151\163\040\143\145\162\164\151\146\151\143\141\164\145\054\040
\141\040\163\165\142\163\143\162\151\142\145\162\040\141\156\144
\057\157\162\040\162\145\154\171\151\156\147\040\160\141\162\164
\171\040\151\163\040\141\143\153\156\157\167\154\145\144\147\151
\156\147\040\164\150\141\164\040\151\164\040\150\141\163\040\162
\145\141\144\054\040\165\156\144\145\162\163\164\157\157\144\040
\141\156\144\040\141\143\143\145\160\164\145\144\040\164\150\145
\040\103\120\123\040\164\145\162\155\163\040\141\156\144\040\143
\157\156\144\151\164\151\157\156\163\056\040\060\065\006\010\053
\006\001\005\005\007\002\001\026\051\150\164\164\160\072\057\057
\167\167\167\056\160\157\163\164\056\164\162\165\163\164\056\151
\145\057\162\145\160\157\163\151\164\057\143\160\163\056\150\164
\155\154\060\021\006\003\125\035\016\004\012\004\010\101\032\214
\343\117\075\357\361\060\023\006\003\125\035\043\004\014\060\012
\200\010\101\032\214\343\117\075\357\361\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\147\215
\251\343\257\370\361\341\155\054\373\327\015\142\113\256\360\130
\073\276\062\103\120\133\362\103\216\076\033\360\067\065\022\220
\074\066\001\035\377\051\364\010\246\176\356\261\036\121\270\271
\013\134\353\267\342\015\364\212\060\370\250\065\030\013\307\216
\163\352\006\231\053\007\045\007\017\163\113\377\272\044\133\204
\374\316\224\066\122\373\220\234\172\215\213\240\210\172\106\374
\232\050\130\313\215\253\124\364\355\170\072\367\073\323\147\343
\217\220\203\231\242\010\122\202\026\265\201\134\233\010\061\374
\345\326\170\256\200\361\114\002\143\154\216\004\234\271\173\231
\361\034\063\241\257\173\103\121\205\007\256\337\056\305\011\374
\204\245\376\125\274\012\344\170\134\246\330\367\073\217\012\307
\156\371\237\216\020\017\102\004\374\127\101\376\122\077\261\061
\224\157\360\155\324\116\005\335\236\053\000\137\301\022\176\102
\144\247\141\026\061\117\174\276\016\310\343\020\373\056\367\025
\145\247\124\312\135\244\314\054\314\170\000\275\001\327\315\337
\320\333\063\335\211\247\024\327\242\041\274\065\326\016

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Post.Trust Root CA"
Issuer: CN=Post.Trust Root CA,OU=Post.Trust Ltd.,O=An Post,C=IE
Serial Number:39:a2:93:e3
Subject: CN=Post.Trust Root CA,OU=Post.Trust Ltd.,O=An Post,C=IE
Not Valid Before: Tue Aug 22 14:56:21 2000
Not Valid After: Fri Aug 20 13:56:21 2010
Fingerprint (MD5): af:b8:33:6e:7c:dd:c6:02:64:ad:58:fc:0d:4f:7b:cf
Fingerprint (SHA1): bc:7b:3c:6f:ef:26:b9:f7:ab:10:d7:a1:f6:b6:7c:5e:d2:a1:2d:3d
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE


```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Post.Trust Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\274\173\074\157\357\046\271\367\253\020\327\241\366\266\174\136
\322\241\055\075
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\257\270\063\156\174\335\306\002\144\255\130\374\015\117\173\317
END
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\020\060\016\006\003\125\004\012\023\007\101\156\040\120\157\163
\164\061\030\060\026\006\003\125\004\013\023\017\120\157\163\164
\056\124\162\165\163\164\040\114\164\144\056\061\033\060\031\006
\003\125\004\003\023\022\120\157\163\164\056\124\162\165\163\164
\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\071\242\223\343
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Microsoft Root Authority"
# Issuer: CN=Microsoft Root Authority,OU=Microsoft Corporation,OU=Copyright (c) 1997 Microsoft Corp.
# Serial Number:c1:00:8b:3c:3c:88:11:d1:3e:f6:63:ec:df:40
# Subject: CN=Microsoft Root Authority,OU=Microsoft Corporation,OU=Copyright (c) 1997 Microsoft Corp.
# Not Valid Before: Fri Jan 10 07:00:00 1997
# Not Valid After: Thu Dec 31 07:00:00 2020
# Fingerprint (MD5): 2a:95:4e:ca:79:b2:87:45:73:d9:2d:90:ba:f9:9f:b6
# Fingerprint (SHA1): a4:34:89:15:9a:52:0f:0d:93:d0:32:cc:af:37:e7:fe:20:a8:b4:19
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft Root Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\160\061\053\060\051\006\003\125\004\013\023\042\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\061\071\071\067\040
\115\151\143\162\157\163\157\146\164\040\103\157\162\160\056\061
\036\060\034\006\003\125\004\013\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\041\060\037\006\003\125\004\003\023\030\115\151\143\162\157\163
```

\157\146\164\040\122\157\157\164\040\101\165\164\150\157\162\151
\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\160\061\053\060\051\006\003\125\004\013\023\042\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\061\071\071\067\040
\115\151\143\162\157\163\157\146\164\040\103\157\162\160\056\061
\036\060\034\006\003\125\004\013\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\041\060\037\006\003\125\004\003\023\030\115\151\143\162\157\163
\157\146\164\040\122\157\157\164\040\101\165\164\150\157\162\151
\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\000\301\000\213\074\074\210\021\321\076\366\143\354\337
\100
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\022\060\202\002\372\240\003\002\001\002\002\017\000
\301\000\213\074\074\210\021\321\076\366\143\354\337\100\060\015
\006\011\052\206\110\206\367\015\001\001\004\005\000\060\160\061
\053\060\051\006\003\125\004\013\023\042\103\157\160\171\162\151
\147\150\164\040\050\143\051\040\061\071\071\067\040\115\151\143
\162\157\163\157\146\164\040\103\157\162\160\056\061\036\060\034
\006\003\125\004\013\023\025\115\151\143\162\157\163\157\146\164
\040\103\157\162\160\157\162\141\164\151\157\156\061\041\060\037
\006\003\125\004\003\023\030\115\151\143\162\157\163\157\146\164
\040\122\157\157\164\040\101\165\164\150\157\162\151\164\171\060
\036\027\015\071\067\060\061\061\060\060\067\060\060\060\060\132
\027\015\062\060\061\062\063\061\060\067\060\060\060\060\132\060
\160\061\053\060\051\006\003\125\004\013\023\042\103\157\160\171
\162\151\147\150\164\040\050\143\051\040\061\071\071\067\040\115
\151\143\162\157\163\157\146\164\040\103\157\162\160\056\061\036
\060\034\006\003\125\004\013\023\025\115\151\143\162\157\163\157
\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061\041
\060\037\006\003\125\004\003\023\030\115\151\143\162\157\163\157
\146\164\040\122\157\157\164\040\101\165\164\150\157\162\151\164
\171\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\251\002\275\301\160\346\073\362\116\033\050\237\227\170
\136\060\352\242\251\215\045\137\370\376\225\114\243\267\376\235
\242\040\076\174\121\242\233\242\217\140\062\153\321\102\144\171
\356\254\166\311\124\332\362\353\234\206\034\217\237\204\146\263
\305\153\172\142\043\326\035\074\336\017\001\222\350\226\304\277
\055\146\232\232\150\046\231\320\072\054\277\014\265\130\046\301
\106\347\012\076\070\226\054\251\050\071\250\354\111\203\102\343
\204\017\273\232\154\125\141\254\202\174\241\140\055\167\114\351

\231\264\144\073\232\120\034\061\010\044\024\237\251\347\221\053
\030\346\075\230\143\024\140\130\005\145\237\035\067\122\207\367
\247\357\224\002\306\033\323\277\125\105\263\211\200\277\072\354
\124\224\116\256\375\247\172\155\164\116\257\030\314\226\011\050
\041\000\127\220\140\151\067\273\113\022\007\074\126\377\133\373
\244\146\012\010\246\322\201\126\127\357\266\073\136\026\201\167
\004\332\366\276\256\200\225\376\260\315\177\326\247\032\162\134
\074\312\274\360\010\243\042\060\263\006\205\311\263\040\167\023
\205\337\002\003\001\000\001\243\201\250\060\201\245\060\201\242
\006\003\125\035\001\004\201\232\060\201\227\200\020\133\320\160
\357\151\162\236\043\121\176\024\262\115\216\377\313\241\162\060
\160\061\053\060\051\006\003\125\004\013\023\042\103\157\160\171
\162\151\147\150\164\040\050\143\051\040\061\071\071\067\040\115
\151\143\162\157\163\157\146\164\040\103\157\162\160\056\061\036
\060\034\006\003\125\004\013\023\025\115\151\143\162\157\163\157
\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061\041
\060\037\006\003\125\004\003\023\030\115\151\143\162\157\163\157
\146\164\040\122\157\157\164\040\101\165\164\150\157\162\151\164
\171\202\017\000\301\000\213\074\074\210\021\321\076\366\143\354
\337\100\060\015\006\011\052\206\110\206\367\015\001\001\004\005
\000\003\202\001\001\000\225\350\013\300\215\363\227\030\065\355
\270\001\044\330\167\021\363\134\140\062\237\236\013\313\076\005
\221\210\217\311\072\346\041\362\360\127\223\054\265\240\107\310
\142\357\374\327\314\073\073\132\251\066\124\151\376\044\155\077
\311\314\252\336\005\174\335\061\215\075\237\020\160\152\273\376
\022\117\030\151\300\374\320\103\343\021\132\040\117\352\142\173
\257\252\031\310\053\067\045\055\276\145\241\022\212\045\017\143
\243\367\124\034\371\041\311\326\025\363\122\254\156\103\062\007
\375\202\027\370\345\147\154\015\121\366\275\361\122\307\275\347
\304\060\374\040\061\011\210\035\225\051\032\115\325\035\002\245
\361\200\340\003\264\133\364\261\335\310\127\356\145\111\307\122
\124\266\264\003\050\022\377\220\326\360\010\217\176\270\227\305
\253\067\054\344\172\344\250\167\343\166\240\000\320\152\077\301
\322\066\212\340\101\022\250\065\152\033\152\333\065\341\324\034
\004\344\250\105\004\310\132\063\070\156\115\034\015\142\267\012
\242\214\323\325\124\077\106\315\034\125\246\160\333\022\072\207
\223\165\237\247\322\240

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Microsoft Root Authority"
Issuer: CN=Microsoft Root Authority,OU=Microsoft Corporation,OU=Copyright (c) 1997 Microsoft Corp.
Serial Number:c1:00:8b:3c:3c:88:11:d1:3e:f6:63:ec:df:40
Subject: CN=Microsoft Root Authority,OU=Microsoft Corporation,OU=Copyright (c) 1997 Microsoft Corp.
Not Valid Before: Fri Jan 10 07:00:00 1997

```
# Not Valid After: Thu Dec 31 07:00:00 2020
# Fingerprint (MD5): 2a:95:4e:ca:79:b2:87:45:73:d9:2d:90:ba:f9:9f:b6
# Fingerprint (SHA1): a4:34:89:15:9a:52:0f:0d:93:d0:32:cc:af:37:e7:fe:20:a8:b4:19
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft Root Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\244\064\211\025\232\122\017\015\223\320\062\314\257\067\347\376
\040\250\264\031
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\052\225\116\312\171\262\207\105\163\331\055\220\272\371\237\266
END
CKA_ISSUER MULTILINE_OCTAL
\060\160\061\053\060\051\006\003\125\004\013\023\042\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\061\071\071\067\040
\115\151\143\162\157\163\157\146\164\040\103\157\162\160\056\061
\036\060\034\006\003\125\004\013\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\041\060\037\006\003\125\004\003\023\030\115\151\143\162\157\163
\157\146\164\040\122\157\157\164\040\101\165\164\150\157\162\151
\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\000\301\000\213\074\074\210\021\321\076\366\143\354\337
\100
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Microsoft Root Certificate Authority"
# Issuer: CN=Microsoft Root Certificate Authority,DC=microsoft,DC=com
# Serial Number: 79:ad:16:a1:4a:a0:a5:ad:4c:73:58:f4:07:13:2e:65
# Subject: CN=Microsoft Root Certificate Authority,DC=microsoft,DC=com
# Not Valid Before: Wed May 09 23:19:22 2001
# Not Valid After: Sun May 09 23:28:13 2021
# Fingerprint (MD5): e1:c0:7e:a0:aa:bb:d4:b7:7b:84:c2:28:11:78:08:a7
# Fingerprint (SHA1): cd:d4:ee:ae:60:00:ac:7f:40:c3:80:2c:17:1e:30:14:80:30:c0:72
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft Root Certificate Authority"
```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\137\061\023\060\021\006\012\011\222\046\211\223\362\054\144
\001\031\026\003\143\157\155\061\031\060\027\006\012\011\222\046
\211\223\362\054\144\001\031\026\011\155\151\143\162\157\163\157
\146\164\061\055\060\053\006\003\125\004\003\023\044\115\151\143
\162\157\163\157\146\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\137\061\023\060\021\006\012\011\222\046\211\223\362\054\144
\001\031\026\003\143\157\155\061\031\060\027\006\012\011\222\046
\211\223\362\054\144\001\031\026\011\155\151\143\162\157\163\157
\146\164\061\055\060\053\006\003\125\004\003\023\044\115\151\143
\162\157\163\157\146\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\171\255\026\241\112\240\245\255\114\163\130\364\007\023
\056\145

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\231\060\202\003\201\240\003\002\001\002\002\020\171
\255\026\241\112\240\245\255\114\163\130\364\007\023\056\145\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\137
\061\023\060\021\006\012\011\222\046\211\223\362\054\144\001\031
\026\003\143\157\155\061\031\060\027\006\012\011\222\046\211\223
\362\054\144\001\031\026\011\155\151\143\162\157\163\157\146\164
\061\055\060\053\006\003\125\004\003\023\044\115\151\143\162\157
\163\157\146\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171\060
\036\027\015\060\061\060\065\060\071\062\063\061\071\062\062\132
\027\015\062\061\060\065\060\071\062\063\062\070\061\063\132\060
\137\061\023\060\021\006\012\011\222\046\211\223\362\054\144\001
\031\026\003\143\157\155\061\031\060\027\006\012\011\222\046\211
\223\362\054\144\001\031\026\011\155\151\143\162\157\163\157\146
\164\061\055\060\053\006\003\125\004\003\023\044\115\151\143\162
\157\163\157\146\164\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\363\135\372\200\147\324\132\247\251\014\054\220\040\320\065
\010\074\165\204\315\267\007\211\234\211\332\336\316\303\140\372
\221\150\132\236\224\161\051\030\166\174\302\340\310\045\166\224
\016\130\372\004\064\066\346\337\257\367\200\272\351\130\013\053

\223\345\235\005\343\167\042\221\367\064\144\074\042\221\035\136
\341\011\220\274\024\376\374\165\130\031\341\171\267\007\222\243
\256\210\131\010\330\237\007\312\003\130\374\150\051\155\062\327
\322\250\313\113\374\341\013\110\062\117\346\353\270\255\117\344
\134\157\023\224\231\333\225\325\165\333\250\032\267\224\221\264
\167\133\365\110\014\217\152\171\175\024\160\004\175\155\257\220
\365\332\160\330\107\267\277\233\057\154\347\005\267\341\021\140
\254\171\221\024\174\305\326\246\344\341\176\325\303\176\345\222
\322\074\000\265\066\202\336\171\341\155\363\265\156\370\237\063
\311\313\122\175\163\230\066\333\213\241\153\242\225\227\233\243
\336\302\115\046\377\006\226\147\045\006\310\347\254\344\356\022
\063\225\061\231\310\065\010\116\064\312\171\123\325\265\276\143
\062\131\100\066\300\245\116\004\115\075\333\133\007\063\344\130
\277\357\077\123\144\330\102\131\065\127\375\017\105\174\044\004
\115\236\326\070\164\021\227\042\220\316\150\104\164\222\157\325
\113\157\260\206\343\307\066\102\240\320\374\301\300\132\371\243
\141\271\060\107\161\226\012\026\260\221\300\102\225\357\020\177
\050\152\343\052\037\261\344\315\003\077\167\161\004\307\040\374
\111\017\035\105\210\244\327\313\176\210\255\216\055\354\105\333
\304\121\004\311\052\374\354\206\236\232\021\227\133\336\316\123
\210\346\342\267\375\254\225\302\050\100\333\357\004\220\337\201
\063\071\331\262\105\245\043\207\006\245\125\211\061\273\006\055
\140\016\101\030\175\037\056\265\227\313\021\353\025\325\044\245
\224\357\025\024\211\375\113\163\372\062\133\374\321\063\000\371
\131\142\160\007\062\352\056\253\100\055\173\312\335\041\147\033
\060\231\217\026\252\043\250\101\321\260\156\021\233\066\304\336
\100\164\234\341\130\145\301\140\036\172\133\070\310\217\273\004
\046\174\324\026\100\345\266\153\154\252\206\375\000\277\316\301
\065\002\003\001\000\001\243\121\060\117\060\013\006\003\125\035
\017\004\004\003\002\001\306\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\016\254\202\140\100\126\047\227\345\045\023\374\052
\341\012\123\225\131\344\244\060\020\006\011\053\006\001\004\001
\202\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\002\001\000\305\021\115
\003\072\140\335\135\122\021\167\217\262\273\066\310\262\005\277
\264\267\250\330\040\235\134\023\003\266\034\042\372\006\023\065
\266\310\143\324\232\107\157\046\127\322\125\361\004\261\046\137
\326\251\120\150\240\274\322\270\156\314\303\351\254\337\031\315
\170\254\131\164\254\146\064\066\304\033\076\154\070\114\063\016
\060\022\015\243\046\376\121\123\000\377\257\132\116\204\015\017
\037\344\155\005\056\116\205\113\215\154\063\157\124\322\144\253
\277\120\257\175\172\071\240\067\355\143\003\017\374\023\006\316
\026\066\324\124\073\225\033\121\142\072\345\115\027\324\005\071
\222\232\047\250\133\252\275\354\273\276\343\040\211\140\161\154
\126\263\245\023\320\155\016\043\176\225\003\355\150\075\362\330
\143\270\153\115\266\350\060\265\341\312\224\113\367\242\252\135
\231\060\262\075\247\302\121\154\050\040\001\044\047\053\113\000

```
\267\235\021\153\160\276\262\020\202\274\014\233\150\320\215\073
\044\207\252\231\050\162\235\063\137\131\220\275\365\336\223\236
\072\142\132\064\071\342\210\125\035\271\006\260\301\211\153\055
\327\151\303\031\022\066\204\320\311\240\332\377\057\151\170\262
\345\172\332\353\327\014\300\367\275\143\027\270\071\023\070\242
\066\133\173\362\205\126\152\035\144\142\301\070\342\252\277\121
\146\242\224\365\022\234\146\042\020\153\362\267\060\222\055\362
\051\360\075\073\024\103\150\242\361\234\051\067\313\316\070\040
\045\155\174\147\363\176\044\022\044\003\010\201\107\354\245\236
\227\365\030\327\317\273\325\357\166\226\357\375\316\333\126\235
\225\240\102\371\227\130\341\327\061\042\323\137\131\346\076\156
\042\000\352\103\204\266\045\333\331\363\010\126\150\300\144\153
\035\174\354\266\223\242\142\127\156\056\330\347\130\217\304\061
\111\046\335\336\051\065\207\365\060\161\160\133\024\074\151\275
\211\022\175\353\056\243\376\330\177\236\202\132\122\012\053\301
\103\053\331\060\210\237\310\020\373\211\215\346\241\205\165\063
\176\154\236\333\163\023\144\142\151\245\057\175\312\226\155\237
\370\004\115\060\222\075\156\041\024\041\311\075\340\303\375\212
\153\235\112\375\321\241\235\231\103\167\077\260\332
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "Microsoft Root Certificate Authority"

Issuer: CN=Microsoft Root Certificate Authority,DC=microsoft,DC=com

Serial Number: 79:ad:16:a1:4a:a0:a5:ad:4c:73:58:f4:07:13:2e:65

Subject: CN=Microsoft Root Certificate Authority,DC=microsoft,DC=com

Not Valid Before: Wed May 09 23:19:22 2001

Not Valid After: Sun May 09 23:28:13 2021

Fingerprint (MD5): e1:c0:7e:a0:aa:bb:d4:b7:7b:84:c2:28:11:78:08:a7

Fingerprint (SHA1): cd:d4:ee:ae:60:00:ac:7f:40:c3:80:2c:17:1e:30:14:80:30:c0:72

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Microsoft Root Certificate Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\315\324\356\256\140\000\254\177\100\303\200\054\027\036\060\024
\200\060\300\162
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\341\300\176\240\252\273\324\267\173\204\302\050\021\170\010\247
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\137\061\023\060\021\006\012\011\222\046\211\223\362\054\144
\001\031\026\003\143\157\155\061\031\060\027\006\012\011\222\046
```

```
\211\223\362\054\144\001\031\026\011\155\151\143\162\157\163\157
\146\164\061\055\060\053\006\003\125\004\003\023\044\115\151\143
\162\157\163\157\146\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\171\255\026\241\112\240\245\255\114\163\130\364\007\023
\056\145
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Certificate "Microsoft Root Certificate Authority 2010"

Issuer: CN=Microsoft Root Certificate Authority 2010,O=Microsoft Corporation,L=Redmond,ST=Washington,C=US

Serial Number:28:cc:3a:25:bf:ba:44:ac:44:9a:9b:58:6b:43:39:aa

Subject: CN=Microsoft Root Certificate Authority 2010,O=Microsoft Corporation,L=Redmond,ST=Washington,C=US

Not Valid Before: Wed Jun 23 21:57:24 2010

Not Valid After: Sat Jun 23 22:04:01 2035

Fingerprint (MD5): a2:66:bb:7d:cc:38:a5:62:63:13:61:bb:f6:1d:d1:1b

Fingerprint (SHA1): 3b:1e:fd:3a:66:ea:28:b1:66:97:39:47:03:a7:2c:a3:40:a0:5b:d5

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsoft Root Certificate Authority 2010"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\062\060\060\006\003\125\004\003
\023\051\115\151\143\162\157\163\157\146\164\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\062\060\061\060
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
```


\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\062\060\060\006\003\125\004\003
\023\051\115\151\143\162\157\163\157\146\164\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\062\060\061\060

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\050\314\072\045\277\272\104\254\104\232\233\130\153\103
\071\252

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\355\060\202\003\325\240\003\002\001\002\002\020\050
\314\072\045\277\272\104\254\104\232\233\130\153\103\071\252\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\210\061\013\060\011\006\003\125\004\006\023\002\125\123\061\023
\060\021\006\003\125\004\010\023\012\127\141\163\150\151\156\147
\164\157\156\061\020\060\016\006\003\125\004\007\023\007\122\145
\144\155\157\156\144\061\036\060\034\006\003\125\004\012\023\025
\115\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162
\141\164\151\157\156\061\062\060\060\006\003\125\004\003\023\051
\115\151\143\162\157\163\157\146\164\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\040\062\060\061\060\060\036\027\015\061\060\060
\066\062\063\062\061\065\067\062\064\132\027\015\063\065\060\066
\062\063\062\062\060\064\060\061\132\060\201\210\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125
\004\010\023\012\127\141\163\150\151\156\147\164\157\156\061\020
\060\016\006\003\125\004\007\023\007\122\145\144\155\157\156\144
\061\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157
\163\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156
\061\062\060\060\006\003\125\004\003\023\051\115\151\143\162\157
\163\157\146\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040
\062\060\061\060\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\271\010\236\050\344\344\354\006\116\120\150
\263\101\305\173\353\256\266\216\257\201\272\042\104\037\145\064
\151\114\276\160\100\027\362\026\173\342\171\375\206\355\015\071
\364\033\250\255\222\220\036\313\075\166\217\132\331\265\221\020
\056\074\005\215\212\155\044\124\347\037\355\126\255\203\264\120
\234\025\245\027\164\210\131\040\374\010\305\204\166\323\150\324
\157\050\170\316\134\270\363\120\220\104\377\343\143\137\276\241
\232\054\226\025\004\326\007\376\036\204\041\340\102\061\021\304
\050\066\224\317\120\244\142\236\311\326\253\161\000\262\133\014
\346\226\324\012\044\226\365\377\306\325\267\033\327\313\267\041
\142\257\022\334\241\135\067\343\032\373\032\106\230\300\233\300
\347\143\037\052\010\223\002\176\036\152\216\362\237\030\211\344

\042\205\242\261\204\127\100\377\365\016\330\157\234\355\342\105
\061\001\315\027\351\177\260\201\105\343\252\041\100\046\241\162
\252\247\117\074\001\005\176\356\203\130\261\136\006\143\231\142
\221\170\202\267\015\223\014\044\152\264\033\333\047\354\137\225
\004\077\223\112\060\365\227\030\263\247\371\031\247\223\063\035
\001\310\333\042\122\134\327\045\311\106\371\242\373\207\131\103
\276\233\142\261\215\055\206\104\032\106\254\170\141\176\060\011
\372\256\211\304\101\052\042\146\003\221\071\105\234\307\213\014
\250\312\015\057\373\122\352\014\367\143\063\043\235\376\260\037
\255\147\326\247\120\003\306\004\160\143\265\054\261\206\132\103
\267\373\256\371\156\051\156\041\041\101\046\006\214\311\303\356
\260\302\205\223\241\271\205\331\346\062\154\113\114\077\326\135
\243\345\265\235\167\303\234\300\125\267\164\000\343\270\070\253
\203\227\120\341\232\102\044\035\306\300\243\060\321\032\132\310
\122\064\367\163\361\307\030\037\063\255\172\354\313\101\140\363
\043\224\040\302\110\105\254\134\121\306\056\200\302\342\167\025
\275\205\207\355\066\235\226\221\356\000\265\243\160\354\237\343
\215\200\150\203\166\272\257\135\160\122\042\026\342\146\373\272
\263\305\302\367\076\057\167\246\312\336\301\246\306\110\114\303
\067\121\043\323\047\327\270\116\160\226\360\241\104\166\257\170
\317\232\341\146\023\002\003\001\000\001\243\121\060\117\060\013
\006\003\125\035\017\004\004\003\002\001\206\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\325\366\126\313\217\350\242\134\142
\150\321\075\224\220\133\327\316\232\030\304\060\020\006\011\053
\006\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001
\000\254\245\226\214\277\273\256\246\366\327\161\207\103\061\126
\210\375\034\062\161\133\065\267\324\360\221\362\257\067\342\024
\361\363\002\046\005\076\026\024\177\024\272\270\117\373\211\262
\262\347\324\011\314\155\271\133\073\144\145\160\146\267\362\261
\132\337\032\002\363\365\121\270\147\155\171\363\277\126\173\344
\204\271\053\036\233\100\234\046\064\371\107\030\230\151\330\034
\327\266\321\277\217\141\302\147\304\265\357\140\103\216\020\033
\066\111\344\040\312\255\247\301\261\047\145\011\370\315\365\133
\052\320\204\063\363\357\037\362\365\234\013\130\223\067\240\165
\240\336\162\336\154\165\052\146\042\365\214\006\060\126\237\100
\271\060\252\100\167\025\202\327\213\354\300\323\262\275\203\305
\167\014\036\256\257\031\123\240\115\171\161\237\017\257\060\316
\147\371\326\054\314\042\101\172\007\362\227\102\030\316\131\171
\020\125\336\157\020\344\270\332\203\146\100\026\011\150\043\133
\227\056\046\232\002\273\127\214\305\270\272\151\142\062\200\211
\236\241\375\300\222\174\173\053\063\031\204\052\143\305\000\150
\142\372\237\107\215\231\172\105\072\247\351\355\356\151\102\265
\363\201\233\107\126\020\173\374\160\066\204\030\163\352\357\371
\227\115\236\063\043\335\046\013\272\052\267\077\104\334\203\047
\377\275\141\131\053\021\267\312\117\333\305\213\014\034\061\256
\062\370\370\271\102\367\177\334\141\232\166\261\132\004\341\021

```
\075\146\105\267\030\161\276\311\044\205\326\363\324\272\101\064
\135\022\055\045\271\215\246\023\110\155\113\260\007\175\231\223
\011\141\201\164\127\046\212\253\151\343\344\331\307\210\314\044
\330\354\122\044\134\036\274\221\024\342\226\336\353\012\332\236
\335\137\263\133\333\324\202\354\306\040\120\207\045\100\072\373
\307\356\315\376\063\345\156\303\204\011\125\003\045\071\300\351
\065\135\145\061\250\366\277\240\011\315\051\307\263\066\062\056
\334\225\363\203\301\132\317\213\215\366\352\263\041\370\244\355
\036\061\016\266\114\021\253\140\013\244\022\043\042\027\243\066
\144\202\221\004\022\340\253\157\036\313\120\005\141\264\100\377
\131\206\161\321\325\063\151\174\251\163\212\070\327\144\014\361
\151
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "Microsoft Root Certificate Authority 2010"
```

```
# Issuer: CN=Microsoft Root Certificate Authority 2010,O=Microsoft
Corporation,L=Redmond,ST=Washington,C=US
```

```
# Serial Number:28:cc:3a:25:bf:ba:44:ac:44:9a:9b:58:6b:43:39:aa
```

```
# Subject: CN=Microsoft Root Certificate Authority 2010,O=Microsoft
Corporation,L=Redmond,ST=Washington,C=US
```

```
# Not Valid Before: Wed Jun 23 21:57:24 2010
```

```
# Not Valid After: Sat Jun 23 22:04:01 2035
```

```
# Fingerprint (MD5): a2:66:bb:7d:cc:38:a5:62:63:13:61:bb:f6:1d:d1:1b
```

```
# Fingerprint (SHA1): 3b:1e:fd:3a:66:ea:28:b1:66:97:39:47:03:a7:2c:a3:40:a0:5b:d5
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Microsoft Root Certificate Authority 2010"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\073\036\375\072\146\352\050\261\146\227\071\107\003\247\054\243
\100\240\133\325
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\242\146\273\175\314\070\245\142\143\023\141\273\366\035\321\033
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\062\060\060\006\003\125\004\003
\023\051\115\151\143\162\157\163\157\146\164\040\122\157\157\164
```

\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\062\060\061\060

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\050\314\072\045\277\272\104\254\104\232\233\130\153\103
\071\252

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Entrust.net Secure Server Certification Authority"

Issuer: CN=Entrust.net Secure Server Certification Authority,OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS incorp. by ref. (limits liab.),O=Entrust.net,C=US

Serial Number:37:4a:d2:43

Subject: CN=Entrust.net Secure Server Certification Authority,OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS incorp. by ref. (limits liab.),O=Entrust.net,C=US

Not Valid Before: Tue May 25 16:09:40 1999

Not Valid After: Sat May 25 16:39:40 2019

Fingerprint (MD5): df:f2:80:73:cc:f1:e6:61:73:fc:f5:42:e9:c5:7c:ee

Fingerprint (SHA1): 99:a6:9b:e6:1a:fe:88:6b:4d:2b:82:00:7c:b8:54:fc:31:7e:15:39

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust.net Secure Server Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\303\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\024\060\022\006\003\125\004\012\023\013\105\156\164\162\165
\163\164\056\156\145\164\061\073\060\071\006\003\125\004\013\023
\062\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164
\057\103\120\123\040\151\156\143\157\162\160\056\040\142\171\040
\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151\141
\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050\143
\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056\156
\145\164\040\114\151\155\151\164\145\144\061\072\060\070\006\003
\125\004\003\023\061\105\156\164\162\165\163\164\056\156\145\164
\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\303\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\024\060\022\006\003\125\004\012\023\013\105\156\164\162\165

\163\164\056\156\145\164\061\073\060\071\006\003\125\004\013\023
\062\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164
\057\103\120\123\040\151\156\143\157\162\160\056\040\142\171\040
\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151\141
\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050\143
\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056\156
\145\164\040\114\151\155\151\164\145\144\061\072\060\070\006\003
\125\004\003\023\061\105\156\164\162\165\163\164\056\156\145\164
\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\067\112\322\103

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\330\060\202\004\101\240\003\002\001\002\002\004\067
\112\322\103\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\303\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\024\060\022\006\003\125\004\012\023\013\105\156\164
\162\165\163\164\056\156\145\164\061\073\060\071\006\003\125\004
\013\023\062\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\156\143\157\162\160\056\040\142
\171\040\162\145\146\056\040\050\154\151\155\151\164\163\040\154
\151\141\142\056\051\061\045\060\043\006\003\125\004\013\023\034
\050\143\051\040\061\071\071\071\040\105\156\164\162\165\163\164
\056\156\145\164\040\114\151\155\151\164\145\144\061\072\060\070
\006\003\125\004\003\023\061\105\156\164\162\165\163\164\056\156
\145\164\040\123\145\143\165\162\145\040\123\145\162\166\145\162
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\060\036\027\015\071\071\060\065
\062\065\061\066\060\071\064\060\132\027\015\061\071\060\065\062
\065\061\066\063\071\064\060\132\060\201\303\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125\004
\012\023\013\105\156\164\162\165\163\164\056\156\145\164\061\073
\060\071\006\003\125\004\013\023\062\167\167\167\056\145\156\164
\162\165\163\164\056\156\145\164\057\103\120\123\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\072\060\070\006\003\125\004\003\023\061\105\156\164
\162\165\163\164\056\156\145\164\040\123\145\143\165\162\145\040
\123\145\162\166\145\162\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\201
\235\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\201\213\000\060\201\207\002\201\201\000\315\050\203\064\124
\033\211\363\017\257\067\221\061\377\257\061\140\311\250\350\262

\020\150\355\237\347\223\066\361\012\144\273\107\365\004\027\077
\043\107\115\305\047\031\201\046\014\124\162\015\210\055\331\037
\232\022\237\274\263\161\323\200\031\077\107\146\173\214\065\050
\322\271\012\337\044\332\234\326\120\171\201\172\132\323\067\367
\302\112\330\051\222\046\144\321\344\230\154\072\000\212\365\064
\233\145\370\355\343\020\377\375\270\111\130\334\240\336\202\071
\153\201\261\026\031\141\271\124\266\346\103\002\001\003\243\202
\001\327\060\202\001\323\060\021\006\011\140\206\110\001\206\370
\102\001\001\004\004\003\002\000\007\060\202\001\031\006\003\125
\035\037\004\202\001\020\060\202\001\014\060\201\336\240\201\333
\240\201\330\244\201\325\060\201\322\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\024\060\022\006\003\125\004\012\023
\013\105\156\164\162\165\163\164\056\156\145\164\061\073\060\071
\006\003\125\004\013\023\062\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\103\120\123\040\151\156\143\157\162
\160\056\040\142\171\040\162\145\146\056\040\050\154\151\155\151
\164\163\040\154\151\141\142\056\051\061\045\060\043\006\003\125
\004\013\023\034\050\143\051\040\061\071\071\071\040\105\156\164
\162\165\163\164\056\156\145\164\040\114\151\155\151\164\145\144
\061\072\060\070\006\003\125\004\003\023\061\105\156\164\162\165
\163\164\056\156\145\164\040\123\145\143\165\162\145\040\123\145
\162\166\145\162\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\015\060\013
\006\003\125\004\003\023\004\103\122\114\061\060\051\240\047\240
\045\206\043\150\164\164\160\072\057\057\167\167\167\056\145\156
\164\162\165\163\164\056\156\145\164\057\103\122\114\057\156\145
\164\061\056\143\162\154\060\053\006\003\125\035\020\004\044\060
\042\200\017\061\071\071\071\060\065\062\065\061\066\060\071\064
\060\132\201\017\062\060\061\071\060\065\062\065\061\066\060\071
\064\060\132\060\013\006\003\125\035\017\004\004\003\002\001\006
\060\037\006\003\125\035\043\004\030\060\026\200\024\360\027\142
\023\125\075\263\377\012\000\153\373\120\204\227\363\355\142\320
\032\060\035\006\003\125\035\016\004\026\004\024\360\027\142\023
\125\075\263\377\012\000\153\373\120\204\227\363\355\142\320\032
\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060\031
\006\011\052\206\110\206\366\175\007\101\000\004\014\060\012\033
\004\126\064\056\060\003\002\004\220\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\201\201\000\220\334\060\002
\372\144\164\302\247\012\245\174\041\215\064\027\250\373\107\016
\377\045\174\215\023\012\373\344\230\265\357\214\370\305\020\015
\367\222\276\361\303\325\325\225\152\004\273\054\316\046\066\145
\310\061\306\347\356\077\343\127\165\204\172\021\357\106\117\030
\364\323\230\273\250\207\062\272\162\366\074\342\075\237\327\035
\331\303\140\103\214\130\016\042\226\057\142\243\054\037\272\255
\005\357\253\062\170\207\240\124\163\031\265\134\005\371\122\076
\155\055\105\013\367\012\223\352\355\006\371\262

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "Entrust.net Secure Server Certification Authority"

Issuer: CN=Entrust.net Secure Server Certification Authority,OU=(c) 1999 Entrust.net

Limited,OU=www.entrust.net/CPS incorp. by ref. (limits liab.),O=Entrust.net,C=US

Serial Number:37:4a:d2:43

Subject: CN=Entrust.net Secure Server Certification Authority,OU=(c) 1999 Entrust.net

Limited,OU=www.entrust.net/CPS incorp. by ref. (limits liab.),O=Entrust.net,C=US

Not Valid Before: Tue May 25 16:09:40 1999

Not Valid After: Sat May 25 16:39:40 2019

Fingerprint (MD5): df:f2:80:73:cc:f1:e6:61:73:fc:f5:42:e9:c5:7c:ee

Fingerprint (SHA1): 99:a6:9b:e6:1a:fe:88:6b:4d:2b:82:00:7c:b8:54:fc:31:7e:15:39

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust.net Secure Server Certification Authority"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\231\246\233\346\032\376\210\153\115\053\202\000\174\270\124\374
\061\176\025\071

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\337\362\200\163\314\361\346\141\163\374\365\102\351\305\174\356
END

CKA_ISSUER MULTILINE_OCTAL

\060\201\303\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\024\060\022\006\003\125\004\012\023\013\105\156\164\162\165
\163\164\056\156\145\164\061\073\060\071\006\003\125\004\013\023
\062\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164
\057\103\120\123\040\151\156\143\157\162\160\056\040\142\171\040
\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151\141
\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050\143
\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056\156
\145\164\040\114\151\155\151\164\145\144\061\072\060\070\006\003
\125\004\003\023\061\105\156\164\162\165\163\164\056\156\145\164
\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\067\112\322\103

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```
# Microsoft Code Signing Only Certificate
# Certificate "UTN-USERFirst-Object"
# Issuer: CN=UTN-USERFirst-Object,OU=http://www.usertrust.com,O=The USERTRUST Network,L=Salt Lake
City,ST=UT,C=US
# Serial Number:44:be:0c:8b:50:00:24:b4:11:d3:36:2d:e0:b3:5f:1b
# Subject: CN=UTN-USERFirst-Object,OU=http://www.usertrust.com,O=The USERTRUST Network,L=Salt Lake
City,ST=UT,C=US
# Not Valid Before: Fri Jul 09 18:31:20 1999
# Not Valid After: Tue Jul 09 18:40:36 2019
# Fingerprint (MD5): a7:f2:e4:16:06:41:11:50:30:6b:9c:e3:b4:9c:b0:c9
# Fingerprint (SHA1): e1:2d:fb:4b:41:d7:d9:c3:2b:30:51:4b:ac:1d:81:d8:38:5e:2d:46
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UTN-USERFirst-Object"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\225\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\035\060\033\006\003\125
\004\003\023\024\125\124\116\055\125\123\105\122\106\151\162\163
\164\055\117\142\152\145\143\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\225\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\035\060\033\006\003\125
\004\003\023\024\125\124\116\055\125\123\105\122\106\151\162\163
\164\055\117\142\152\145\143\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\104\276\014\213\120\000\044\264\021\323\066\055\340\263
\137\033
END
CKA_VALUE MULTILINE_OCTAL
```


\060\202\004\146\060\202\003\116\240\003\002\001\002\002\020\104
\276\014\213\120\000\044\264\021\323\066\055\340\263\137\033\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\225\061\013\060\011\006\003\125\004\006\023\002\125\123\061\013
\060\011\006\003\125\004\010\023\002\125\124\061\027\060\025\006
\003\125\004\007\023\016\123\141\154\164\040\114\141\153\145\040
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164
\167\157\162\153\061\041\060\037\006\003\125\004\013\023\030\150
\164\164\160\072\057\057\167\167\167\056\165\163\145\162\164\162
\165\163\164\056\143\157\155\061\035\060\033\006\003\125\004\003
\023\024\125\124\116\055\125\123\105\122\106\151\162\163\164\055
\117\142\152\145\143\164\060\036\027\015\071\071\060\067\060\071
\061\070\063\061\062\060\132\027\015\061\071\060\067\060\071\061
\070\064\060\063\066\132\060\201\225\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\013\060\011\006\003\125\004\010\023
\002\125\124\061\027\060\025\006\003\125\004\007\023\016\123\141
\154\164\040\114\141\153\145\040\103\151\164\171\061\036\060\034
\006\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124
\122\125\123\124\040\116\145\164\167\157\162\153\061\041\060\037
\006\003\125\004\013\023\030\150\164\164\160\072\057\057\167\167
\167\056\165\163\145\162\164\162\165\163\164\056\143\157\155\061
\035\060\033\006\003\125\004\003\023\024\125\124\116\055\125\123
\105\122\106\151\162\163\164\055\117\142\152\145\143\164\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\316
\252\201\077\243\243\141\170\252\061\000\125\225\021\236\047\017
\037\034\337\072\233\202\150\060\300\112\141\035\361\057\016\372
\276\171\367\245\043\357\125\121\226\204\315\333\343\271\156\076
\061\330\012\040\147\307\364\331\277\224\353\107\004\076\002\316
\052\242\135\207\004\011\366\060\235\030\212\227\262\252\034\374
\101\322\241\066\313\373\075\221\272\347\331\160\065\372\344\347
\220\303\233\243\233\323\074\365\022\231\167\261\267\011\340\150
\346\034\270\363\224\143\210\152\152\376\013\166\311\276\364\042
\344\147\271\253\032\136\167\301\205\007\335\015\154\277\356\006
\307\167\152\101\236\247\017\327\373\356\224\027\267\374\205\276
\244\253\304\034\061\335\327\266\321\344\360\357\337\026\217\262
\122\223\327\241\324\211\241\007\056\277\341\001\022\102\036\032
\341\330\225\064\333\144\171\050\377\272\056\021\302\345\350\133
\222\110\373\107\013\302\154\332\255\062\203\101\363\245\345\101
\160\375\145\220\155\372\372\121\304\371\275\226\053\031\004\054
\323\155\247\334\360\177\157\203\145\342\152\253\207\206\165\002
\003\001\000\001\243\201\257\060\201\254\060\013\006\003\125\035
\017\004\004\003\002\001\306\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\332\355\144\164\024\234\024\074\253\335\231\251\275
\133\050\115\213\074\311\330\060\102\006\003\125\035\037\004\073
\060\071\060\067\240\065\240\063\206\061\150\164\164\160\072\057

```
\057\143\162\154\056\165\163\145\162\164\162\165\163\164\056\143
\157\155\057\125\124\116\055\125\123\105\122\106\151\162\163\164
\055\117\142\152\145\143\164\056\143\162\154\060\051\006\003\125
\035\045\004\042\060\040\006\010\053\006\001\005\005\007\003\003
\006\010\053\006\001\005\005\007\003\010\006\012\053\006\001\004
\001\202\067\012\003\004\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\001\001\000\010\037\122\261\067\104
\170\333\375\316\271\332\225\226\230\252\125\144\200\265\132\100
\335\041\245\305\301\363\137\054\114\310\107\132\151\352\350\360
\065\065\364\320\045\363\310\246\244\207\112\275\033\261\163\010
\275\324\303\312\266\065\273\131\206\167\061\315\247\200\024\256
\023\357\374\261\110\371\153\045\045\055\121\266\054\155\105\301
\230\310\212\126\135\076\356\103\116\076\153\047\216\320\072\113
\205\013\137\323\355\152\247\165\313\321\132\207\057\071\165\023
\132\162\260\002\201\237\276\360\017\204\124\040\142\154\151\324
\341\115\306\015\231\103\001\015\022\226\214\170\235\277\120\242
\261\104\252\152\317\027\172\317\157\017\324\370\044\125\137\360
\064\026\111\146\076\120\106\311\143\161\070\061\142\270\142\271
\363\123\255\154\265\053\242\022\252\031\117\011\332\136\347\223
\306\216\024\010\376\360\060\200\030\240\206\205\115\310\175\327
\213\003\376\156\325\367\235\026\254\222\054\240\043\345\234\221
\122\037\224\337\027\224\163\303\263\301\301\161\005\040\000\170
\275\023\122\035\250\076\315\000\037\310
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "UTN-USERFirst-Object"
```

```
# Issuer: CN=UTN-USERFirst-Object,OU=http://www.usertrust.com,O=The USERTRUST Network,L=Salt Lake
City,ST=UT,C=US
```

```
# Serial Number:44:be:0c:8b:50:00:24:b4:11:d3:36:2d:e0:b3:5f:1b
```

```
# Subject: CN=UTN-USERFirst-Object,OU=http://www.usertrust.com,O=The USERTRUST Network,L=Salt Lake
City,ST=UT,C=US
```

```
# Not Valid Before: Fri Jul 09 18:31:20 1999
```

```
# Not Valid After: Tue Jul 09 18:40:36 2019
```

```
# Fingerprint (MD5): a7:f2:e4:16:06:41:11:50:30:6b:9c:e3:b4:9c:b0:c9
```

```
# Fingerprint (SHA1): e1:2d:fb:4b:41:d7:d9:c3:2b:30:51:4b:ac:1d:81:d8:38:5e:2d:46
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "UTN-USERFirst-Object"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\341\055\373\113\101\327\331\303\053\060\121\113\254\035\201\330
\070\136\055\106
```

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\247\362\344\026\006\101\021\120\060\153\234\343\264\234\260\311
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\225\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\035\060\033\006\003\125
\004\003\023\024\125\124\116\055\125\123\105\122\106\151\162\163
\164\055\117\142\152\145\143\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\104\276\014\213\120\000\044\264\021\323\066\055\340\263
\137\033
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "BYTE Root Certification Authority 001"
# Issuer: CN=BYTE Root Certification Authority 001,O=BYTE Computer S.A.,C=GR
# Serial Number:71:8c:2f:39:7c:40:74:40
# Subject: CN=BYTE Root Certification Authority 001,O=BYTE Computer S.A.,C=GR
# Not Valid Before: Wed Sep 10 22:01:54 2014
# Not Valid After: Sat Sep 10 22:01:54 2039
# Fingerprint (MD5): fa:fb:82:6a:e5:b3:a2:83:50:9b:83:28:b6:41:42:03
# Fingerprint (SHA1): 3f:0f:eb:17:a7:ef:58:04:cf:d9:0a:77:b7:bb:02:1e:a6:9c:64:18
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BYTE Root Certification Authority 001"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\033\060\031\006\003\125\004\012\014\022\102\131\124\105\040\103
\157\155\160\165\164\145\162\040\123\056\101\056\061\056\060\054
\006\003\125\004\003\014\045\102\131\124\105\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\060\060\061
END
CKA_ID UTF8 "0"

```

CKA_ISSUER MULTILINE_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\033\060\031\006\003\125\004\012\014\022\102\131\124\105\040\103
\157\155\160\165\164\145\162\040\123\056\101\056\061\056\060\054
\006\003\125\004\003\014\045\102\131\124\105\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\060\060\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\161\214\057\071\174\100\164\100

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\231\060\202\003\201\240\003\002\001\002\002\010\161
\214\057\071\174\100\164\100\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\132\061\013\060\011\006\003\125\004
\006\023\002\107\122\061\033\060\031\006\003\125\004\012\014\022
\102\131\124\105\040\103\157\155\160\165\164\145\162\040\123\056
\101\056\061\056\060\054\006\003\125\004\003\014\045\102\131\124
\105\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\060
\060\061\060\036\027\015\061\064\060\071\061\060\062\062\060\061
\065\064\132\027\015\063\071\060\071\061\060\062\062\060\061\065
\064\132\060\132\061\013\060\011\006\003\125\004\006\023\002\107
\122\061\033\060\031\006\003\125\004\012\014\022\102\131\124\105
\040\103\157\155\160\165\164\145\162\040\123\056\101\056\061\056
\060\054\006\003\125\004\003\014\045\102\131\124\105\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\060\060\061\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\355
\022\056\027\163\236\157\364\363\231\350\236\010\127\011\064\044
\021\100\037\214\041\176\033\257\070\303\321\307\346\024\345\372
\033\272\136\146\365\045\151\367\355\315\156\202\160\257\272\102
\360\261\031\134\053\374\105\204\030\054\172\027\117\141\205\106
\031\174\316\301\215\237\124\236\167\045\146\017\340\366\370\222
\312\051\316\047\127\025\052\154\202\070\155\047\346\276\115\163
\016\163\257\343\161\075\274\011\102\017\325\015\241\355\175\153
\256\367\301\360\154\315\302\227\241\130\375\065\025\226\027\114
\237\277\365\361\071\113\160\267\347\112\154\034\077\301\160\133
\317\326\213\353\357\157\060\350\137\310\106\167\041\142\026\136
\306\124\105\071\365\164\272\147\044\150\245\161\133\076\301\373
\011\223\353\042\231\370\322\365\173\002\154\217\130\342\253\357
\335\164\041\344\044\151\224\100\326\301\004\030\016\330\102\360
\375\327\212\005\300\137\033\212\353\056\300\015\007\006\163\001
\205\216\037\301\300\212\241\130\246\121\271\130\221\102\017\156
\341\274\012\350\273\050\203\025\165\345\015\376\111\060\051\051
\102\302\302\066\377\244\074\175\056\367\332\362\242\057\026\274
\141\250\231\130\030\244\111\306\152\007\022\353\033\174\264\316

\347\373\041\200\053\160\246\310\316\255\125\036\037\035\204\320
\375\124\152\114\126\143\310\335\176\240\371\071\333\357\174\132
\367\214\065\245\156\052\126\372\376\343\137\223\124\162\016\150
\343\111\053\223\115\065\042\227\024\225\146\117\247\167\072\056
\045\114\366\011\213\022\033\161\305\162\247\233\271\274\353\034
\240\245\311\124\203\141\334\127\125\255\265\346\332\170\053\166
\247\376\370\333\376\214\063\244\212\243\106\134\255\262\012\022
\016\212\344\120\236\360\270\313\231\123\114\144\041\153\212\070
\052\340\210\206\000\324\027\254\146\262\347\276\055\073\051\345
\370\247\224\333\214\130\370\322\113\060\237\362\304\142\145\120
\107\162\200\317\244\160\100\266\275\104\376\331\277\050\053\056
\067\307\263\121\016\202\051\265\261\157\255\176\054\223\300\251
\177\221\372\307\037\065\360\273\227\311\117\141\050\220\204\101
\350\175\041\100\305\311\206\074\355\232\255\205\234\242\123\002
\003\001\000\001\243\143\060\141\060\035\006\003\125\035\016\004
\026\004\024\264\115\146\267\323\263\310\231\174\001\062\320\221
\072\367\326\250\022\061\336\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\037\006\003\125\035\043\004
\030\060\026\200\024\264\115\146\267\323\263\310\231\174\001\062
\320\221\072\367\326\250\022\061\336\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\003\202\002\001\000\034\032\353
\006\256\125\275\073\077\066\054\141\236\352\307\123\374\160\252
\062\157\344\102\252\353\275\205\354\033\212\132\362\225\226\051
\241\004\006\222\316\044\127\377\100\043\170\116\311\370\060\115
\102\125\104\116\067\242\175\153\216\150\376\016\376\177\337\260
\237\143\121\363\341\305\245\224\237\212\043\050\110\363\101\213
\322\376\170\355\331\320\010\017\155\175\325\235\225\254\325\376
\022\146\032\344\276\165\124\363\321\115\234\116\023\324\236\160
\064\155\250\272\012\063\210\215\255\005\067\376\113\171\177\175
\003\101\171\023\015\237\075\367\070\234\065\132\104\117\076\074
\242\345\201\305\177\137\166\117\033\073\156\157\232\155\267\355
\017\313\062\037\210\264\105\014\234\021\322\370\004\132\023\067
\131\230\201\316\114\364\345\224\050\004\304\265\123\311\124\215
\160\077\150\001\333\314\023\012\344\045\243\154\231\355\020\263
\172\040\251\111\274\005\364\370\033\150\326\272\040\035\202\147
\146\340\260\237\134\312\065\322\105\256\325\210\031\333\172\006
\233\214\240\067\207\121\043\276\105\332\134\263\177\153\317\306
\250\034\063\212\173\035\221\372\236\274\354\175\073\105\025\117
\033\247\073\065\264\171\363\133\202\120\340\234\247\355\026\165
\333\143\200\142\241\332\030\002\152\200\336\202\252\104\115\104
\070\050\252\156\372\030\143\071\140\367\103\051\111\132\272\044
\300\277\263\012\227\035\147\111\132\042\262\147\004\234\130\251
\370\014\064\134\100\226\264\207\265\105\141\031\345\216\357\006
\336\221\025\300\270\212\312\224\311\012\165\175\161\073\130\201
\063\310\367\007\101\125\230\051\103\265\313\232\103\351\162\372
\317\360\213\061\274\347\357\271\152\343\101\235\041\076\015\025
\250\205\275\033\116\207\216\107\262\020\376\067\030\152\204\345

```
\211\034\024\143\350\271\203\251\265\273\350\143\232\172\031\214
\313\164\367\370\027\010\361\213\031\330\264\354\036\156\111\163
\077\134\040\335\065\052\226\167\351\106\157\026\073\313\251\357
\233\012\041\021\310\303\244\311\043\105\155\077\142\225\235\323
\050\307\235\017\263\376\067\215\035\110\262\120\346\045\271\116
\063\141\066\326\026\034\312\062\067\040\166\034\054
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "BYTE Root Certification Authority 001"
# Issuer: CN=BYTE Root Certification Authority 001,O=BYTE Computer S.A.,C=GR
# Serial Number:71:8c:2f:39:7c:40:74:40
# Subject: CN=BYTE Root Certification Authority 001,O=BYTE Computer S.A.,C=GR
# Not Valid Before: Wed Sep 10 22:01:54 2014
# Not Valid After: Sat Sep 10 22:01:54 2039
# Fingerprint (MD5): fa:fb:82:6a:e5:b3:a2:83:50:9b:83:28:b6:41:42:03
# Fingerprint (SHA1): 3f:0f:eb:17:a7:ef:58:04:cf:d9:0a:77:b7:bb:02:1e:a6:9c:64:18
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BYTE Root Certification Authority 001"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\077\017\353\027\247\357\130\004\317\331\012\167\267\273\002\036
\246\234\144\030
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\372\373\202\152\345\263\242\203\120\233\203\050\266\101\102\003
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\033\060\031\006\003\125\004\012\014\022\102\131\124\105\040\103
\157\155\160\165\164\145\162\040\123\056\101\056\061\056\060\054
\006\003\125\004\003\014\045\102\131\124\105\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\060\060\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\161\214\057\071\174\100\164\100
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "CISRCA1"
# Issuer: CN=CISRCA1,OU=Certification Authorities,O=Carillon Information Security Inc.,C=CA
# Serial Number:0b:82:dc:94:33:76
# Subject: CN=CISRCA1,OU=Certification Authorities,O=Carillon Information Security Inc.,C=CA
# Not Valid Before: Tue Oct 16 18:28:33 2012
# Not Valid After: Sat Oct 16 18:28:33 2032
# Fingerprint (MD5): 21:48:4b:8f:d5:50:78:27:86:80:c9:86:93:ad:b1:38
# Fingerprint (SHA1): a6:9e:03:36:c4:e5:90:23:ff:65:3c:71:f9:28:eb:73:f2:1c:00:f0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CISRCA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\160\061\013\060\011\006\003\125\004\006\023\002\103\101\061
\053\060\051\006\003\125\004\012\023\042\103\141\162\151\154\154
\157\156\040\111\156\146\157\162\155\141\164\151\157\156\040\123
\145\143\165\162\151\164\171\040\111\156\143\056\061\042\060\040
\006\003\125\004\013\023\031\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\151\145\163
\061\020\060\016\006\003\125\004\003\023\007\103\111\123\122\103
\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\160\061\013\060\011\006\003\125\004\006\023\002\103\101\061
\053\060\051\006\003\125\004\012\023\042\103\141\162\151\154\154
\157\156\040\111\156\146\157\162\155\141\164\151\157\156\040\123
\145\143\165\162\151\164\171\040\111\156\143\056\061\042\060\040
\006\003\125\004\013\023\031\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\151\145\163
\061\020\060\016\006\003\125\004\003\023\007\103\111\123\122\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\013\202\334\224\063\166
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\242\060\202\003\212\240\003\002\001\002\002\006\013
\202\334\224\063\166\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\060\160\061\013\060\011\006\003\125\004\006\023
\002\103\101\061\053\060\051\006\003\125\004\012\023\042\103\141
\162\151\154\154\157\156\040\111\156\146\157\162\155\141\164\151
\157\156\040\123\145\143\165\162\151\164\171\040\111\156\143\056
\061\042\060\040\006\003\125\004\013\023\031\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
```

\164\151\145\163\061\020\060\016\006\003\125\004\003\023\007\103
\111\123\122\103\101\061\060\036\027\015\061\062\061\060\061\066
\061\070\062\070\063\063\132\027\015\063\062\061\060\061\066\061
\070\062\070\063\063\132\060\160\061\013\060\011\006\003\125\004
\006\023\002\103\101\061\053\060\051\006\003\125\004\012\023\042
\103\141\162\151\154\154\157\156\040\111\156\146\157\162\155\141
\164\151\157\156\040\123\145\143\165\162\151\164\171\040\111\156
\143\056\061\042\060\040\006\003\125\004\013\023\031\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\151\145\163\061\020\060\016\006\003\125\004\003\023
\007\103\111\123\122\103\101\061\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\304\166\361\142\152\137\315
\051\315\004\066\177\156\141\176\163\364\235\146\337\042\132\232
\203\104\201\146\375\116\021\260\076\254\350\210\262\123\071\377
\343\272\276\324\377\323\205\330\275\133\257\150\117\063\254\270
\024\175\022\133\172\225\153\307\066\376\053\217\364\210\140\211
\072\252\131\070\114\301\135\125\201\245\337\330\037\061\172\323
\243\116\360\121\313\303\061\207\256\013\336\312\136\033\241\164
\070\360\222\167\161\074\313\023\176\240\301\012\230\275\330\270
\370\124\064\230\116\147\026\232\127\113\046\206\137\033\146\162
\252\301\362\150\202\235\130\101\174\161\042\342\317\001\061\376
\342\340\126\251\150\340\255\063\257\065\071\056\234\156\006\114
\363\043\166\057\151\046\350\005\071\151\267\365\110\032\367\337
\331\071\067\062\125\021\047\004\201\037\235\074\213\214\203\122
\167\301\256\054\315\053\052\112\345\055\361\031\151\272\207\136
\213\235\340\161\310\164\322\315\356\156\070\067\152\135\031\000
\322\166\335\242\353\156\073\252\035\365\066\006\117\137\136\154
\302\020\363\335\157\265\332\171\132\376\325\106\104\064\110\257
\206\000\064\174\044\204\335\105\220\371\026\202\254\250\221\324
\351\106\063\157\176\272\107\037\341\357\257\345\120\326\306\371
\247\355\154\227\252\053\051\116\135\305\370\036\366\164\311\253
\044\370\015\123\307\150\025\276\374\134\253\075\162\013\322\160
\004\267\026\343\151\251\361\147\272\306\000\114\173\200\064\065
\056\136\355\037\240\045\367\245\202\152\020\177\277\217\131\157
\303\106\246\312\102\116\102\043\205\006\071\065\214\265\361\327
\301\043\102\105\375\057\045\161\370\363\007\323\007\150\276\333
\230\154\052\366\245\107\367\260\145\140\255\256\174\346\021\035
\047\124\010\145\260\330\202\300\141\153\351\176\217\042\326\161
\035\153\101\040\145\330\127\232\037\174\016\132\124\340\224\260
\155\165\357\050\062\065\074\125\303\155\147\370\044\275\373\100
\363\132\235\066\331\065\114\273\342\153\331\261\066\017\344\157
\040\032\305\157\172\303\221\071\257\257\314\363\366\275\040\206
\272\323\044\041\074\037\067\051\346\237\374\032\277\230\337\074
\272\040\041\022\251\302\072\052\223\002\003\001\000\001\243\102
\060\100\060\035\006\003\125\035\016\004\026\004\024\352\225\025
\332\134\071\000\342\232\333\304\272\055\147\372\241\367\165\064
\355\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001

\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\306\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\003\202\002\001\000\065\320\330\270\236\362\011\370\360\237
\262\156\110\262\327\352\241\233\050\211\071\315\376\026\152\035
\351\234\202\137\121\107\072\365\236\321\274\256\037\237\342\134
\112\310\354\355\106\102\361\174\103\007\025\337\156\227\366\355
\206\374\237\305\010\136\202\016\243\056\250\012\056\274\216\033
\061\022\050\366\171\050\301\042\266\321\225\151\100\350\131\011
\047\242\221\144\166\352\320\023\215\160\374\145\303\157\021\237
\052\110\312\247\142\365\203\024\345\032\026\307\221\213\264\011
\305\316\173\343\344\035\155\227\242\351\313\046\036\153\264\334
\076\203\166\057\136\115\250\150\211\124\375\116\322\106\250\100
\366\330\312\170\317\066\032\075\131\145\214\233\365\053\037\114
\202\337\170\170\115\046\112\107\151\255\157\063\037\003\036\042
\116\331\006\131\236\106\374\120\065\137\306\205\033\344\033\370
\000\311\340\323\072\253\046\103\315\107\372\132\370\205\013\307
\062\332\265\015\055\060\051\072\171\263\024\351\245\017\160\045
\321\215\011\120\224\355\115\222\236\060\067\100\333\132\170\111
\217\017\071\057\275\056\327\253\010\224\311\051\212\367\335\214
\275\202\174\060\133\142\350\065\106\126\070\135\221\366\016\157
\214\356\225\237\375\164\235\355\355\020\253\316\213\217\267\255
\177\115\151\111\360\307\021\125\233\232\202\367\242\372\063\362
\104\021\372\025\113\106\251\233\153\227\102\326\264\267\011\021
\024\171\123\246\347\177\055\047\072\012\064\044\104\316\125\214
\172\200\165\163\002\113\342\372\106\224\175\063\024\015\102\126
\271\240\346\057\205\110\221\237\104\272\241\050\251\261\037\211
\172\046\012\123\134\205\271\174\204\230\214\050\140\245\266\172
\215\075\240\000\075\334\177\252\110\351\250\056\254\137\336\207
\055\134\244\153\026\352\275\350\225\265\316\170\011\370\161\066
\345\220\150\322\007\226\272\274\000\213\016\230\155\115\160\123
\300\303\314\033\023\234\110\232\231\075\022\300\047\216\141\222
\114\150\122\157\215\003\034\211\365\323\206\300\377\161\111\117
\040\153\375\321\157\221\044\365\361\107\043\115\131\337\320\275
\111\102\375\100\070\076\342\361\005\134\045\350\020\344\132\002
\003\343\273\174\045\052

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "CISRCA1"
Issuer: CN=CISRCA1,OU=Certification Authorities,O=Carillon Information Security Inc.,C=CA
Serial Number:0b:82:dc:94:33:76
Subject: CN=CISRCA1,OU=Certification Authorities,O=Carillon Information Security Inc.,C=CA
Not Valid Before: Tue Oct 16 18:28:33 2012
Not Valid After: Sat Oct 16 18:28:33 2032
Fingerprint (MD5): 21:48:4b:8f:d5:50:78:27:86:80:c9:86:93:ad:b1:38

```
# Fingerprint (SHA1): a6:9e:03:36:c4:e5:90:23:ff:65:3c:71:f9:28:eb:73:f2:1c:00:f0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CISRCA1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\246\236\003\066\304\345\220\043\377\145\074\161\371\050\353\163
\362\034\000\360
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\041\110\113\217\325\120\170\047\206\200\311\206\223\255\261\070
END
CKA_ISSUER MULTILINE_OCTAL
\060\160\061\013\060\011\006\003\125\004\006\023\002\103\101\061
\053\060\051\006\003\125\004\012\023\042\103\141\162\151\154\154
\157\156\040\111\156\146\157\162\155\141\164\151\157\156\040\123
\145\143\165\162\151\164\171\040\111\156\143\056\061\042\060\040
\006\003\125\004\013\023\031\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\151\145\163
\061\020\060\016\006\003\125\004\003\023\007\103\111\123\122\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\013\202\334\224\063\166
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "ePKI Root Certification Authority - G2"
# Issuer: CN=ePKI Root Certification Authority - G2,O=Chunghwa Telecom Co., Ltd.,C=TW
# Serial Number:d6:96:2e:c1:0a:15:93:12:af:8f:63:bc:d4:44:c9:5b
# Subject: CN=ePKI Root Certification Authority - G2,O=Chunghwa Telecom Co., Ltd.,C=TW
# Not Valid Before: Tue Nov 17 08:23:42 2015
# Not Valid After: Thu Dec 31 15:59:59 2037
# Fingerprint (MD5): 7d:f0:01:73:ed:fc:31:9d:16:86:7b:35:c7:26:dd:72
# Fingerprint (SHA1): d9:9b:10:42:98:59:47:63:f0:b9:a9:27:b7:92:69:cb:47:dd:15:8b
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\124\127\061
```

\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\057\060\055\006\003\125\004\003\014\046\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\057\060\055\006\003\125\004\003\014\046\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\326\226\056\301\012\025\223\022\257\217\143\274\324
\104\311\133

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\223\060\202\003\173\240\003\002\001\002\002\021\000
\326\226\056\301\012\025\223\022\257\217\143\274\324\104\311\133
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\143\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043
\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167
\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114
\164\144\056\061\057\060\055\006\003\125\004\003\014\046\145\120
\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040
\055\040\107\062\060\036\027\015\061\065\061\061\061\067\060\070
\062\063\064\062\132\027\015\063\067\061\062\063\061\061\065\065
\071\065\071\132\060\143\061\013\060\011\006\003\125\004\006\023
\002\124\127\061\043\060\041\006\003\125\004\012\014\032\103\150
\165\156\147\150\167\141\040\124\145\154\145\143\157\155\040\103
\157\056\054\040\114\164\144\056\061\057\060\055\006\003\125\004
\003\014\046\145\120\113\111\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\055\040\107\062\060\202\002\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017
\000\060\202\002\012\002\202\002\001\000\244\131\037\240\057\337
\276\340\373\351\334\265\211\376\132\227\003\311\072\167\247\216
\134\257\362\343\030\071\365\252\335\017\106\322\150\017\127\234
\247\143\140\323\130\316\065\302\247\366\210\302\117\177\033\050
\351\320\247\000\304\027\115\155\342\017\305\016\046\043\040\253
\367\072\050\242\114\012\013\314\216\316\346\000\232\132\100\015
\324\120\032\233\321\015\234\224\371\333\356\134\320\361\212\007

|315|232|053|100|054|111|244|135|142|137|247|153|337|356|126|010
|120|363|102|030|154|061|260|136|345|234|163|222|274|016|322|014
|175|305|070|127|274|273|130|333|046|031|002|355|343|103|204|212
|116|126|153|333|255|241|061|331|314|042|147|226|170|377|167|235
|314|144|305|062|040|152|357|116|060|325|044|045|375|210|171|257
|161|032|376|325|113|033|025|210|274|030|160|252|275|255|070|012
|146|060|106|345|211|205|325|166|044|251|251|263|346|131|140|017
|264|251|123|302|072|235|105|032|326|256|343|167|136|304|142|066
|063|057|060|304|277|225|361|055|070|245|165|350|321|152|223|056
|105|207|113|112|242|337|277|130|047|232|312|142|031|252|136|324
|261|200|111|226|335|053|354|137|217|233|340|235|227|210|365|204
|003|243|257|263|245|163|055|101|272|345|007|267|157|153|161|367
|367|311|132|257|151|231|263|057|310|117|102|353|154|153|161|147
|170|337|012|254|117|327|112|205|000|106|032|325|315|270|237|352
|225|235|017|174|321|306|005|205|346|010|336|210|027|201|366|325
|265|156|352|241|034|327|141|252|343|131|102|211|234|131|176|261
|174|144|064|335|141|043|052|071|265|020|253|374|206|251|123|032
|305|353|152|342|200|116|131|221|300|070|211|376|263|135|326|373
|221|351|327|260|175|331|170|010|314|365|053|314|053|341|241|326
|224|163|301|376|121|364|214|175|012|265|232|212|271|365|332|340
|311|263|330|217|252|202|203|215|151|123|055|375|000|004|030|112
|240|332|124|341|171|214|211|353|177|365|202|347|240|271|167|115
|256|371|272|002|073|210|166|353|174|135|263|132|023|333|174|051
|026|153|231|321|035|344|110|041|242|015|136|001|210|350|276|361
|230|115|076|307|026|127|034|137|341|010|157|034|114|130|103|126
|367|200|145|214|161|016|242|004|147|117|002|003|001|000|001|243
|102|060|100|060|017|006|003|125|035|023|001|001|377|004|005|060
|003|001|001|377|060|035|006|003|125|035|016|004|026|004|024|162
|133|272|252|162|070|356|045|220|044|265|224|042|372|011|210|312
|213|012|373|060|016|006|003|125|035|017|001|001|377|004|004|003
|002|001|006|060|015|006|011|052|206|110|206|367|015|001|001|013
|005|000|003|202|002|001|000|006|243|361|266|163|125|306|147|146
|041|345|235|133|326|224|056|112|042|140|362|124|001|220|241|375
|265|277|300|225|277|030|137|054|366|153|065|016|374|061|310|355
|104|016|222|227|334|257|335|126|317|265|037|272|162|234|060|310
|233|261|221|300|166|167|324|017|032|225|032|351|115|024|210|241
|317|153|002|246|152|353|144|105|115|144|215|336|374|353|154|362
|123|011|241|205|121|025|320|117|236|142|372|021|271|316|310|044
|016|162|144|210|165|064|043|060|052|077|274|074|071|314|314|335
|013|066|273|275|006|202|217|022|001|305|161|005|321|044|241|231
|154|312|344|367|252|355|212|327|247|012|255|257|360|340|200|273
|241|262|077|132|207|144|160|206|063|173|015|036|327|000|206|203
|103|227|165|365|073|301|110|375|266|016|103|250|002|156|270|076
|177|217|116|342|135|264|175|236|060|064|057|250|361|353|047|207
|150|015|132|012|115|001|333|311|024|130|225|362|232|115|026|252
|163|333|364|045|210|027|070|267|257|131|011|011|264|037|055|017
|253|365|270|047|125|356|105|060|063|270|355|033|216|274|210|154
|257|370|132|052|153|340|254|261|005|044|241|011|374|243|017|363

\260\055\173\226\272\266\224\007\025\105\216\051\334\130\016\251
\005\330\073\072\240\173\315\212\307\146\202\227\317\326\063\340
\147\374\246\333\100\057\005\345\305\213\172\052\172\360\260\066
\233\014\030\366\067\351\101\241\375\261\050\371\157\153\275\353
\037\114\143\161\173\120\335\051\362\377\356\367\307\105\137\350
\066\012\350\154\133\042\303\350\300\347\046\334\343\250\225\200
\345\271\072\023\333\000\113\032\375\256\063\107\176\170\224\343
\261\135\053\265\126\265\102\213\237\201\305\374\223\114\020\265
\272\012\274\176\067\343\372\124\155\365\004\305\160\263\251\004
\322\121\327\205\315\175\157\103\217\131\150\345\061\126\021\161
\371\144\051\011\023\376\320\037\274\213\000\070\262\320\312\064
\126\166\020\071\126\163\146\303\321\111\331\276\127\117\077\026
\175\152\170\267\250\202\270\133\316\256\205\212\012\102\014\003
\321\027\304\030\367\330\127\210\306\202\270\007\271\076\375\244
\351\056\334\157\272\220\222\356\145\260\120\064\323\007\332\001
\227\017\274\347\163\202\173

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "ePKI Root Certification Authority - G2"

Issuer: CN=ePKI Root Certification Authority - G2,O=Chunghwa Telecom Co., Ltd.,C=TW

Serial Number:d6:96:2e:c1:0a:15:93:12:af:8f:63:bc:d4:44:c9:5b

Subject: CN=ePKI Root Certification Authority - G2,O=Chunghwa Telecom Co., Ltd.,C=TW

Not Valid Before: Tue Nov 17 08:23:42 2015

Not Valid After: Thu Dec 31 15:59:59 2037

Fingerprint (MD5): 7d:f0:01:73:ed:fc:31:9d:16:86:7b:35:c7:26:dd:72

Fingerprint (SHA1): d9:9b:10:42:98:59:47:63:f0:b9:a9:27:b7:92:69:cb:47:dd:15:8b

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ePKI Root Certification Authority - G2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\331\233\020\102\230\131\107\143\360\271\251\047\267\222\151\313
\107\335\025\213

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\175\360\001\163\355\374\061\235\026\206\173\065\307\046\335\162

END

CKA_ISSUER MULTILINE_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\057\060\055\006\003\125\004\003\014\046\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151

\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\326\226\056\301\012\025\223\022\257\217\143\274\324
\104\311\133

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "ePKI EV SSL Certification Authority - G1"

Issuer: CN=ePKI Root Certification Authority - G2,O=Chunghwa Telecom Co., Ltd.,C=TW

Serial Number:f7:4e:18:0c:99:e2:7b:8d:9f:79:4f:b1:b7:c0:bf:48

Subject: CN=ePKI EV SSL Certification Authority - G1,O=Chunghwa Telecom Co., Ltd.,C=TW

Not Valid Before: Thu Feb 04 03:06:31 2016

Not Valid After: Mon Feb 04 03:06:31 2030

Fingerprint (MD5): bc:4d:9d:ca:03:11:b5:bc:94:7a:f1:1b:2a:20:16:d6

Fingerprint (SHA1): 81:ac:5d:e1:50:d1:b8:de:5d:3e:0e:26:6a:13:6b:73:78:62:d3:22

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ePKI EV SSL Certification Authority - G1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\061\060\057\006\003\125\004\003\014\050\145
\120\113\111\040\105\126\040\123\123\114\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\057\060\055\006\003\125\004\003\014\046\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\367\116\030\014\231\342\173\215\237\171\117\261\267

\300\277\110

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\315\060\202\003\265\240\003\002\001\002\002\021\000
\367\116\030\014\231\342\173\215\237\171\117\261\267\300\277\110
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\143\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043
\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167
\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114
\164\144\056\061\057\060\055\006\003\125\004\003\014\046\145\120
\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040
\055\040\107\062\060\036\027\015\061\066\060\062\060\064\060\063
\060\066\063\061\132\027\015\063\060\060\062\060\064\060\063\060
\066\063\061\132\060\145\061\013\060\011\006\003\125\004\006\023
\002\124\127\061\043\060\041\006\003\125\004\012\014\032\103\150
\165\156\147\150\167\141\040\124\145\154\145\143\157\155\040\103
\157\056\054\040\114\164\144\056\061\061\060\057\006\003\125\004
\003\014\050\145\120\113\111\040\105\126\040\123\123\114\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\061\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\232\204\130\047
\136\236\036\371\147\367\036\234\052\203\070\072\150\356\263\137
\163\345\215\372\265\167\234\245\000\257\174\223\051\102\356\300
\377\337\015\331\035\110\057\320\312\017\064\163\025\323\166\273
\241\342\150\104\317\206\256\352\120\075\363\130\245\123\344\036
\264\360\243\021\135\037\344\103\353\226\276\212\177\133\227\026
\340\212\103\222\374\370\264\061\116\006\307\303\125\040\005\113
\204\257\251\012\210\274\360\306\344\076\012\330\051\167\340\033
\061\171\055\153\101\302\032\177\344\055\012\303\000\013\111\036
\052\125\355\230\167\136\225\363\234\324\330\124\041\035\311\022
\214\337\173\154\053\203\066\154\276\374\077\020\216\026\051\267
\105\141\040\117\344\316\321\332\161\061\052\023\001\372\237\230
\352\324\350\247\165\205\046\353\316\211\343\344\172\001\277\060
\036\371\246\037\313\155\052\171\076\041\354\132\047\341\101\137
\361\351\364\171\114\155\345\004\032\026\130\366\360\147\120\356
\035\151\326\237\261\107\364\227\353\350\330\223\053\217\217\000
\356\300\220\164\031\357\200\162\014\357\363\373\002\003\001\000
\001\243\202\001\170\060\202\001\164\060\037\006\003\125\035\043
\004\030\060\026\200\024\162\133\272\252\162\070\356\045\220\044
\265\224\042\372\011\210\312\213\012\373\060\035\006\003\125\035
\016\004\026\004\024\131\070\252\133\120\201\354\322\050\012\067
\343\012\244\006\204\251\222\231\071\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\074\006\003\125\035\037
\004\065\060\063\060\061\240\057\240\055\206\053\150\164\164\160
\072\057\057\145\143\141\056\150\151\156\145\164\056\156\145\164
\057\162\145\160\157\163\151\164\157\162\171\057\103\122\114\062

\057\103\101\056\143\162\154\060\201\213\006\010\053\006\001\005
\005\007\001\001\004\177\060\175\060\104\006\010\053\006\001\005
\005\007\060\002\206\070\150\164\164\160\072\057\057\145\143\141
\056\150\151\156\145\164\056\156\145\164\057\162\145\160\157\163
\151\164\157\162\171\057\103\145\162\164\163\057\111\163\163\165
\145\144\124\157\124\150\151\163\103\101\056\160\067\142\060\065
\006\010\053\006\001\005\005\007\060\001\206\051\150\164\164\160
\072\057\057\157\143\163\160\056\145\143\141\056\150\151\156\145
\164\056\156\145\164\057\117\103\123\120\057\157\143\163\160\107
\062\163\150\141\062\060\022\006\003\125\035\023\001\001\377\004
\010\060\006\001\001\377\002\001\000\060\102\006\003\125\035\040
\004\073\060\071\060\067\006\005\147\201\014\001\001\060\056\060
\054\006\010\053\006\001\005\005\007\002\001\026\040\150\164\164
\160\163\072\057\057\145\143\141\056\150\151\156\145\164\056\156
\145\164\057\162\145\160\157\163\151\164\157\162\171\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001
\000\024\176\101\241\225\160\343\303\026\140\321\153\074\006\373
\025\251\123\316\325\072\371\002\026\010\042\153\325\330\252\336
\115\212\033\123\141\335\276\207\134\035\247\177\277\065\124\250
\146\045\337\157\051\017\326\236\076\307\164\063\231\220\175\210
\314\141\346\151\070\060\136\216\150\023\013\316\123\113\210\330
\324\333\216\264\261\023\233\317\243\047\000\072\334\322\102\171
\046\166\063\067\157\146\271\033\020\072\314\270\013\355\223\321
\240\274\346\066\323\257\061\164\227\174\170\140\075\212\252\264
\123\215\163\115\371\030\016\303\344\027\252\120\351\030\013\060
\353\026\343\160\273\117\332\165\261\073\104\132\265\100\261\322
\225\304\200\001\264\024\257\173\105\075\215\067\046\200\313\063
\056\372\212\004\076\030\052\175\064\325\056\242\171\072\143\253
\315\233\040\305\125\203\200\136\321\260\273\263\272\223\173\073
\215\121\133\054\173\213\377\246\253\334\034\031\144\136\245\021
\226\164\231\034\016\234\016\015\173\350\330\363\223\235\132\310
\244\356\315\024\010\345\343\102\353\235\212\124\333\063\354\344
\352\133\160\126\006\263\173\130\053\330\345\015\261\332\344\323
\244\127\140\351\113\243\236\077\342\155\346\203\060\040\306\335
\231\276\265\327\057\063\252\003\117\365\213\140\301\062\304\000
\164\250\265\310\065\327\102\320\004\174\350\066\037\003\016\303
\364\057\326\074\317\055\357\214\302\064\125\140\127\147\346\033
\164\165\251\042\105\313\316\154\145\171\207\101\221\066\305\354
\044\206\367\322\120\141\327\255\234\341\253\060\346\371\063\012
\007\101\050\370\270\023\170\341\277\027\035\136\031\265\112\227
\253\343\346\222\014\200\221\354\253\172\312\224\156\004\236\143
\014\041\106\220\132\223\234\221\063\370\104\134\255\170\314\232
\103\326\347\212\337\351\272\167\314\067\035\310\075\302\106\345
\031\123\260\234\341\345\275\322\047\321\152\034\273\256\120\265
\353\130\326\261\161\352\330\231\325\056\111\077\123\272\271\204
\110\264\321\016\203\343\367\105\323\301\252\304\201\136\020\215
\134\276\255\322\336\202\270\030\162\273\144\032\315\173\033\045
\333\242\202\212\324\315\142\157\134\061\074\127\166\371\017\045


```

\167
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Trust for "ePKI EV SSL Certification Authority - G1"
# Issuer: CN=ePKI Root Certification Authority - G2,O=Chunghwa Telecom Co., Ltd.,C=TW
# Serial Number:f7:4e:18:0c:99:e2:7b:8d:9f:79:4f:b1:b7:c0:bf:48
# Subject: CN=ePKI EV SSL Certification Authority - G1,O=Chunghwa Telecom Co., Ltd.,C=TW
# Not Valid Before: Thu Feb 04 03:06:31 2016
# Not Valid After: Mon Feb 04 03:06:31 2030
# Fingerprint (MD5): bc:4d:9d:ca:03:11:b5:bc:94:7a:f1:1b:2a:20:16:d6
# Fingerprint (SHA1): 81:ac:5d:e1:50:d1:b8:de:5d:3e:0e:26:6a:13:6b:73:78:62:d3:22
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI EV SSL Certification Authority - G1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\201\254\135\341\120\321\270\336\135\076\016\046\152\023\153\163
\170\142\323\042
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\274\115\235\312\003\021\265\274\224\172\361\033\052\040\026\326
END
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\057\060\055\006\003\125\004\003\014\046\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\367\116\030\014\231\342\173\215\237\171\117\261\267
\300\277\110
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "SSL.com EV Root Certification Authority RSA"
# Issuer: CN=SSL.com EV Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

```

```
# Serial Number:1d:6c:11:eb:6f:da:39:9d
# Subject: CN=SSL.com EV Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 17:50:48 2016
# Not Valid After: Tue Feb 12 17:50:48 2041
# Fingerprint (MD5): ad:b7:7b:b6:c4:5a:d9:dd:9f:eb:b3:ef:3f:c6:31:31
# Fingerprint (SHA1): 1c:b7:ed:e1:76:bc:df:ef:0c:86:6f:46:fb:f9:80:e9:01:e5:ce:35
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122\123
\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122\123
\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\035\154\021\353\157\332\071\235
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\343\060\202\003\313\240\003\002\001\002\002\010\035
\154\021\353\157\332\071\235\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\177\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014\005
\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014\007
\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004\012
\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151\157
\156\061\064\060\062\006\003\125\004\003\014\053\123\123\114\056
\143\157\155\040\105\126\040\122\157\157\164\040\103\145\162\164
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\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\040\122\123\101\060\036\027\015\061\066\060\062\061
\062\061\067\065\060\064\070\132\027\015\064\061\060\062\061\062
\061\067\065\060\064\070\132\060\177\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014
\005\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014
\007\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004
\012\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151
\157\156\061\064\060\062\006\003\125\004\003\014\053\123\123\114
\056\143\157\155\040\105\126\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\122\123\101\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\306\067\174\023\157\317\017
\331\120\317\346\327\252\150\057\134\121\324\277\315\114\246\325
\067\061\100\020\064\101\172\375\313\224\215\142\177\270\220\315
\316\151\226\072\304\377\331\327\143\346\320\204\045\200\021\277
\321\355\060\350\204\006\341\240\227\270\125\220\035\255\363\244
\232\033\116\234\021\367\365\331\326\217\140\052\076\067\370\165
\354\200\243\125\240\364\047\101\302\252\071\344\122\337\020\371
\365\145\071\077\214\235\314\173\047\317\006\024\167\116\075\122
\347\204\201\061\154\022\062\254\204\132\027\152\304\301\134\200
\061\302\332\107\173\166\017\102\350\347\042\024\323\215\304\133
\217\213\145\130\051\054\217\016\216\111\324\324\330\012\132\323
\046\323\011\216\330\103\262\224\117\322\300\034\335\164\142\021
\151\274\124\042\350\072\036\320\125\126\105\217\160\160\215\057
\357\302\135\275\136\124\335\056\173\351\030\213\212\111\331\117
\215\020\363\245\127\341\153\253\030\113\216\256\056\361\362\272
\365\135\101\367\071\330\243\302\135\336\237\132\261\057\104\223
\076\077\361\042\071\224\100\155\047\306\314\015\170\014\013\275
\052\126\046\255\051\127\270\161\344\177\353\023\262\310\175\365
\153\135\363\362\000\060\063\372\133\313\022\152\172\101\157\157
\011\114\267\151\015\017\171\043\043\032\146\215\131\066\143\226
\200\173\030\042\153\036\042\030\055\344\245\165\012\020\131\373
\243\176\046\020\123\306\310\031\056\036\047\030\373\060\005\075
\221\004\172\256\160\306\314\017\240\064\323\044\026\030\001\005
\147\151\345\105\321\126\250\233\277\257\372\254\125\010\014\002
\176\113\167\254\067\301\330\355\231\064\240\101\263\065\072\353
\061\064\311\073\337\304\075\051\105\065\124\270\177\226\317\010
\017\351\261\236\125\312\147\204\240\047\140\253\372\120\061\071
\325\173\312\266\232\355\221\214\170\036\371\356\340\342\131\101
\324\037\102\200\171\365\364\203\120\010\255\363\107\101\137\120
\243\237\211\363\264\047\052\124\271\032\131\153\011\234\121\300
\050\153\133\270\050\322\157\065\176\325\223\003\156\164\045\145
\352\026\005\221\001\361\007\143\117\253\204\305\162\331\315\150
\233\115\054\176\004\070\360\352\107\002\003\001\000\001\243\143
\060\141\060\035\006\003\125\035\016\004\026\004\024\331\132\052
\377\245\316\235\241\221\175\377\207\135\253\152\065\022\331\311

\114\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\331
\132\052\377\245\316\235\241\221\175\377\207\135\253\152\065\022
\331\311\114\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\002\001\000\274\214\317\043\372\275\063\127\226
\037\320\202\360\022\256\064\104\352\361\274\041\327\365\211\306
\064\036\170\246\342\121\337\335\170\200\325\352\155\306\252\157
\011\002\214\247\346\313\310\211\132\224\172\112\263\126\357\335
\335\123\062\143\360\151\357\335\100\271\220\242\056\003\167\226
\265\051\000\122\356\373\016\247\224\150\305\074\003\055\351\153
\252\235\356\247\330\147\222\342\021\132\070\337\230\146\243\240
\216\313\014\102\066\114\305\126\133\237\165\360\100\321\350\073
\052\010\233\122\303\034\137\220\064\127\373\306\371\035\161\374
\045\174\317\172\175\036\151\306\273\364\024\376\035\035\347\227
\242\206\233\362\337\127\222\006\122\144\223\051\131\012\057\241
\027\334\273\356\255\073\263\000\145\070\331\250\234\201\255\315
\065\234\213\351\342\364\204\217\016\317\215\161\155\000\200\071
\157\263\004\065\240\070\141\251\362\057\364\065\215\330\337\336
\244\151\060\372\240\046\174\132\042\171\360\150\376\313\315\274
\357\225\214\047\345\204\371\375\204\102\306\272\375\271\311\306
\132\161\060\166\066\002\037\320\174\251\023\016\341\040\331\122
\014\254\036\210\167\240\051\206\072\210\146\123\257\303\245\311
\333\124\261\244\350\356\114\156\077\271\173\060\243\102\350\002
\246\275\204\155\052\174\375\364\355\105\267\060\372\154\134\043
\126\132\074\141\052\307\233\346\305\362\104\267\007\277\166\235
\102\344\134\360\356\271\076\020\363\317\122\322\315\316\122\030
\177\140\366\056\225\114\065\000\114\106\326\020\354\064\313\130
\173\152\015\344\143\125\314\130\331\117\143\147\061\302\122\241
\171\017\052\317\311\116\314\022\313\215\032\132\252\106\061\023
\073\015\351\127\150\132\013\204\004\066\057\237\021\274\074\172
\255\132\277\106\343\267\040\211\035\334\007\174\334\172\353\351
\166\311\000\015\160\267\237\227\032\142\357\030\346\144\276\010
\247\244\231\273\177\214\150\232\230\311\206\142\366\241\230\066
\071\243\363\226\127\244\002\143\371\125\076\260\214\237\277\251
\172\113\074\331\271\256\017\212\364\272\034\045\253\125\131\241
\126\302\063\271\072\304\100\317\213\032\367\003\016\275\033\140
\143\175\045\324\251\276\345

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "SSL.com EV Root Certification Authority RSA"

Issuer: CN=SSL.com EV Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

Serial Number:1d:6c:11:eb:6f:da:39:9d

Subject: CN=SSL.com EV Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

```
# Not Valid Before: Fri Feb 12 17:50:48 2016
# Not Valid After: Tue Feb 12 17:50:48 2041
# Fingerprint (MD5): ad:b7:7b:b6:c4:5a:d9:dd:9f:eb:b3:ef:3f:c6:31:31
# Fingerprint (SHA1): 1c:b7:ed:e1:76:bc:df:ef:0c:86:6f:46:fb:f9:80:e9:01:e5:ce:35
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\034\267\355\341\166\274\337\357\014\206\157\106\373\371\200\351
\001\345\316\065
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\255\267\173\266\304\132\331\335\237\353\263\357\077\306\061\061
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122\123
\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\035\154\021\353\157\332\071\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "LuxTrust Global Root 2"
# Issuer: CN=LuxTrust Global Root 2,O=LuxTrust S.A.,C=LU
# Serial Number:0a:7e:a6:df:4b:44:9e:da:6a:24:85:9e:e6:b8:15:d3:16:7f:bb:b1
# Subject: CN=LuxTrust Global Root 2,O=LuxTrust S.A.,C=LU
# Not Valid Before: Thu Mar 05 13:21:57 2015
# Not Valid After: Mon Mar 05 13:21:57 2035
# Fingerprint (MD5): b2:e1:09:00:61:af:f7:f1:91:6f:c4:ad:8d:5e:3b:7c
# Fingerprint (SHA1): 1e:0e:56:19:0a:d1:8b:25:98:b2:04:44:ff:66:8a:04:17:99:5f:3f
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "LuxTrust Global Root 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\114\125\061
\026\060\024\006\003\125\004\012\014\015\114\165\170\124\162\165
\163\164\040\123\056\101\056\061\037\060\035\006\003\125\004\003
\014\026\114\165\170\124\162\165\163\164\040\107\154\157\142\141
\154\040\122\157\157\164\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\114\125\061
\026\060\024\006\003\125\004\012\014\015\114\165\170\124\162\165
\163\164\040\123\056\101\056\061\037\060\035\006\003\125\004\003
\014\026\114\165\170\124\162\165\163\164\040\107\154\157\142\141
\154\040\122\157\157\164\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\012\176\246\337\113\104\236\332\152\044\205\236\346\270
\025\323\026\177\273\261
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\303\060\202\003\253\240\003\002\001\002\002\024\012
\176\246\337\113\104\236\332\152\044\205\236\346\270\025\323\026
\177\273\261\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\106\061\013\060\011\006\003\125\004\006\023\002\114
\125\061\026\060\024\006\003\125\004\012\014\015\114\165\170\124
\162\165\163\164\040\123\056\101\056\061\037\060\035\006\003\125
\004\003\014\026\114\165\170\124\162\165\163\164\040\107\154\157
\142\141\154\040\122\157\157\164\040\062\060\036\027\015\061\065
\060\063\060\065\061\063\062\061\065\067\132\027\015\063\065\060
\063\060\065\061\063\062\061\065\067\132\060\106\061\013\060\011
\006\003\125\004\006\023\002\114\125\061\026\060\024\006\003\125
\004\012\014\015\114\165\170\124\162\165\163\164\040\123\056\101
\056\061\037\060\035\006\003\125\004\003\014\026\114\165\170\124
\162\165\163\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\062\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\327\205\227\277\021\230\351\360\142\203\114\074\207
\371\123\152\067\013\362\017\074\207\316\157\334\046\051\275\305
\211\272\311\203\075\367\356\312\133\306\155\111\163\264\311\106
\243\033\064\023\077\301\211\105\127\364\331\261\373\066\145\113
\373\010\342\110\161\021\310\156\073\236\235\337\211\145\067\246
\205\366\073\104\030\266\306\067\060\142\104\222\227\151\175\102
\060\044\344\015\014\211\153\143\336\305\341\337\116\251\024\154
\123\340\141\316\366\027\057\035\074\275\346\042\114\035\223\365
\020\304\241\166\354\152\336\305\154\337\226\264\126\100\102\300
\142\222\060\241\055\025\224\240\322\040\006\011\156\152\155\345
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\353\267\276\324\360\361\025\174\213\346\116\272\023\314\113\047
\136\231\074\027\135\217\201\177\063\075\117\323\077\033\354\134
\077\360\074\114\165\156\362\246\325\235\332\055\007\143\002\306
\162\351\224\274\114\111\225\117\210\122\310\333\350\151\202\370
\314\064\133\042\360\206\247\211\275\110\012\155\146\201\155\310
\310\144\373\001\341\364\341\336\331\236\335\333\133\324\052\231
\046\025\033\036\114\222\051\202\236\325\222\201\222\101\160\031
\367\244\345\223\113\274\167\147\061\335\034\375\061\160\015\027
\231\014\371\014\071\031\052\027\265\060\161\125\325\017\256\130
\341\075\057\064\233\317\237\366\170\205\302\223\172\162\076\146
\217\234\026\021\140\217\236\211\157\147\276\340\107\132\073\014
\232\147\213\317\106\306\256\070\243\362\247\274\346\326\205\153
\063\044\160\042\113\313\010\233\273\310\370\002\051\035\276\040
\014\106\277\153\207\233\263\052\146\102\065\106\154\252\272\255
\371\230\173\351\120\125\024\061\277\261\332\055\355\200\255\150
\044\373\151\253\330\161\023\060\346\147\263\207\100\375\211\176
\362\103\321\021\337\057\145\057\144\316\137\024\271\261\277\061
\275\207\170\132\131\145\210\252\374\131\062\110\206\326\114\271
\051\113\225\323\166\363\167\045\155\102\034\070\203\115\375\243
\137\233\177\055\254\171\033\016\102\061\227\143\244\373\212\151
\325\042\015\064\220\060\056\250\264\340\155\266\224\254\274\213
\116\327\160\374\305\070\216\144\045\341\115\071\220\316\311\207
\204\130\161\002\003\001\000\001\243\201\250\060\201\245\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\102\006\003\125\035\040\004\073\060\071\060\067\006\007\053\201
\053\001\001\001\012\060\054\060\052\006\010\053\006\001\005\005
\007\002\001\026\036\150\164\164\160\163\072\057\057\162\145\160
\157\163\151\164\157\162\171\056\154\165\170\164\162\165\163\164
\056\154\165\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\037\006\003\125\035\043\004\030\060\026\200\024
\377\030\050\166\371\110\005\054\241\256\361\053\033\053\262\123
\370\113\174\263\060\035\006\003\125\035\016\004\026\004\024\377
\030\050\166\371\110\005\054\241\256\361\053\033\053\262\123\370
\113\174\263\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\002\001\000\152\031\024\355\156\171\301\054\207
\324\015\160\176\327\366\170\311\013\004\116\304\261\316\223\160
\376\260\124\300\062\315\231\060\144\027\277\017\345\342\063\375
\007\066\100\162\016\032\266\152\131\326\000\345\150\040\335\056
\162\015\037\152\144\061\040\204\175\111\246\132\067\353\105\311
\205\365\324\307\027\231\007\346\233\125\344\014\350\251\264\316
\214\133\265\021\134\317\212\016\015\326\254\167\201\376\062\234
\044\236\162\316\124\363\320\157\242\126\326\354\303\067\054\145
\130\276\127\000\032\362\065\372\353\173\061\135\302\301\022\075
\226\201\210\226\211\301\131\134\172\346\177\160\064\347\203\342
\261\341\341\270\130\357\324\225\344\140\234\360\226\227\162\214
\353\204\002\056\145\217\244\267\322\177\147\335\310\323\236\134
\252\251\244\240\045\024\006\233\354\117\176\055\013\177\035\165
\361\063\330\355\316\270\165\155\076\133\271\230\035\061\015\126

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\330\315\203\331\030\356\056\017\206\055\222\236\160\023\354\336
\121\311\103\170\002\245\115\310\371\137\304\221\130\106\026\167
\132\164\252\100\274\007\237\060\271\261\367\022\027\335\343\377
\044\100\035\172\152\321\117\030\012\252\220\035\353\100\036\337
\241\036\104\222\020\232\362\215\341\321\113\106\236\350\105\102
\227\352\105\231\363\354\146\325\002\372\362\246\112\044\252\336
\316\271\312\371\077\223\157\371\243\272\352\245\076\231\255\375
\377\173\231\365\145\356\360\131\050\147\327\220\225\244\023\204
\251\204\301\350\316\316\165\223\143\032\274\074\352\325\144\037
\055\052\022\071\306\303\132\062\355\107\221\026\016\274\070\301
\120\336\217\312\052\220\064\034\356\101\224\234\136\031\056\370
\105\111\231\164\221\260\004\157\343\004\132\261\253\052\253\376
\307\320\226\266\332\341\112\144\006\156\140\115\275\102\116\377
\170\332\044\312\033\264\327\226\071\154\256\361\016\252\247\175
\110\213\040\114\317\144\326\270\227\106\260\116\321\052\126\072
\240\223\275\257\200\044\340\012\176\347\312\325\312\350\205\125
\334\066\052\341\224\150\223\307\146\162\104\017\200\041\062\154
\045\307\043\200\203\012\353
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "LuxTrust Global Root 2"
# Issuer: CN=LuxTrust Global Root 2,O=LuxTrust S.A.,C=LU
# Serial Number:0a:7e:a6:df:4b:44:9e:da:6a:24:85:9e:e6:b8:15:d3:16:7f:bb:b1
# Subject: CN=LuxTrust Global Root 2,O=LuxTrust S.A.,C=LU
# Not Valid Before: Thu Mar 05 13:21:57 2015
# Not Valid After: Mon Mar 05 13:21:57 2035
# Fingerprint (MD5): b2:e1:09:00:61:af:f7:f1:91:6f:c4:ad:8d:5e:3b:7c
# Fingerprint (SHA1): 1e:0e:56:19:0a:d1:8b:25:98:b2:04:44:ff:66:8a:04:17:99:5f:3f
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "LuxTrust Global Root 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\036\016\126\031\012\321\213\045\230\262\004\104\377\146\212\004
\027\231\137\077
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\262\341\011\000\141\257\367\361\221\157\304\255\215\136\073\174
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\114\125\061
\026\060\024\006\003\125\004\012\014\015\114\165\170\124\162\165
```



```
\163\164\040\123\056\101\056\061\037\060\035\006\003\125\004\003  
\014\026\114\165\170\124\162\165\163\164\040\107\154\157\142\141  
\154\040\122\157\157\164\040\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\024\012\176\246\337\113\104\236\332\152\044\205\236\346\270  
\025\323\026\177\273\261
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "ACA ROOT"

Issuer: CN=ACA ROOT,O=CONSEJO GENERAL DE LA ABOGACIA,2.5.4.5=Q2863006I,C=ES

Serial Number:47:43:91:24:3f:ce:c3:0d:57:48:28:6b:ee:80:5d:ab

Subject: CN=ACA ROOT,O=CONSEJO GENERAL DE LA ABOGACIA,2.5.4.5=Q2863006I,C=ES

Not Valid Before: Fri May 27 10:58:51 2016

Not Valid After: Mon May 27 10:58:51 2041

Fingerprint (MD5): cc:49:10:f6:2f:f5:db:be:2f:8c:51:f3:8f:74:7c:12

Fingerprint (SHA1): d4:96:59:2b:30:57:07:38:6c:c5:f3:cd:b2:59:ae:66:d7:66:1f:ca

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ACA ROOT"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\022\060\020\006\003\125\004\005\023\011\121\062\070\066\063\060  
\060\066\111\061\047\060\045\006\003\125\004\012\014\036\103\117  
\116\123\105\112\117\040\107\105\116\105\122\101\114\040\104\105  
\040\114\101\040\101\102\117\107\101\103\111\101\061\021\060\017  
\006\003\125\004\003\014\010\101\103\101\040\122\117\117\124
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\022\060\020\006\003\125\004\005\023\011\121\062\070\066\063\060  
\060\066\111\061\047\060\045\006\003\125\004\012\014\036\103\117  
\116\123\105\112\117\040\107\105\116\105\122\101\114\040\104\105  
\040\114\101\040\101\102\117\107\101\103\111\101\061\021\060\017  
\006\003\125\004\003\014\010\101\103\101\040\122\117\117\124
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\107\103\221\044\077\316\303\015\127\110\050\153\356\200  
\135\253
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\310\060\202\003\260\240\003\002\001\002\002\020\107
\103\221\044\077\316\303\015\127\110\050\153\356\200\135\253\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\135
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\022\060
\020\006\003\125\004\005\023\011\121\062\070\066\063\060\060\066
\111\061\047\060\045\006\003\125\004\012\014\036\103\117\116\123
\105\112\117\040\107\105\116\105\122\101\114\040\104\105\040\114
\101\040\101\102\117\107\101\103\111\101\061\021\060\017\006\003
\125\004\003\014\010\101\103\101\040\122\117\117\124\060\036\027
\015\061\066\060\065\062\067\061\060\065\070\065\061\132\027\015
\064\061\060\065\062\067\061\060\065\070\065\061\132\060\135\061
\013\060\011\006\003\125\004\006\023\002\105\123\061\022\060\020
\006\003\125\004\005\023\011\121\062\070\066\063\060\060\066\111
\061\047\060\045\006\003\125\004\012\014\036\103\117\116\123\105
\112\117\040\107\105\116\105\122\101\114\040\104\105\040\114\101
\040\101\102\117\107\101\103\111\101\061\021\060\017\006\003\125
\004\003\014\010\101\103\101\040\122\117\117\124\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\271\053\136
\365\076\272\211\036\235\365\321\023\317\273\243\136\272\351\337
\071\162\144\230\122\207\151\245\266\336\341\277\224\105\276\305
\370\244\123\147\025\120\334\122\117\052\166\054\056\215\040\152
\214\346\135\271\331\150\276\221\033\272\151\003\030\255\030\116
\066\242\254\106\253\040\370\003\152\252\255\171\325\337\035\301
\356\105\157\041\164\371\115\261\261\075\220\073\074\062\200\355
\377\025\317\121\312\327\244\207\056\252\345\016\266\321\172\132
\307\271\370\121\273\331\224\335\076\306\206\116\012\376\073\211
\362\370\156\044\316\221\003\130\005\022\112\335\120\253\101\172
\316\355\251\037\021\123\036\245\023\333\141\360\365\252\200\336
\164\171\035\244\343\051\326\373\340\374\227\332\242\270\253\042
\076\145\260\041\304\345\305\020\104\207\262\343\340\052\202\056
\175\346\364\270\244\023\045\363\167\140\137\143\123\256\056\261
\235\212\153\166\173\072\161\275\222\201\066\260\234\202\361\367
\305\211\050\135\377\274\102\006\263\010\152\117\141\315\244\055
\220\323\071\270\167\377\310\307\243\171\273\003\271\221\003\001
\064\022\330\060\213\266\214\002\312\344\110\354\070\052\062\114
\155\312\166\050\132\206\012\272\324\040\216\257\240\137\040\055
\142\234\210\371\361\025\155\133\275\261\003\120\300\077\066\327
\256\077\121\321\312\343\130\146\104\346\243\233\167\056\061\372
\331\177\042\304\005\114\353\164\033\134\143\172\246\002\223\176
\103\016\166\024\017\115\157\062\225\210\200\222\122\227\024\365
\074\374\224\007\323\154\051\005\225\106\017\344\161\341\177\370
\155\024\022\202\222\265\363\123\076\231\021\227\107\166\112\011
\162\356\324\303\226\011\254\332\377\361\113\113\266\327\045\317
\036\114\227\046\013\064\273\266\224\361\054\144\161\137\211\362
\025\073\067\247\002\344\015\117\110\211\063\243\214\150\170\061

\121\147\012\031\333\264\342\164\057\075\172\363\167\000\237\161
\022\143\377\163\052\144\151\124\354\254\072\256\332\362\130\143
\064\176\370\074\136\300\102\072\245\333\263\250\324\132\301\116
\130\270\151\266\254\202\142\333\321\373\032\103\041\042\374\035
\365\234\117\116\073\345\215\377\166\132\043\136\133\002\003\001
\000\001\243\201\203\060\201\200\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016
\004\026\004\024\032\125\344\025\061\342\061\233\021\324\210\161
\172\000\075\160\050\005\277\315\060\076\006\003\125\035\040\004
\067\060\065\060\063\006\004\125\035\040\000\060\053\060\051\006
\010\053\006\001\005\005\007\002\001\026\035\150\164\164\160\072
\057\057\167\167\167\056\141\143\141\142\157\147\141\143\151\141
\056\157\162\147\057\144\157\143\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\003\202\002\001\000\173\060\312\125
\206\323\257\356\032\327\270\225\230\354\371\073\335\220\023\243
\234\222\105\240\222\211\151\241\161\221\274\161\205\207\240\055
\060\011\344\302\123\075\364\251\267\150\055\115\231\315\244\317
\236\073\220\235\232\012\051\015\052\102\301\075\133\153\100\202
\305\213\023\261\101\147\217\276\244\167\340\300\166\344\363\266
\051\126\054\357\161\117\302\144\361\332\264\013\312\320\071\137
\123\262\203\001\373\262\175\331\203\164\172\065\320\301\135\217
\233\367\136\347\122\337\356\252\067\223\253\331\075\175\036\361
\275\034\333\350\165\335\270\133\114\343\026\243\366\165\210\016
\217\074\303\013\154\333\140\131\344\005\253\050\106\367\146\151
\045\167\336\312\112\063\330\130\136\173\217\232\317\122\216\075
\155\375\321\262\275\076\171\127\206\036\104\034\007\115\364\302
\020\252\170\313\363\121\027\015\166\075\215\156\150\111\351\357
\007\111\321\270\026\311\171\235\314\256\013\005\107\172\375\230
\254\061\241\220\132\207\142\371\370\253\142\132\340\041\166\320
\150\102\350\034\276\162\201\360\306\147\175\176\164\074\325\125
\157\217\245\150\226\021\361\312\323\060\027\275\106\266\061\257
\160\351\244\204\067\127\272\011\074\056\331\013\023\126\007\076
\225\304\265\160\057\223\302\256\257\201\135\106\024\060\373\256
\305\363\232\367\101\172\261\336\113\026\331\105\165\107\002\174
\024\036\325\261\073\240\054\101\265\233\113\173\243\203\360\271
\314\316\036\224\267\136\056\043\006\225\221\034\070\107\034\355
\304\170\016\244\017\374\033\174\326\362\153\320\212\133\352\226
\363\061\324\136\152\304\224\270\060\237\225\341\007\211\270\210
\322\047\205\244\141\164\345\250\104\061\172\040\165\350\370\330
\353\263\117\252\377\123\077\226\355\352\273\374\121\100\246\053
\354\044\241\373\371\104\215\043\347\246\227\000\017\313\244\152
\277\120\240\312\161\242\154\256\157\337\331\203\202\146\334\123
\135\257\372\124\367\203\377\253\077\211\225\247\264\155\363\017
\012\015\110\063\057\201\051\307\113\005\304\306\127\164\204\303
\230\066\377\357\205\062\253\142\234\023\321\042\207\261\276\230
\333\164\232\217\352\302\326\223\171\105\040\303

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "ACA ROOT"

Issuer: CN=ACA ROOT,O=CONSEJO GENERAL DE LA ABOGACIA,2.5.4.5=Q2863006I,C=ES

Serial Number:47:43:91:24:3f:ce:c3:0d:57:48:28:6b:ee:80:5d:ab

Subject: CN=ACA ROOT,O=CONSEJO GENERAL DE LA ABOGACIA,2.5.4.5=Q2863006I,C=ES

Not Valid Before: Fri May 27 10:58:51 2016

Not Valid After: Mon May 27 10:58:51 2041

Fingerprint (MD5): cc:49:10:f6:2f:f5:db:be:2f:8c:51:f3:8f:74:7c:12

Fingerprint (SHA1): d4:96:59:2b:30:57:07:38:6c:c5:f3:cd:b2:59:ae:66:d7:66:1f:ca

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ACA ROOT"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\324\226\131\053\060\127\007\070\154\305\363\315\262\131\256\146
\327\146\037\312

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\314\111\020\366\057\365\333\276\057\214\121\363\217\164\174\022

END

CKA_ISSUER MULTILINE_OCTAL

\060\135\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\022\060\020\006\003\125\004\005\023\011\121\062\070\066\063\060
\060\066\111\061\047\060\045\006\003\125\004\012\014\036\103\117
\116\123\105\112\117\040\107\105\116\105\122\101\114\040\104\105
\040\114\101\040\101\102\117\107\101\103\111\101\061\021\060\017
\006\003\125\004\003\014\010\101\103\101\040\122\117\117\124

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\107\103\221\044\077\316\303\015\127\110\050\153\356\200
\135\253

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Security Communication ECC RootCA1"

Issuer: CN=Security Communication ECC RootCA1,O=SECOM Trust Systems CO.,LTD.,C=JP

Serial Number:d6:5d:9b:b3:78:81:2e:eb

Subject: CN=Security Communication ECC RootCA1,O=SECOM Trust Systems CO.,LTD.,C=JP

Not Valid Before: Thu Jun 16 05:15:28 2016

```
# Not Valid After: Mon Jan 18 05:15:28 2038
# Fingerprint (MD5): 7e:43:b0:92:68:ec:05:43:4c:98:ab:5d:35:2e:7e:86
# Fingerprint (SHA1): b8:0e:26:a9:bf:d2:b2:3b:c0:ef:46:c9:ba:c7:bb:f6:1d:0d:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\326\135\233\263\170\201\056\353
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\070\060\202\001\276\240\003\002\001\002\002\011\000
\326\135\233\263\170\201\056\353\060\012\006\010\052\206\110\316
\075\004\003\003\060\141\061\013\060\011\006\003\125\004\006\023
\002\112\120\061\045\060\043\006\003\125\004\012\023\034\123\105
\103\117\115\040\124\162\165\163\164\040\123\171\163\164\145\155
\163\040\103\117\056\054\114\124\104\056\061\053\060\051\006\003
\125\004\003\023\042\123\145\143\165\162\151\164\171\040\103\157
\155\155\165\156\151\143\141\164\151\157\156\040\105\103\103\040
\122\157\157\164\103\101\061\060\036\027\015\061\066\060\066\061
\066\060\065\061\065\062\070\132\027\015\063\070\060\061\061\070
\060\065\061\065\062\070\132\060\141\061\013\060\011\006\003\125
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\053\060
\051\006\003\125\004\003\023\042\123\145\143\165\162\151\164\171
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\105
```

```
\103\103\040\122\157\157\164\103\101\061\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\244\245\157\140\003\003\303\275\061\364\323\027\234\053
\204\165\254\345\375\075\127\156\327\143\277\346\004\211\222\216
\201\234\343\351\107\156\312\220\022\310\023\340\247\235\367\145
\164\037\154\020\262\350\344\351\357\155\205\062\231\104\261\136
\375\314\166\020\330\133\275\242\306\371\326\102\344\127\166\334
\220\302\065\251\113\210\074\022\107\155\134\377\111\117\032\112
\120\261\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\206\034\347\376\055\245\112\213\010\376\050\021\372\276\243
\146\370\140\131\057\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075\004
\003\003\003\150\000\060\145\002\060\025\135\102\075\374\266\356
\367\073\261\066\350\236\366\304\106\050\111\063\320\130\103\052
\143\051\314\115\261\264\172\242\271\015\070\245\135\110\052\375
\313\262\163\135\243\210\010\307\014\002\061\000\300\253\055\016
\155\355\030\242\333\123\351\045\333\125\010\340\120\314\337\104
\141\026\202\253\111\260\262\201\354\163\207\170\264\114\262\142
\033\022\372\026\115\045\113\143\275\036\067\331
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "Security Communication ECC RootCA1"
# Issuer: CN=Security Communication ECC RootCA1,O=SECOM Trust Systems CO.,LTD.,C=JP
# Serial Number:d6:5d:9b:b3:78:81:2e:eb
# Subject: CN=Security Communication ECC RootCA1,O=SECOM Trust Systems CO.,LTD.,C=JP
# Not Valid Before: Thu Jun 16 05:15:28 2016
# Not Valid After: Mon Jan 18 05:15:28 2038
# Fingerprint (MD5): 7e:43:b0:92:68:ec:05:43:4c:98:ab:5d:35:2e:7e:86
# Fingerprint (SHA1): b8:0e:26:a9:bf:d2:b2:3b:c0:ef:46:c9:ba:c7:bb:f6:1d:0d:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\016\046\251\277\322\262\073\300\357\106\311\272\307\273\366
\035\015\101\101
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\176\103\260\222\150\354\005\103\114\230\253\135\065\056\176\206
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
```

```
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\011\000\326\135\233\263\170\201\056\353
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Security Communication RootCA3"

Issuer: CN=Security Communication RootCA3,O=SECOM Trust Systems CO.,LTD.,C=JP

Serial Number:e1:7c:37:40:fd:1b:fe:67

Subject: CN=Security Communication RootCA3,O=SECOM Trust Systems CO.,LTD.,C=JP

Not Valid Before: Thu Jun 16 06:17:16 2016

Not Valid After: Mon Jan 18 06:17:16 2038

Fingerprint (MD5): 1c:9a:16:ff:9e:5c:e0:4d:8a:14:01:f4:35:5d:29:26

Fingerprint (SHA1): c3:03:c8:22:74:92:e5:61:a2:9c:5f:79:91:2b:1e:44:13:91:30:3a

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Security Communication RootCA3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\341\174\067\100\375\033\376\147

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\177\060\202\003\147\240\003\002\001\002\002\011\000
\341\174\067\100\375\033\376\147\060\015\006\011\052\206\110\206
\367\015\001\001\014\005\000\060\135\061\013\060\011\006\003\125
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060
\045\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122
\157\157\164\103\101\063\060\036\027\015\061\066\060\066\061\066
\060\066\061\067\061\066\132\027\015\063\070\060\061\061\070\060
\066\061\067\061\066\132\060\135\061\013\060\011\006\003\125\004
\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023\034
\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163\164
\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060\045
\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171\040
\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122\157
\157\164\103\101\063\060\202\002\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002
\012\002\202\002\001\000\343\311\162\111\367\060\336\011\174\251
\100\201\130\323\264\072\335\272\141\017\223\120\156\151\074\065
\302\356\133\163\220\033\147\114\041\354\137\065\273\071\076\053
\012\140\357\273\155\053\206\373\161\242\310\254\344\126\224\371
\311\257\261\162\324\040\254\164\322\270\025\255\121\376\205\164
\241\271\020\376\005\200\371\122\223\263\100\075\165\020\254\300
\226\267\247\176\166\274\343\033\122\031\316\021\037\013\004\064
\365\330\365\151\074\167\363\144\364\015\252\205\336\340\011\120
\004\027\226\204\267\310\212\274\115\162\374\034\273\317\363\006
\115\371\237\144\367\176\246\146\206\065\161\310\021\200\114\301
\161\100\130\036\276\240\163\366\374\076\120\341\340\057\046\075
\176\134\043\265\171\160\336\372\340\321\245\326\014\101\161\173
\367\352\214\034\210\307\354\213\365\321\057\125\226\106\174\132
\073\130\073\373\272\330\055\265\045\332\172\116\317\104\256\041
\246\236\230\312\040\156\174\273\210\205\133\373\300\020\142\273
\362\371\047\107\357\321\211\071\103\304\337\336\341\101\277\124
\163\040\227\055\154\332\363\324\007\243\346\271\330\157\256\374
\214\031\056\323\147\147\053\225\333\130\134\265\152\002\363\270
\203\136\264\153\276\101\176\127\011\165\104\120\125\315\132\021
\141\041\012\141\302\251\210\375\023\274\055\211\057\315\141\340
\225\276\312\265\173\341\173\064\147\013\037\266\014\307\174\036
\031\123\312\247\261\112\025\040\126\024\160\075\053\202\054\017
\235\025\035\107\200\107\377\170\231\016\061\257\157\076\217\355
\206\151\036\173\030\210\024\262\302\374\202\063\056\234\113\055
\373\160\073\161\252\053\173\046\047\363\032\302\334\373\027\270
\241\352\313\240\264\256\323\224\176\172\320\253\303\354\070\055
\021\056\210\277\324\077\255\022\073\102\254\217\002\156\175\314

\321\137\141\276\241\274\072\152\110\352\046\125\042\026\135\137
\015\377\047\063\237\030\003\164\212\133\122\040\107\153\105\115
\042\167\214\125\047\360\257\036\214\311\203\042\124\267\232\320
\117\331\316\374\331\056\034\226\050\261\002\323\003\275\045\122
\034\064\146\117\043\253\364\167\202\226\035\321\127\060\010\021
\005\375\127\321\331\307\002\003\001\000\001\243\102\060\100\060
\035\006\003\125\035\016\004\026\004\024\144\024\174\374\130\162
\026\246\012\051\064\025\157\052\313\274\374\257\250\253\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202
\002\001\000\334\002\043\010\342\357\041\072\307\015\267\046\322
\142\223\247\245\043\162\007\040\202\140\337\030\327\124\255\151
\045\222\236\331\024\317\231\271\122\201\317\256\154\212\073\132
\071\310\154\001\103\302\042\155\002\360\142\315\116\143\103\300
\024\332\364\143\360\352\364\161\356\116\207\343\161\251\364\311
\127\345\056\137\034\171\273\043\252\207\104\127\351\275\065\115
\101\273\113\050\243\230\262\033\331\013\027\007\345\367\352\235
\365\166\327\277\304\266\201\130\377\310\377\144\151\142\171\255
\156\016\037\177\356\035\151\345\267\162\161\263\376\245\001\065
\224\124\053\300\122\155\217\125\304\311\322\270\313\312\064\010
\121\205\240\365\274\264\027\130\352\012\134\172\275\143\306\072
\057\377\226\111\031\204\352\147\330\004\261\141\364\000\133\112
\267\234\161\067\031\205\171\277\201\260\307\023\016\166\161\076
\072\200\006\256\006\026\247\215\265\302\304\313\377\100\245\134
\215\245\311\072\355\162\201\312\134\230\074\322\064\003\167\010
\375\360\051\131\135\041\010\307\140\277\244\161\173\270\331\036
\202\276\011\257\145\157\050\253\277\113\265\356\076\010\107\047
\240\017\157\017\213\077\254\225\030\363\271\016\334\147\125\156
\142\236\106\016\321\004\170\312\162\256\166\331\245\370\262\337
\210\011\141\213\357\044\116\321\131\077\132\324\075\311\223\074
\053\144\365\201\015\026\226\367\222\303\376\061\157\350\052\062
\164\016\364\114\230\112\030\016\060\124\325\305\353\274\305\025
\236\350\231\041\353\047\053\011\012\333\361\346\160\030\126\273
\014\344\276\371\350\020\244\023\222\270\034\340\333\147\035\123
\003\244\042\247\334\135\222\020\074\352\377\374\033\020\032\303
\330\320\234\235\145\313\320\053\047\061\003\036\066\341\075\166
\165\014\377\105\046\271\335\121\274\043\307\137\330\330\207\020
\100\022\015\075\070\067\347\104\074\030\300\123\011\144\217\377
\325\232\246\174\160\056\163\125\041\350\337\377\203\271\035\076
\062\036\326\246\175\054\361\146\351\134\035\247\243\316\136\045
\062\053\343\225\254\052\007\316\264\050\170\206\074\055\246\235
\115\322\164\060\335\144\121\025\333\203\203\121\327\257\375\063
\235\115\146

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```

# Microsoft Code Signing Only Certificate
# Trust for "Security Communication RootCA3"
# Issuer: CN=Security Communication RootCA3,O=SECOM Trust Systems CO.,LTD.,C=JP
# Serial Number:e1:7c:37:40:fd:1b:fe:67
# Subject: CN=Security Communication RootCA3,O=SECOM Trust Systems CO.,LTD.,C=JP
# Not Valid Before: Thu Jun 16 06:17:16 2016
# Not Valid After: Mon Jan 18 06:17:16 2038
# Fingerprint (MD5): 1c:9a:16:ff:9e:5c:e0:4d:8a:14:01:f4:35:5d:29:26
# Fingerprint (SHA1): c3:03:c8:22:74:92:e5:61:a2:9c:5f:79:91:2b:1e:44:13:91:30:3a
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\303\003\310\042\164\222\345\141\242\234\137\171\221\053\036\104
\023\221\060\072
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\034\232\026\377\236\134\340\115\212\024\001\364\065\135\051\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "CHAMBERS OF COMMERCE ROOT - 2016"
# Issuer: CN=CHAMBERS OF COMMERCE ROOT - 2016,O=AC CAMERFIRMA S.A.,2.5.4.97=VATES-
A82743287,2.5.4.5=A82743287,OU=CHAMBERS OF COMMERCE ROOT - 2016,OU=see current address at
www.camerfirma.com/address,L=MADRID,ST=MADRID,C=ES
# Serial Number:34:9a:2d:a1:82:06:b2:b3
# Subject: CN=CHAMBERS OF COMMERCE ROOT - 2016,O=AC CAMERFIRMA S.A.,2.5.4.97=VATES-
A82743287,2.5.4.5=A82743287,OU=CHAMBERS OF COMMERCE ROOT - 2016,OU=see current address at
www.camerfirma.com/address,L=MADRID,ST=MADRID,C=ES
# Not Valid Before: Thu Apr 14 07:35:48 2016

```

```
# Not Valid After: Sun Apr 08 07:35:48 2040
# Fingerprint (MD5): d9:84:45:a4:8b:62:ec:c1:fc:51:54:8a:d1:58:8d:e8
# Fingerprint (SHA1): 2d:e1:6a:56:77:ba:ca:39:e1:d6:8c:30:dc:b1:4a:be:22:a6:17:9b
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CHAMBERS OF COMMERCE ROOT - 2016"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\202\001\014\061\013\060\011\006\003\125\004\006\023\002\105
\123\061\017\060\015\006\003\125\004\010\014\006\115\101\104\122
\111\104\061\017\060\015\006\003\125\004\007\014\006\115\101\104
\122\111\104\061\072\060\070\006\003\125\004\013\014\061\163\145
\145\040\143\165\162\162\145\156\164\040\141\144\144\162\145\163
\163\040\141\164\040\167\167\167\056\143\141\155\145\162\146\151
\162\155\141\056\143\157\155\057\141\144\144\162\145\163\163\061
\051\060\047\006\003\125\004\013\014\040\103\110\101\115\102\105
\122\123\040\117\106\040\103\117\115\115\105\122\103\105\040\122
\117\117\124\040\055\040\062\060\061\066\061\022\060\020\006\003
\125\004\005\023\011\101\070\062\067\064\063\062\070\067\061\030
\060\026\006\003\125\004\141\014\017\126\101\124\105\123\055\101
\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125\004
\012\014\022\101\103\040\103\101\115\105\122\106\111\122\115\101
\040\123\056\101\056\061\051\060\047\006\003\125\004\003\014\040
\103\110\101\115\102\105\122\123\040\117\106\040\103\117\115\115
\105\122\103\105\040\122\117\117\124\040\055\040\062\060\061\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\202\001\014\061\013\060\011\006\003\125\004\006\023\002\105
\123\061\017\060\015\006\003\125\004\010\014\006\115\101\104\122
\111\104\061\017\060\015\006\003\125\004\007\014\006\115\101\104
\122\111\104\061\072\060\070\006\003\125\004\013\014\061\163\145
\145\040\143\165\162\162\145\156\164\040\141\144\144\162\145\163
\163\040\141\164\040\167\167\167\056\143\141\155\145\162\146\151
\162\155\141\056\143\157\155\057\141\144\144\162\145\163\163\061
\051\060\047\006\003\125\004\013\014\040\103\110\101\115\102\105
\122\123\040\117\106\040\103\117\115\115\105\122\103\105\040\122
\117\117\124\040\055\040\062\060\061\066\061\022\060\020\006\003
\125\004\005\023\011\101\070\062\067\064\063\062\070\067\061\030
\060\026\006\003\125\004\141\014\017\126\101\124\105\123\055\101
\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125\004
\012\014\022\101\103\040\103\101\115\105\122\106\111\122\115\101
\040\123\056\101\056\061\051\060\047\006\003\125\004\003\014\040
\103\110\101\115\102\105\122\123\040\117\106\040\103\117\115\115
\105\122\103\105\040\122\117\117\124\040\055\040\062\060\061\066
END
```

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\064\232\055\241\202\006\262\263

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\340\060\202\004\310\240\003\002\001\002\002\010\064
\232\055\241\202\006\262\263\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\202\001\014\061\013\060\011\006\003
\125\004\006\023\002\105\123\061\017\060\015\006\003\125\004\010
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\004\013\014\061\163\145\145\040\143\165\162\162\145\156\164\040
\141\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143
\141\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144
\144\162\145\163\163\061\051\060\047\006\003\125\004\013\014\040
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\105\122\103\105\040\122\117\117\124\040\055\040\062\060\061\066
\061\022\060\020\006\003\125\004\005\023\011\101\070\062\067\064
\063\062\070\067\061\030\060\026\006\003\125\004\141\014\017\126
\101\124\105\123\055\101\070\062\067\064\063\062\070\067\061\033
\060\031\006\003\125\004\012\014\022\101\103\040\103\101\115\105
\122\106\111\122\115\101\040\123\056\101\056\061\051\060\047\006
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\106\040\103\117\115\115\105\122\103\105\040\122\117\117\124\040
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\060\067\063\065\064\070\132\027\015\064\060\060\064\060\070\060
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\125\004\006\023\002\105\123\061\017\060\015\006\003\125\004\010
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\007\014\006\115\101\104\122\111\104\061\072\060\070\006\003\125
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\141\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144
\144\162\145\163\163\061\051\060\047\006\003\125\004\013\014\040
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\105\122\103\105\040\122\117\117\124\040\055\040\062\060\061\066
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\063\062\070\067\061\030\060\026\006\003\125\004\141\014\017\126
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\122\106\111\122\115\101\040\123\056\101\056\061\051\060\047\006
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\106\040\103\117\115\115\105\122\103\105\040\122\117\117\124\040
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\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
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\237\365\274\120\000\364\054\317\362\170\350\362\054\002\047\326
\203\214\004\253\323\016\173\127\040\311\324\257\145\364\207\335
\060\010\327\316\101\243\166\012\333\212\106\344\246\375\355\010

\316\160\077\372\020\140\171\114\153\201\124\200\125\344\347\172
\041\266\165\232\334\136\366\016\231\374\370\302\337\101\216\057
\253\307\133\155\034\120\131\300\355\350\254\202\102\376\271\257
\057\014\101\121\234\275\000\156\144\121\262\073\345\066\253\225
\221\022\373\061\307\163\254\034\330\145\166\073\316\033\114\116
\260\037\040\006\373\120\264\373\233\241\171\216\026\225\343\237
\353\030\113\204\253\071\223\315\067\203\320\351\174\013\047\217
\355\102\010\351\206\106\062\254\232\046\151\160\141\055\030\275
\077\120\360\236\366\150\120\116\151\225\160\301\355\223\251\227
\116\051\242\272\335\302\237\156\111\010\053\243\372\043\361\051
\136\260\175\061\131\233\355\214\315\246\156\370\370\367\330\030
\350\332\126\351\110\362\100\164\176\236\315\040\257\024\044\131
\356\167\065\205\277\112\231\112\251\165\335\263\046\343\006\316
\175\157\113\144\243\166\064\031\076\024\157\205\124\070\342\213
\055\100\265\144\146\037\127\063\034\160\315\303\264\050\132\024
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\012\126\333\162\176\357\047\007\015\000\264\277\175\231\077\115
\105\263\233\367\035\031\320\117\004\372\307\163\224\210\175\213
\024\052\231\340\351\231\222\011\306\326\001\153\267\360\333\103
\127\142\033\307\104\122\342\227\143\272\317\352\316\140\346\012
\345\030\150\055\063\200\165\240\060\007\150\366\325\367\023\054
\072\260\236\350\130\125\156\214\126\104\115\103\027\101\002\314
\167\334\137\105\005\131\317\315\140\323\277\322\366\342\364\325
\334\207\161\063\007\032\365\157\264\177\075\227\373\137\144\364
\116\016\000\104\011\351\353\354\076\161\031\004\027\071\110\140
\270\113\377\136\310\145\231\053\246\062\362\133\206\250\235\350
\043\164\020\170\357\313\047\235\061\272\140\213\116\006\120\342
\120\035\007\140\302\101\214\025\264\133\067\034\012\345\011\031
\162\004\212\074\343\001\333\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\236\056\145\117
\076\127\365\253\175\226\306\213\337\263\065\155\112\350\236\213
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\005\151\052\205\227\046\120\272\102\071\034\223
\054\322\117\133\321\135\104\046\332\157\151\053\265\173\236\320
\364\112\056\110\307\354\177\237\312\131\172\271\104\367\076\275
\367\120\153\121\237\164\377\220\032\100\320\223\171\222\017\212
\043\136\213\257\201\013\320\213\255\146\340\052\334\232\051\275
\065\330\154\100\024\111\102\075\211\057\272\233\053\070\274\032
\243\013\267\210\327\255\306\024\014\356\174\111\254\256\354\362
\075\030\117\214\155\024\135\016\252\267\337\167\253\073\217\142
\116\213\014\145\306\031\216\315\300\014\241\167\252\264\335\172
\247\023\005\346\071\030\307\225\144\176\003\266\213\220\301\345
\137\000\043\230\346\163\332\021\322\020\377\036\123\042\047\307
\323\001\311\057\305\073\062\156\360\303\070\312\022\147\274\272
\043\051\273\304\225\111\132\006\335\324\132\220\324\023\155\347
\325\302\174\342\130\004\300\354\304\275\242\074\176\306\043\201

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\165\174\253\160\137\064\204\225\367\263\325\107\226\117\161\312
\170\062\010\040\264\102\244\102\153\325\045\234\262\047\353\301
\016\107\104\011\341\053\017\320\043\066\156\034\271\272\116\254
\314\360\014\224\316\101\017\153\335\017\325\310\340\027\213\336
\072\135\122\276\351\165\045\035\272\005\007\332\126\031\074\215
\321\327\361\121\066\331\222\357\242\170\121\005\130\275\122\314
\012\136\157\257\332\320\345\014\333\154\301\043\357\071\061\167
\027\007\000\214\366\272\017\160\371\274\276\341\344\175\341\314
\104\172\244\041\354\107\077\250\326\025\245\354\001\251\310\160
\350\230\147\035\275\131\124\176\241\127\025\065\007\305\162\311
\076\267\051\206\215\237\332\062\171\062\334\333\250\345\011\377
\357\126\052\376\223\261\216\052\023\355\255\242\053\153\057\004
\336\315\057\222\222\326\076\140\265\170\001\225\007\010\251\154
\343\034\332\373\345\233\043\126\040\133\351\320\134\306\112\044
\073\274\343\266\042\026\052\204\222\377\250\376\227\277\243\235
\333\141\136\356\031\052\054\327\353\015\166\126\070\165\176\111
\000\223\127\311\374\043\132\374\364\361\337\052\235\260\214\151
\364\020\243\125\235\160\074\042\377\007\326\053\266\231\300\227
\320\364\052\240
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "CHAMBERS OF COMMERCE ROOT - 2016"

Issuer: CN=CHAMBERS OF COMMERCE ROOT - 2016,O=AC CAMERFIRMA S.A.,2.5.4.97=VATES-A82743287,2.5.4.5=A82743287,OU=CHAMBERS OF COMMERCE ROOT - 2016,OU=see current address at www.camerfirma.com/address,L=MADRID,ST=MADRID,C=ES

Serial Number:34:9a:2d:a1:82:06:b2:b3

Subject: CN=CHAMBERS OF COMMERCE ROOT - 2016,O=AC CAMERFIRMA S.A.,2.5.4.97=VATES-A82743287,2.5.4.5=A82743287,OU=CHAMBERS OF COMMERCE ROOT - 2016,OU=see current address at www.camerfirma.com/address,L=MADRID,ST=MADRID,C=ES

Not Valid Before: Thu Apr 14 07:35:48 2016

Not Valid After: Sun Apr 08 07:35:48 2040

Fingerprint (MD5): d9:84:45:a4:8b:62:ec:c1:fc:51:54:8a:d1:58:8d:e8

Fingerprint (SHA1): 2d:e1:6a:56:77:ba:ca:39:e1:d6:8c:30:dc:b1:4a:be:22:a6:17:9b

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
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```
CKA_LABEL UTF8 "CHAMBERS OF COMMERCE ROOT - 2016"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
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\055\341\152\126\167\272\312\071\341\326\214\060\334\261\112\276
\042\246\027\233
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END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
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\331\204\105\244\213\142\354\301\374\121\124\212\321\130\215\350
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END

CKA_ISSUER MULTILINE_OCTAL

\060\202\001\014\061\013\060\011\006\003\125\004\006\023\002\105
\123\061\017\060\015\006\003\125\004\010\014\006\115\101\104\122
\111\104\061\017\060\015\006\003\125\004\007\014\006\115\101\104
\122\111\104\061\072\060\070\006\003\125\004\013\014\061\163\145
\145\040\143\165\162\162\145\156\164\040\141\144\144\162\145\163
\163\040\141\164\040\167\167\167\056\143\141\155\145\162\146\151
\162\155\141\056\143\157\155\057\141\144\144\162\145\163\163\061
\051\060\047\006\003\125\004\013\014\040\103\110\101\115\102\105
\122\123\040\117\106\040\103\117\115\115\105\122\103\105\040\122
\117\117\124\040\055\040\062\060\061\066\061\022\060\020\006\003
\125\004\005\023\011\101\070\062\067\064\063\062\070\067\061\030
\060\026\006\003\125\004\141\014\017\126\101\124\105\123\055\101
\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125\004
\012\014\022\101\103\040\103\101\115\105\122\106\111\122\115\101
\040\123\056\101\056\061\051\060\047\006\003\125\004\003\014\040
\103\110\101\115\102\105\122\123\040\117\106\040\103\117\115\115
\105\122\103\105\040\122\117\117\124\040\055\040\062\060\061\066

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\064\232\055\241\202\006\262\263

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Network Solutions RSA Certificate Authority"

Issuer: CN=Network Solutions RSA Certificate Authority,O=Network Solutions

L.L.C.,L=Jacksonville,ST=FL,C=US

Serial Number:4c:03:4b:ac:67:18:4c:7f:af:44:08:4d:82:96:c7:b2

Subject: CN=Network Solutions RSA Certificate Authority,O=Network Solutions

L.L.C.,L=Jacksonville,ST=FL,C=US

Not Valid Before: Wed Nov 18 00:00:00 2015

Not Valid After: Mon Jan 18 23:59:59 2038

Fingerprint (MD5): 5a:2f:58:bc:83:2c:2d:99:b4:9b:78:24:d4:8f:f9:67

Fingerprint (SHA1): 8e:92:8c:0f:c2:7b:b7:ab:a3:4e:6b:c0:ca:12:50:cb:57:b6:0f:84

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Network Solutions RSA Certificate Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\212\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\106\114\061\025\060

\023\006\003\125\004\007\023\014\112\141\143\153\163\157\156\166
\151\154\154\145\061\041\060\037\006\003\125\004\012\023\030\116
\145\164\167\157\162\153\040\123\157\154\165\164\151\157\156\163
\040\114\056\114\056\103\056\061\064\060\062\006\003\125\004\003
\023\053\116\145\164\167\157\162\153\040\123\157\154\165\164\151
\157\156\163\040\122\123\101\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\212\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\106\114\061\025\060
\023\006\003\125\004\007\023\014\112\141\143\153\163\157\156\166
\151\154\154\145\061\041\060\037\006\003\125\004\012\023\030\116
\145\164\167\157\162\153\040\123\157\154\165\164\151\157\156\163
\040\114\056\114\056\103\056\061\064\060\062\006\003\125\004\003
\023\053\116\145\164\167\157\162\153\040\123\157\154\165\164\151
\157\156\163\040\122\123\101\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\114\003\113\254\147\030\114\177\257\104\010\115\202\226
\307\262

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\342\060\202\003\312\240\003\002\001\002\002\020\114
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\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201
\212\061\013\060\011\006\003\125\004\006\023\002\125\123\061\013
\060\011\006\003\125\004\010\023\002\106\114\061\025\060\023\006
\003\125\004\007\023\014\112\141\143\153\163\157\156\166\151\154
\154\145\061\041\060\037\006\003\125\004\012\023\030\116\145\164
\167\157\162\153\040\123\157\154\165\164\151\157\156\163\040\114
\056\114\056\103\056\061\064\060\062\006\003\125\004\003\023\053
\116\145\164\167\157\162\153\040\123\157\154\165\164\151\157\156
\163\040\122\123\101\040\103\145\162\164\151\146\151\143\141\164
\145\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\065\061\061\061\070\060\060\060\060\060\060\132\027\015\063\070
\060\061\061\070\062\063\065\071\065\071\132\060\201\212\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\013\060\011\006
\003\125\004\010\023\002\106\114\061\025\060\023\006\003\125\004
\007\023\014\112\141\143\153\163\157\156\166\151\154\154\145\061
\041\060\037\006\003\125\004\012\023\030\116\145\164\167\157\162
\153\040\123\157\154\165\164\151\157\156\163\040\114\056\114\056
\103\056\061\064\060\062\006\003\125\004\003\023\053\116\145\164
\167\157\162\153\040\123\157\154\165\164\151\157\156\163\040\122
\123\101\040\103\145\162\164\151\146\151\143\141\164\145\040\101
\165\164\150\157\162\151\164\171\060\202\002\042\060\015\006\011

\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\204\337\250\246\243\214\013
\170\036\310\115\031\225\335\051\220\222\040\065\220\052\224\215
\202\063\055\160\022\130\245\010\212\236\301\010\363\223\326\150
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\002\141\131\075\252\303\157\164\000\322\370\032\064\324\124\236
\152\164\107\232\057\340\322\367\017\367\303\335\077\245\277\301
\372\175\102\151\140\000\200\354\074\346\273\201\067\244\036\006
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\212\142\352\017\145\267\217\117\227\100\316\317\356\301\152\050
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\271\235\171\072\355\323\052\372\176\246\270\377\127\052\163\262
\246\277\332\211\272\006\033\332\145\240\346\276\140\224\210\366
\337\146\341\047\152\033\376\320\136\251\215\040\213\012\304\037
\176\210\101\057\262\301\320\363\266\150\355\310\073\361\357\252
\007\336\176\327\042\340\201\366\245\352\173\026\364\102\124\235
\226\176\366\142\026\123\315\375\012\253\262\102\241\116\052\210
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\053\176\225\344\171\317\165\114\302\330\004\277\070\216\050\263
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\145\365\232\030\001\327\365\303\177\051\311\020\356\163\112\103
\166\173\321\246\060\121\377\326\053\035\036\142\204\276\371\276
\151\227\231\307\015\347\174\044\120\165\027\375\244\040\347\065
\150\003\140\224\247\331\015\306\032\054\345\342\116\325\314\016
\300\172\060\126\357\140\222\276\331\056\365\307\360\350\105\317
\332\206\256\357\330\167\251\022\047\002\003\001\000\001\243\102
\060\100\060\035\006\003\125\035\016\004\026\004\024\017\361\112
\112\165\164\005\021\014\035\330\133\231\353\277\376\252\175\136
\327\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\206\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\014\005
\000\003\202\002\001\000\075\313\322\106\170\365\366\072\027\350
\303\173\144\321\305\273\220\170\215\365\117\271\304\055\227\373
\013\346\305\270\361\266\352\350\130\113\064\255\167\171\054\065
\037\162\175\002\076\356\265\320\026\212\006\067\226\265\357\103
\320\011\020\054\227\146\307\201\037\036\346\047\305\202\221\130
\136\363\310\133\101\150\200\203\221\271\234\201\370\047\372\105
\337\356\171\362\134\155\160\002\124\356\300\123\330\103\353\005
\172\314\364\121\335\251\324\042\175\152\073\362\376\210\324\122
\111\072\205\222\144\123\370\152\123\140\210\217\362\133\324\256

\053\122\340\352\377\124\176\241\344\357\206\033\247\203\013\006
\146\136\060\200\214\125\240\107\063\377\153\036\104\110\113\141
\252\036\076\350\114\144\307\330\155\175\016\256\074\074\102\075
\312\044\032\160\361\141\024\234\072\030\325\360\006\051\221\042
\262\072\072\241\026\124\143\032\371\063\225\104\237\044\243\041
\144\004\010\342\233\325\336\010\122\034\142\034\123\026\107\065
\102\046\307\247\014\375\363\133\023\167\002\214\134\342\026\360
\030\037\331\175\365\337\002\044\210\172\363\136\377\027\016\263
\142\147\241\253\261\027\216\075\072\106\260\365\106\214\253\204
\330\365\016\241\040\353\302\360\231\164\075\216\263\003\330\044
\305\154\353\153\014\123\277\140\151\335\214\050\305\157\317\273
\322\201\167\053\306\174\261\304\112\154\025\020\067\051\135\256
\370\261\021\005\304\024\215\354\023\243\104\375\115\213\150\270
\301\377\235\325\067\056\110\370\050\174\334\371\163\123\331\266
\001\165\102\172\277\013\337\121\120\270\123\262\341\356\164\220
\313\274\252\320\161\203\242\253\116\311\020\266\075\034\357\100
\327\117\103\220\063\271\001\226\124\135\052\325\006\133\222\206
\270\006\020\201\006\310\221\333\051\040\262\123\275\363\113\133
\114\333\151\037\211\156\124\077\327\211\135\347\265\315\014\276
\077\175\170\070\001\322\266\147\246\317\130\110\224\032\105\375
\220\163\111\312\265\103\240\041\142\215\111\004\046\252\370\037
\056\077\362\056\241\362\253\364\006\036\260\055\304\301\160\102
\075\375\303\121\111\210\000\016\312\202\015\233\171\002\342\300
\056\223\337\344\362\361

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Network Solutions RSA Certificate Authority"
Issuer: CN=Network Solutions RSA Certificate Authority,O=Network Solutions
L.L.C.,L=Jacksonville,ST=FL,C=US
Serial Number:4c:03:4b:ac:67:18:4c:7f:af:44:08:4d:82:96:c7:b2
Subject: CN=Network Solutions RSA Certificate Authority,O=Network Solutions
L.L.C.,L=Jacksonville,ST=FL,C=US
Not Valid Before: Wed Nov 18 00:00:00 2015
Not Valid After: Mon Jan 18 23:59:59 2038
Fingerprint (MD5): 5a:2f:58:bc:83:2c:2d:99:b4:9b:78:24:d4:8f:f9:67
Fingerprint (SHA1): 8e:92:8c:0f:c2:7b:b7:ab:a3:4e:6b:c0:ca:12:50:cb:57:b6:0f:84
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Network Solutions RSA Certificate Authority"
CKA_CERT_SHA1_HASH MULTILINE OCTAL
\216\222\214\017\302\173\267\253\243\116\153\300\312\022\120\313
\127\266\017\204

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\132\057\130\274\203\054\055\231\264\233\170\044\324\217\371\147
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\106\114\061\025\060
\023\006\003\125\004\007\023\014\112\141\143\153\163\157\156\166
\151\154\154\145\061\041\060\037\006\003\125\004\012\023\030\116
\145\164\167\157\162\153\040\123\157\154\165\164\151\157\156\163
\040\114\056\114\056\103\056\061\064\060\062\006\003\125\004\003
\023\053\116\145\164\167\157\162\153\040\123\157\154\165\164\151
\157\156\163\040\122\123\101\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\114\003\113\254\147\030\114\177\257\104\010\115\202\226
\307\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Network Solutions ECC Certificate Authority"
# Issuer: CN=Network Solutions ECC Certificate Authority,O=Network Solutions
L.L.C.,L=Jacksonville,ST=FL,C=US
# Serial Number:79:38:4b:b4:19:1a:8d:74:22:cc:ff:85:32:f2:e4:ba
# Subject: CN=Network Solutions ECC Certificate Authority,O=Network Solutions
L.L.C.,L=Jacksonville,ST=FL,C=US
# Not Valid Before: Wed Nov 18 00:00:00 2015
# Not Valid After: Mon Jan 18 23:59:59 2038
# Fingerprint (MD5): a5:a8:cc:e3:1c:41:11:8c:6a:8c:38:bd:a2:47:fe:b2
# Fingerprint (SHA1): 80:f9:5b:74:1c:38:39:94:95:c3:4f:20:c2:3e:73:36:31:4d:3c:6b
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Network Solutions ECC Certificate Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\106\114\061\025\060
\023\006\003\125\004\007\023\014\112\141\143\153\163\157\156\166
\151\154\154\145\061\041\060\037\006\003\125\004\012\023\030\116
\145\164\167\157\162\153\040\123\157\154\165\164\151\157\156\163
\040\114\056\114\056\103\056\061\064\060\062\006\003\125\004\003

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\023\053\116\145\164\167\157\162\153\040\123\157\154\165\164\151
\157\156\163\040\105\103\103\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\212\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\106\114\061\025\060
\023\006\003\125\004\007\023\014\112\141\143\153\163\157\156\166
\151\154\154\145\061\041\060\037\006\003\125\004\012\023\030\116
\145\164\167\157\162\153\040\123\157\154\165\164\151\157\156\163
\040\114\056\114\056\103\056\061\064\060\062\006\003\125\004\003
\023\053\116\145\164\167\157\162\153\040\123\157\154\165\164\151
\157\156\163\040\105\103\103\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\171\070\113\264\031\032\215\164\042\314\377\205\062\362
\344\272

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\224\060\202\002\031\240\003\002\001\002\002\020\171
\070\113\264\031\032\215\164\042\314\377\205\062\362\344\272\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\212\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\013\060\011\006
\003\125\004\010\023\002\106\114\061\025\060\023\006\003\125\004
\007\023\014\112\141\143\153\163\157\156\166\151\154\154\145\061
\041\060\037\006\003\125\004\012\023\030\116\145\164\167\157\162
\153\040\123\157\154\165\164\151\157\156\163\040\114\056\114\056
\103\056\061\064\060\062\006\003\125\004\003\023\053\116\145\164
\167\157\162\153\040\123\157\154\165\164\151\157\156\163\040\105
\103\103\040\103\145\162\164\151\146\151\143\141\164\145\040\101
\165\164\150\157\162\151\164\171\060\036\027\015\061\065\061\061
\061\070\060\060\060\060\060\060\132\027\015\063\070\060\061\061
\070\062\063\065\071\065\071\132\060\201\212\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\013\060\011\006\003\125\004
\010\023\002\106\114\061\025\060\023\006\003\125\004\007\023\014
\112\141\143\153\163\157\156\166\151\154\154\145\061\041\060\037
\006\003\125\004\012\023\030\116\145\164\167\157\162\153\040\123
\157\154\165\164\151\157\156\163\040\114\056\114\056\103\056\061
\064\060\062\006\003\125\004\003\023\053\116\145\164\167\157\162
\153\040\123\157\154\165\164\151\157\156\163\040\105\103\103\040
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150
\157\162\151\164\171\060\166\060\020\006\007\052\206\110\316\075
\002\001\006\005\053\201\004\000\042\003\142\000\004\024\341\003
\013\145\157\255\131\326\036\356\311\277\264\114\305\306\134\057
\060\307\237\122\333\150\141\300\151\020\342\222\172\032\303\277
\222\250\211\071\212\373\347\240\273\161\244\240\303\337\167\326

\224\067\023\137\176\123\135\120\272\343\114\010\307\145\342\101
\260\346\131\362\234\370\300\262\167\301\012\221\046\167\362\151
\266\273\320\101\074\052\210\032\224\221\026\306\076\243\102\060
\100\060\035\006\003\125\035\016\004\026\004\024\233\173\353\310
\377\203\362\122\230\107\060\012\126\370\070\276\343\353\000\316
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\012\006\010\052\206\110\316\075\004\003\003\003\151\000
\060\146\002\061\000\251\144\130\367\234\271\023\146\042\111\177
\262\321\002\351\023\374\034\373\244\064\222\344\312\007\015\267
\261\122\170\050\064\313\362\041\126\221\206\206\310\212\013\257
\062\204\124\145\211\002\061\000\354\171\015\235\211\360\014\030
\352\173\127\122\255\013\346\324\171\133\313\233\342\006\105\165
\030\275\320\374\247\335\307\341\307\042\266\343\101\044\135\043
\346\250\237\000\152\120\062\045

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Network Solutions ECC Certificate Authority"
Issuer: CN=Network Solutions ECC Certificate Authority,O=Network Solutions
L.L.C.,L=Jacksonville,ST=FL,C=US
Serial Number:79:38:4b:b4:19:1a:8d:74:22:cc:ff:85:32:f2:e4:ba
Subject: CN=Network Solutions ECC Certificate Authority,O=Network Solutions
L.L.C.,L=Jacksonville,ST=FL,C=US
Not Valid Before: Wed Nov 18 00:00:00 2015
Not Valid After: Mon Jan 18 23:59:59 2038
Fingerprint (MD5): a5:a8:cc:e3:1c:41:11:8c:6a:8c:38:bd:a2:47:fe:b2
Fingerprint (SHA1): 80:f9:5b:74:1c:38:39:94:95:c3:4f:20:c2:3e:73:36:31:4d:3c:6b
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Network Solutions ECC Certificate Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\200\371\133\164\034\070\071\224\225\303\117\040\302\076\163\066
\061\115\074\153

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\245\250\314\343\034\101\021\214\152\214\070\275\242\107\376\262

END
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\106\114\061\025\060
\023\006\003\125\004\007\023\014\112\141\143\153\163\157\156\166
\151\154\154\145\061\041\060\037\006\003\125\004\012\023\030\116

```
\145\164\167\157\162\153\040\123\157\154\165\164\151\157\156\163
\040\114\056\114\056\103\056\061\064\060\062\006\003\125\004\003
\023\053\116\145\164\167\157\162\153\040\123\157\154\165\164\151
\157\156\163\040\105\103\103\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\171\070\113\264\031\032\215\164\042\314\377\205\062\362
\344\272
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "Australian Defence Public Root CA"

Issuer: CN=Australian Defence Public Root CA,OU=CAs,OU=PKI,OU=DoD,O=GOV,C=AU

Serial Number:29:eb:92:33:46:4f:32:41:ff:83:19:00:a9:ad:c4:d9:f8:e3:e2:7f

Subject: CN=Australian Defence Public Root CA,OU=CAs,OU=PKI,OU=DoD,O=GOV,C=AU

Not Valid Before: Mon Nov 28 22:25:28 2016

Not Valid After: Fri Nov 28 22:13:48 2036

Fingerprint (MD5): a2:6b:fb:f8:f3:14:59:bf:16:d7:3c:ce:f3:20:0a:97

Fingerprint (SHA1): a9:ca:fe:9d:fd:67:f4:14:5a:d3:97:d0:e2:f3:05:0d:19:8d:e6:ee

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Australian Defence Public Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\161\061\013\060\011\006\003\125\004\006\023\002\101\125\061
\014\060\012\006\003\125\004\012\023\003\107\117\126\061\014\060
\012\006\003\125\004\013\023\003\104\157\104\061\014\060\012\006
\003\125\004\013\023\003\120\113\111\061\014\060\012\006\003\125
\004\013\023\003\103\101\163\061\052\060\050\006\003\125\004\003
\023\041\101\165\163\164\162\141\154\151\141\156\040\104\145\146
\145\156\143\145\040\120\165\142\154\151\143\040\122\157\157\164
\040\103\101
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\161\061\013\060\011\006\003\125\004\006\023\002\101\125\061
\014\060\012\006\003\125\004\012\023\003\107\117\126\061\014\060
\012\006\003\125\004\013\023\003\104\157\104\061\014\060\012\006
\003\125\004\013\023\003\120\113\111\061\014\060\012\006\003\125
\004\013\023\003\103\101\163\061\052\060\050\006\003\125\004\003
\023\041\101\165\163\164\162\141\154\151\141\156\040\104\145\146
```

\145\156\143\145\040\120\165\142\154\151\143\040\122\157\157\164
\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\051\353\222\063\106\117\062\101\377\203\031\000\251\255
\304\331\370\343\342\177

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\042\060\202\003\012\240\003\002\001\002\002\024\051
\353\222\063\106\117\062\101\377\203\031\000\251\255\304\331\370
\343\342\177\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\161\061\013\060\011\006\003\125\004\006\023\002\101
\125\061\014\060\012\006\003\125\004\012\023\003\107\117\126\061
\014\060\012\006\003\125\004\013\023\003\104\157\104\061\014\060
\012\006\003\125\004\013\023\003\120\113\111\061\014\060\012\006
\003\125\004\013\023\003\103\101\163\061\052\060\050\006\003\125
\004\003\023\041\101\165\163\164\162\141\154\151\141\156\040\104
\145\146\145\156\143\145\040\120\165\142\154\151\143\040\122\157
\157\164\040\103\101\060\036\027\015\061\066\061\061\062\070\062
\062\062\065\062\070\132\027\015\063\066\061\061\062\070\062\062
\061\063\064\070\132\060\161\061\013\060\011\006\003\125\004\006
\023\002\101\125\061\014\060\012\006\003\125\004\012\023\003\107
\117\126\061\014\060\012\006\003\125\004\013\023\003\104\157\104
\061\014\060\012\006\003\125\004\013\023\003\120\113\111\061\014
\060\012\006\003\125\004\013\023\003\103\101\163\061\052\060\050
\006\003\125\004\003\023\041\101\165\163\164\162\141\154\151\141
\156\040\104\145\146\145\156\143\145\040\120\165\142\154\151\143
\040\122\157\157\164\040\103\101\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\323\116\124\004\033\320\364
\233\235\270\043\207\340\040\307\236\230\261\161\172\006\220\056
\342\255\110\376\223\005\154\354\206\277\050\100\205\263\114\171
\357\107\123\230\020\036\124\356\175\170\270\030\023\014\104\122
\375\320\201\252\223\010\043\071\276\137\017\153\335\045\227\363
\001\102\337\324\201\000\304\120\276\172\211\055\031\257\163\112
\077\314\072\300\277\242\250\305\025\367\076\174\101\164\202\153
\056\167\146\342\152\245\221\210\156\006\061\247\257\013\346\132
\340\256\175\132\257\057\107\320\362\373\204\163\234\106\241\036
\204\104\121\304\137\056\332\220\002\137\201\337\021\016\322\373
\273\072\027\163\243\362\215\143\252\117\377\162\172\145\142\203
\132\052\074\362\315\054\043\215\317\353\041\037\277\324\003\127
\365\067\026\014\136\345\127\021\302\250\372\377\154\071\362\075
\122\346\265\171\300\133\342\262\352\143\040\014\016\245\052\136
\022\341\346\257\137\213\174\240\255\071\065\065\230\137\361\257
\070\320\046\323\115\275\142\167\165\075\257\153\024\206\173\132
\366\041\217\326\352\342\247\016\255\002\003\001\000\001\243\201
\261\060\201\256\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\113\006\003\125\035\040\004\104\060\102

\060\006\006\004\125\035\040\000\060\070\006\011\052\044\001\202
\116\001\001\001\007\060\053\060\051\006\010\053\006\001\005\005
\007\002\001\026\035\150\164\164\160\072\057\057\143\162\154\056
\144\145\146\145\156\143\145\056\147\157\166\056\141\165\057\160
\153\151\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\306\060\037\006\003\125\035\043\004\030\060\026\200\024\254
\231\341\002\057\350\134\113\101\267\064\270\036\351\233\203\066
\015\224\264\060\035\006\003\125\035\016\004\026\004\024\254\231
\341\002\057\350\134\113\101\267\064\270\036\351\233\203\066\015
\224\264\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\003\202\001\001\000\170\274\201\112\330\072\127\273\275\046
\277\352\052\050\360\210\212\362\120\114\220\147\332\113\365\270
\024\010\272\333\177\162\250\232\131\274\361\034\211\250\364\072
\003\020\124\023\172\135\306\332\272\076\017\210\325\152\323\033
\227\055\142\141\072\157\371\000\257\162\006\163\354\020\300\141
\036\314\134\117\031\062\106\070\301\335\077\322\067\032\245\216
\206\240\360\011\314\065\326\031\002\174\315\071\374\367\371\037
\347\224\171\116\075\267\370\227\116\073\104\152\315\224\260\271
\367\176\342\343\371\231\177\305\323\246\120\264\111\373\026\176
\116\101\054\317\076\307\171\100\272\201\030\046\010\371\305\235
\343\330\361\157\034\150\077\152\133\167\027\122\243\006\336\031
\302\113\156\242\225\374\325\010\277\054\265\151\065\121\343\343
\337\117\032\051\155\203\170\075\070\044\312\002\077\124\020\341
\263\144\341\325\232\336\363\067\366\063\020\265\166\263\253\327
\311\037\123\072\255\125\101\034\110\311\066\236\207\377\165\334
\151\320\257\331\172\127\306\312\261\103\374\071\201\374\334\172
\243\232\245\230\120\124

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "Australian Defence Public Root CA"
Issuer: CN=Australian Defence Public Root CA,OU=CAs,OU=PKI,OU=DoD,O=GOV,C=AU
Serial Number:29:eb:92:33:46:4f:32:41:ff:83:19:00:a9:ad:c4:d9:f8:e3:e2:7f
Subject: CN=Australian Defence Public Root CA,OU=CAs,OU=PKI,OU=DoD,O=GOV,C=AU
Not Valid Before: Mon Nov 28 22:25:28 2016
Not Valid After: Fri Nov 28 22:13:48 2036
Fingerprint (MD5): a2:6b:fb:f8:f3:14:59:bf:16:d7:3c:ce:f3:20:0a:97
Fingerprint (SHA1): a9:ca:fe:9d:fd:67:f4:14:5a:d3:97:d0:e2:f3:05:0d:19:8d:e6:ee
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Australian Defence Public Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\251\312\376\235\375\147\364\024\132\323\227\320\342\363\005\015


```

\031\215\346\356
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\242\153\373\370\363\024\131\277\026\327\074\316\363\040\012\227
END
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\101\125\061
\014\060\012\006\003\125\004\012\023\003\107\117\126\061\014\060
\012\006\003\125\004\013\023\003\104\157\104\061\014\060\012\006
\003\125\004\013\023\003\120\113\111\061\014\060\012\006\003\125
\004\013\023\003\103\101\163\061\052\060\050\006\003\125\004\003
\023\041\101\165\163\164\162\141\154\151\141\156\040\104\145\146
\145\156\143\145\040\120\165\142\154\151\143\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\051\353\222\063\106\117\062\101\377\203\031\000\251\255
\304\331\370\343\342\177
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "SI-TRUST Root"
# Issuer: CN=SI-TRUST Root,2.5.4.97=VATSI-17659957,O=Republika Slovenija,C=SI
# Serial Number:90:ae:77:76:00:00:00:00:57:1d:d0:6f
# Subject: CN=SI-TRUST Root,2.5.4.97=VATSI-17659957,O=Republika Slovenija,C=SI
# Not Valid Before: Mon Apr 25 07:38:17 2016
# Not Valid After: Fri Dec 25 08:08:17 2037
# Fingerprint (MD5): 3a:ba:c6:f3:c7:d1:b7:8a:86:22:7d:ee:99:81:fc:90
# Fingerprint (SHA1): 3a:49:79:b4:0f:a8:41:48:82:00:b5:82:fb:ee:b6:3a:ab:99:19:ae
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SI-TRUST Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\134\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\034\060\032\006\003\125\004\012\023\023\122\145\160\165\142\154
\151\153\141\040\123\154\157\166\145\156\151\152\141\061\027\060
\025\006\003\125\004\141\023\016\126\101\124\123\111\055\061\067
\066\065\071\071\065\067\061\026\060\024\006\003\125\004\003\023
\015\123\111\055\124\122\125\123\124\040\122\157\157\164
END
CKA_ID UTF8 "0"

```

CKA_ISSUER MULTILINE_OCTAL

\060\134\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\034\060\032\006\003\125\004\012\023\023\122\145\160\165\142\154
\151\153\141\040\123\154\157\166\145\156\151\152\141\061\027\060
\025\006\003\125\004\141\023\016\126\101\124\123\111\055\061\067
\066\065\071\071\065\067\061\026\060\024\006\003\125\004\003\023
\015\123\111\055\124\122\125\123\124\040\122\157\157\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\000\220\256\167\166\000\000\000\000\127\035\320\157

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\212\060\202\002\362\240\003\002\001\002\002\015\000
\220\256\167\166\000\000\000\000\127\035\320\157\060\015\006\011
\052\206\110\206\367\015\001\001\013\005\000\060\134\061\013\060
\011\006\003\125\004\006\023\002\123\111\061\034\060\032\006\003
\125\004\012\023\023\122\145\160\165\142\154\151\153\141\040\123
\154\157\166\145\156\151\152\141\061\027\060\025\006\003\125\004
\141\023\016\126\101\124\123\111\055\061\067\066\065\071\071\065
\067\061\026\060\024\006\003\125\004\003\023\015\123\111\055\124
\122\125\123\124\040\122\157\157\164\060\036\027\015\061\066\060
\064\062\065\060\067\063\070\061\067\132\027\015\063\067\061\062
\062\065\060\070\060\070\061\067\132\060\134\061\013\060\011\006
\003\125\004\006\023\002\123\111\061\034\060\032\006\003\125\004
\012\023\023\122\145\160\165\142\154\151\153\141\040\123\154\157
\166\145\156\151\152\141\061\027\060\025\006\003\125\004\141\023
\016\126\101\124\123\111\055\061\067\066\065\071\071\065\067\061
\026\060\024\006\003\125\004\003\023\015\123\111\055\124\122\125
\123\124\040\122\157\157\164\060\202\001\242\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\001\217\000\060
\202\001\212\002\202\001\201\000\323\313\234\055\302\340\060\103
\145\061\044\377\113\260\070\331\251\123\327\065\321\333\267\113
\223\264\162\215\361\313\225\322\123\053\164\233\062\232\244\057
\076\002\006\335\257\160\025\241\252\317\021\207\212\146\173\313
\314\035\160\104\134\217\254\312\346\303\133\047\264\215\243\216
\020\277\156\124\164\010\160\212\043\350\312\307\164\304\146\221
\040\335\113\350\245\204\165\245\230\225\202\213\033\341\040\044
\007\106\253\014\145\066\100\147\213\165\356\251\331\221\051\033
\355\157\055\105\302\326\342\140\001\261\363\116\071\053\073\157
\077\205\276\010\366\123\053\173\242\311\105\241\104\201\200\146
\232\140\072\033\304\276\014\314\060\020\177\021\066\070\112\346
\233\241\226\123\234\224\314\021\306\004\114\242\125\113\377\200
\341\257\214\034\065\374\271\223\067\337\371\135\075\334\353\015
\047\154\104\311\131\146\053\126\157\377\004\033\367\365\151\303
\135\303\030\376\275\247\331\144\057\242\237\140\331\162\154\075
\074\165\362\045\047\230\056\072\270\311\335\115\165\275\253\260
\042\141\130\001\067\050\246\040\235\056\140\134\373\220\274\106
\103\270\376\155\330\300\146\042\044\153\064\170\042\345\271\342

\130\351\110\070\356\114\275\001\173\156\076\100\352\321\302\012
\102\223\147\303\046\057\077\007\133\317\257\343\035\350\072\342
\145\341\204\221\077\365\146\000\375\252\063\106\102\354\026\076
\322\023\145\057\016\011\123\366\344\052\165\024\234\031\063\026
\232\105\341\333\127\317\317\070\324\247\367\355\130\103\344\016
\230\134\304\340\061\077\224\244\157\113\112\242\325\112\215\046
\251\035\144\045\010\065\015\347\002\003\001\000\001\243\113\060
\111\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\023\006\003\125\035\043\004\014\060\012\200\010\114
\243\303\150\136\010\002\143\060\021\006\003\125\035\016\004\012
\004\010\114\243\303\150\136\010\002\143\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\001\201\000\046\043
\205\273\135\101\031\156\222\203\212\356\001\213\004\065\031\177
\253\217\334\326\063\301\371\171\226\136\043\365\360\316\335\352
\333\141\073\132\257\335\130\351\102\211\100\357\371\331\147\021
\177\115\361\355\351\021\173\261\101\017\355\244\322\026\266\357
\301\375\213\366\021\053\054\357\374\007\006\106\014\317\002\013
\355\073\336\217\011\271\063\253\046\200\124\104\102\145\327\347
\257\315\120\016\312\310\210\241\022\234\052\225\073\076\124\074
\110\163\366\174\170\324\233\377\223\367\105\344\051\204\143\374
\372\176\032\347\134\340\162\127\260\057\170\035\060\306\023\375
\210\137\261\145\210\332\136\227\023\201\173\376\036\317\173\277
\127\060\301\160\222\103\246\231\360\125\237\230\305\043\102\275
\164\034\061\216\022\245\331\105\152\052\132\310\130\315\275\326
\335\076\065\013\031\177\003\034\316\007\017\207\105\223\025\241
\153\275\064\034\340\336\365\324\270\345\221\034\113\005\265\047
\046\274\317\321\011\230\026\306\341\361\125\113\072\173\155\336
\306\147\266\301\067\055\237\250\216\131\307\267\246\305\357\337
\026\342\355\336\262\267\363\242\066\244\050\062\072\012\224\313
\077\136\376\156\131\355\272\066\262\223\326\306\303\031\376\365
\231\170\353\107\107\345\255\102\172\354\274\173\311\056\101\116
\115\017\004\016\212\113\063\207\334\361\166\174\132\030\214\234
\012\022\327\242\263\302\205\207\256\155\061\120\142\062\041\240
\150\026\137\224\065\164\125\051\322\161\201\010\112\341\327\135
\252\124\001\263\033\174\131\256\276\254\014\312\270\100\144\147
\133\235\352\006\006\021\326\320\060\163\036\343\274\053

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "SI-TRUST Root"
Issuer: CN=SI-TRUST Root,2.5.4.97=VATSI-17659957,O=Republika Slovenija,C=SI
Serial Number:90:ae:77:76:00:00:00:00:57:1d:d0:6f
Subject: CN=SI-TRUST Root,2.5.4.97=VATSI-17659957,O=Republika Slovenija,C=SI
Not Valid Before: Mon Apr 25 07:38:17 2016

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# Not Valid After: Fri Dec 25 08:08:17 2037
# Fingerprint (MD5): 3a:ba:c6:f3:c7:d1:b7:8a:86:22:7d:ee:99:81:fc:90
# Fingerprint (SHA1): 3a:49:79:b4:0f:a8:41:48:82:00:b5:82:fb:ee:b6:3a:ab:99:19:ae
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SI-TRUST Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\072\111\171\264\017\250\101\110\202\000\265\202\373\356\266\072
\253\231\031\256
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\072\272\306\363\307\321\267\212\206\042\175\356\231\201\374\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\134\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\034\060\032\006\003\125\004\012\023\023\122\145\160\165\142\154
\151\153\141\040\123\154\157\166\145\156\151\152\141\061\027\060
\025\006\003\125\004\141\023\016\126\101\124\123\111\055\061\067
\066\065\071\071\065\067\061\026\060\024\006\003\125\004\003\023
\015\123\111\055\124\122\125\123\124\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\000\220\256\167\166\000\000\000\000\127\035\320\157
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Halcom Root Certificate Authority"
# Issuer: CN=Halcom Root Certificate Authority,2.5.4.97=VATSI-43353126,O=Halcom d.d.,C=SI
# Serial Number: 843675 (0xcd9b)
# Subject: CN=Halcom Root Certificate Authority,2.5.4.97=VATSI-43353126,O=Halcom d.d.,C=SI
# Not Valid Before: Fri Jun 10 07:07:50 2016
# Not Valid After: Tue Jun 10 07:07:50 2036
# Fingerprint (MD5): 69:16:83:a1:f7:27:b9:ec:7c:d2:c6:b3:79:b2:a3:61
# Fingerprint (SHA1): 23:d7:31:fe:dc:5c:8b:b9:7d:e6:dc:8e:13:b4:11:bd:4f:24:00:4f
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Halcom Root Certificate Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\123\111\061

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\024\060\022\006\003\125\004\012\023\013\110\141\154\143\157\155
\040\144\056\144\056\061\027\060\025\006\003\125\004\141\023\016
\126\101\124\123\111\055\064\063\063\065\063\061\062\066\061\052
\060\050\006\003\125\004\003\023\041\110\141\154\143\157\155\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\145
\040\101\165\164\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\150\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\024\060\022\006\003\125\004\012\023\013\110\141\154\143\157\155
\040\144\056\144\056\061\027\060\025\006\003\125\004\141\023\016
\126\101\124\123\111\055\064\063\063\065\063\061\062\066\061\052
\060\050\006\003\125\004\003\023\041\110\141\154\143\157\155\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\145
\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\014\337\233

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\200\060\202\002\150\240\003\002\001\002\002\003\014
\337\233\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\150\061\013\060\011\006\003\125\004\006\023\002\123\111
\061\024\060\022\006\003\125\004\012\023\013\110\141\154\143\157
\155\040\144\056\144\056\061\027\060\025\006\003\125\004\141\023
\016\126\101\124\123\111\055\064\063\063\065\063\061\062\066\061
\052\060\050\006\003\125\004\003\023\041\110\141\154\143\157\155
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\145\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\066\060\066\061\060\060\067\060\067\065\060\132\027\015\063\066
\060\066\061\060\060\067\060\067\065\060\132\060\150\061\013\060
\011\006\003\125\004\006\023\002\123\111\061\024\060\022\006\003
\125\004\012\023\013\110\141\154\143\157\155\040\144\056\144\056
\061\027\060\025\006\003\125\004\141\023\016\126\101\124\123\111
\055\064\063\063\065\063\061\062\066\061\052\060\050\006\003\125
\004\003\023\041\110\141\154\143\157\155\040\122\157\157\164\040
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150
\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\351\122\246\306\032\357\143\273\255\201
\364\220\262\132\217\015\325\026\063\264\034\030\373\313\211\052
\060\273\145\201\304\341\373\002\251\224\007\166\345\327\025\344
\172\144\020\200\352\074\320\263\242\255\256\034\037\352\273\201
\141\230\324\371\215\151\225\304\105\056\003\011\312\206\372\134
\132\021\027\100\060\076\360\306\143\011\311\361\215\101\245\126
\015\005\144\151\113\130\254\052\051\226\273\100\063\026\064\113
\147\154\327\361\264\106\245\352\131\250\103\150\017\214\070\052

\252\074\366\104\003\206\370\212\333\105\041\053\051\036\022\267
\372\245\145\101\336\006\010\130\160\225\076\364\114\331\353\017
\051\251\221\212\236\255\312\022\365\345\225\346\070\331\032\246
\213\234\117\246\110\023\020\245\171\104\275\152\073\051\365\026
\167\100\313\176\233\134\337\276\213\353\347\240\031\157\237\025
\077\047\236\051\261\365\015\374\137\107\242\074\335\056\013\002
\373\364\215\352\354\014\261\371\264\005\254\371\217\251\075\156
\054\035\071\237\320\116\237\116\310\152\236\200\003\141\334\317
\370\155\224\313\017\317\002\003\001\000\001\243\063\060\061\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\021\006\003\125\035\016\004\012\004\010\102\256\246\103\307
\230\050\260\060\013\006\003\125\035\017\004\004\003\002\001\006
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\001\001\000\122\271\171\320\333\143\376\031\201\373\014\371
\301\345\120\131\312\235\262\373\134\063\320\070\250\253\265\032
\116\123\045\165\042\323\111\277\312\201\317\323\341\173\243\221
\106\165\312\032\353\331\365\135\274\173\206\065\375\201\227\234
\204\327\046\230\042\374\261\065\320\251\225\266\174\377\344\227
\264\100\176\111\135\150\310\342\324\071\165\047\117\003\221\262
\061\127\277\206\327\155\312\161\000\042\067\320\073\130\044\120
\240\234\214\232\211\216\365\050\106\154\347\026\355\260\201\253
\364\106\046\257\246\350\032\105\167\160\026\222\262\173\161\161
\334\367\337\111\147\300\063\010\016\056\123\301\167\253\307\112
\221\114\022\357\347\016\011\345\165\061\040\256\156\374\132\212
\200\234\020\260\333\250\112\314\363\053\334\066\064\246\367\251
\013\147\235\220\313\075\046\237\165\315\114\311\035\006\012\165
\213\122\300\201\360\321\046\254\314\222\246\024\234\134\074\026
\102\373\223\314\002\250\023\363\332\256\012\303\270\025\364\260
\320\324\340\026\040\117\254\120\230\170\046\224\036\150\353\224
\162\376\367\213

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "Halcom Root Certificate Authority"

Issuer: CN=Halcom Root Certificate Authority,2.5.4.97=VATSI-43353126,O=Halcom d.d.,C=SI

Serial Number: 843675 (0xcd9b)

Subject: CN=Halcom Root Certificate Authority,2.5.4.97=VATSI-43353126,O=Halcom d.d.,C=SI

Not Valid Before: Fri Jun 10 07:07:50 2016

Not Valid After: Tue Jun 10 07:07:50 2036

Fingerprint (MD5): 69:16:83:a1:f7:27:b9:ec:7c:d2:c6:b3:79:b2:a3:61

Fingerprint (SHA1): 23:d7:31:fe:dc:5c:8b:b9:7d:e6:dc:8e:13:b4:11:bd:4f:24:00:4f

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "Halcom Root Certificate Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\043\327\061\376\334\134\213\271\175\346\334\216\023\264\021\275
\117\044\000\117
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\151\026\203\241\367\047\271\354\174\322\306\263\171\262\243\141
END
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\123\111\061
\024\060\022\006\003\125\004\012\023\013\110\141\154\143\157\155
\040\144\056\144\056\061\027\060\025\006\003\125\004\141\023\016
\126\101\124\123\111\055\064\063\063\065\063\061\062\066\061\052
\060\050\006\003\125\004\003\023\041\110\141\154\143\157\155\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\145
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\014\337\233
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "Application CA G3 Root"
# Issuer: CN=Application CA G3 Root,O=LGPKI,C=JP
# Serial Number: 49 (0x31)
# Subject: CN=Application CA G3 Root,O=LGPKI,C=JP
# Not Valid Before: Tue Jun 03 15:00:00 2014
# Not Valid After: Sat Jun 03 14:59:59 2034
# Fingerprint (MD5): 47:5e:d1:73:5a:e8:95:77:04:01:a3:3f:33:02:5c:20
# Fingerprint (SHA1): 6f:38:84:56:8e:99:c8:c6:ac:0e:5d:de:2d:b2:02:dd:00:2e:36:63
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Application CA G3 Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\016\060\014\006\003\125\004\012\023\005\114\107\120\113\111\061
\037\060\035\006\003\125\004\003\023\026\101\160\160\154\151\143
\141\164\151\157\156\040\103\101\040\107\063\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```

\060\076\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\016\060\014\006\003\125\004\012\023\005\114\107\120\113\111\061
\037\060\035\006\003\125\004\003\023\026\101\160\160\154\151\143
\141\164\151\157\156\040\103\101\040\107\063\040\122\157\157\164
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\061

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\132\060\202\002\102\240\003\002\001\002\002\001\061
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\076\061\013\060\011\006\003\125\004\006\023\002\112\120\061\016
\060\014\006\003\125\004\012\023\005\114\107\120\113\111\061\037
\060\035\006\003\125\004\003\023\026\101\160\160\154\151\143\141
\164\151\157\156\040\103\101\040\107\063\040\122\157\157\164\060
\036\027\015\061\064\060\066\060\063\061\064\065\071\065\071\132\060
\027\015\063\064\060\066\060\063\061\064\065\071\065\071\132\060
\076\061\013\060\011\006\003\125\004\006\023\002\112\120\061\016
\060\014\006\003\125\004\012\023\005\114\107\120\113\111\061\037
\060\035\006\003\125\004\003\023\026\101\160\160\154\151\143\141
\164\151\157\156\040\103\101\040\107\063\040\122\157\157\164\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\315\105\076\367\321\226\042\134\221\057\076\012\000\003\314\266
\367\154\124\374\050\067\324\004\030\354\255\230\311\257\323\245
\271\347\331\277\116\346\243\231\074\231\156\241\040\036\106\033
\342\165\125\274\322\354\366\210\032\354\064\105\113\203\235\323
\262\346\335\007\211\301\010\331\370\073\213\222\144\162\135\232
\073\314\255\067\211\307\334\140\171\010\340\160\254\367\053\355
\237\003\111\037\216\076\203\250\156\342\222\134\124\321\171\337
\354\030\072\175\270\155\217\326\243\045\115\255\037\100\246\137
\324\252\116\261\160\030\131\231\362\013\124\151\076\171\050\104
\210\367\161\227\315\177\005\334\312\334\166\112\220\114\153\140
\350\372\046\061\330\265\370\347\374\155\213\044\152\266\357\102
\327\043\124\305\032\143\212\073\307\374\252\155\074\217\313\154
\332\040\260\362\274\145\034\001\114\042\225\015\034\043\037\254
\325\371\316\165\133\352\060\275\114\001\044\037\165\324\141\111
\303\033\231\145\216\010\134\071\070\315\051\303\070\105\315\144
\171\267\233\115\107\352\130\062\372\246\366\222\360\301\267\137
\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035\016
\004\026\004\024\251\065\052\110\276\054\067\355\206\333\174\125
\207\000\046\276\030\055\134\056\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035\043
\004\030\060\026\200\024\251\065\052\110\276\054\067\355\206\333
\174\125\207\000\046\276\030\055\134\056\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\266\202
\275\305\106\320\161\213\245\221\075\176\055\132\371\234\204\175


```
\007\047\225\035\347\115\310\174\354\346\223\350\126\032\172\060
\110\073\014\372\116\365\011\262\257\210\255\224\354\375\262\255
\057\346\005\164\041\033\204\213\070\052\303\355\357\106\150\265
\335\122\372\160\302\165\117\377\243\101\056\074\027\224\114\011
\042\264\216\301\177\304\246\254\355\203\150\317\145\136\354\172
\275\305\146\356\320\243\177\362\127\261\010\302\171\160\353\162
\177\101\131\011\171\165\361\274\261\041\376\203\263\104\075\211
\243\276\261\172\330\235\303\037\346\304\124\341\215\345\330\120
\334\344\126\067\173\276\050\000\363\054\167\332\043\177\140\230
\075\005\026\362\170\151\255\231\303\072\164\154\076\232\262\224
\355\217\252\366\123\153\347\310\267\350\074\214\373\307\174\117
\031\135\244\146\025\351\177\207\240\320\325\255\040\244\106\011
\105\254\345\310\145\207\273\006\337\374\327\150\126\103\163\242
\000\231\062\222\302\016\240\034\016\221\275\225\130\274\223\237
\204\302\245\146\347\145\315\051\342\142\362\005\222\140
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "Application CA G3 Root"
# Issuer: CN=Application CA G3 Root,O=LGPKI,C=JP
# Serial Number: 49 (0x31)
# Subject: CN=Application CA G3 Root,O=LGPKI,C=JP
# Not Valid Before: Tue Jun 03 15:00:00 2014
# Not Valid After: Sat Jun 03 14:59:59 2034
# Fingerprint (MD5): 47:5e:d1:73:5a:e8:95:77:04:01:a3:3f:33:02:5c:20
# Fingerprint (SHA1): 6f:38:84:56:8e:99:c8:c6:ac:0e:5d:de:2d:b2:02:dd:00:2e:36:63
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Application CA G3 Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\157\070\204\126\216\231\310\306\254\016\135\336\055\262\002\335
\000\056\066\143
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\107\136\321\163\132\350\225\167\004\001\243\077\063\002\134\040
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\016\060\014\006\003\125\004\012\023\005\114\107\120\113\111\061
\037\060\035\006\003\125\004\003\023\026\101\160\160\154\151\143
\141\164\151\157\156\040\103\101\040\107\063\040\122\157\157\164
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```

\002\001\061
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "GLOBALTRUST 2015"
# Issuer: CN=GLOBALTRUST 2015,OU=GLOBALTRUST Certification Service,O=e-commerce monitoring
GmbH,L=Wien,ST=Wien,C=AT
# Serial Number: 0 (0x0)
# Subject: CN=GLOBALTRUST 2015,OU=GLOBALTRUST Certification Service,O=e-commerce monitoring
GmbH,L=Wien,ST=Wien,C=AT
# Not Valid Before: Thu Jun 11 00:00:00 2015
# Not Valid After: Sun Jun 10 00:00:00 2040
# Fingerprint (MD5): da:5a:b9:da:8e:0a:38:d4:82:63:03:9d:6c:96:6c:ed
# Fingerprint (SHA1): 46:5b:26:be:be:71:06:dd:85:44:c1:13:9d:9f:a2:57:00:c1:d7:bd
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GLOBALTRUST 2015"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\227\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\015\060\013\006\003\125\004\010\023\004\127\151\145\156\061
\015\060\013\006\003\125\004\007\023\004\127\151\145\156\061\043
\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155\145
\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040\107
\155\142\110\061\052\060\050\006\003\125\004\013\023\041\107\114
\117\102\101\114\124\122\125\123\124\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\061
\031\060\027\006\003\125\004\003\023\020\107\114\117\102\101\114
\124\122\125\123\124\040\062\060\061\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\227\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\015\060\013\006\003\125\004\010\023\004\127\151\145\156\061
\015\060\013\006\003\125\004\007\023\004\127\151\145\156\061\043
\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155\145
\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040\107
\155\142\110\061\052\060\050\006\003\125\004\013\023\041\107\114
\117\102\101\114\124\122\125\123\124\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\061
\031\060\027\006\003\125\004\003\023\020\107\114\117\102\101\114
\124\122\125\123\124\040\062\060\061\065

```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\014\060\202\003\364\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\227\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\015\060\013\006\003\125\004\010\023\004\127\151\145\156\061\015
\060\013\006\003\125\004\007\023\004\127\151\145\156\061\043\060
\041\006\003\125\004\012\023\032\145\055\143\157\155\155\145\162
\143\145\040\155\157\156\151\164\157\162\151\156\147\040\107\155
\142\110\061\052\060\050\006\003\125\004\013\023\041\107\114\117
\102\101\114\124\122\125\123\124\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\061\031
\060\027\006\003\125\004\003\023\020\107\114\117\102\101\114\124
\122\125\123\124\040\062\060\061\065\060\036\027\015\061\065\060
\066\061\061\060\060\060\060\060\060\132\027\015\064\060\060\066
\061\060\060\060\060\060\060\060\132\060\201\227\061\013\060\011
\006\003\125\004\006\023\002\101\124\061\015\060\013\006\003\125
\004\010\023\004\127\151\145\156\061\015\060\013\006\003\125\004
\007\023\004\127\151\145\156\061\043\060\041\006\003\125\004\012
\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157\156
\151\164\157\162\151\156\147\040\107\155\142\110\061\052\060\050
\006\003\125\004\013\023\041\107\114\117\102\101\114\124\122\125
\123\124\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\123\145\162\166\151\143\145\061\031\060\027\006\003\125\004
\003\023\020\107\114\117\102\101\114\124\122\125\123\124\040\062
\060\061\065\060\202\002\040\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\002\015\000\060\202\002\010\002
\202\002\001\000\324\246\227\250\362\364\220\021\103\255\264\202
\106\101\361\057\221\157\143\242\315\015\040\334\275\014\070\212
\145\112\012\053\072\250\164\251\167\241\213\216\362\057\201\367
\204\030\315\255\353\142\266\222\175\340\101\345\116\124\070\067
\202\357\313\340\355\317\273\312\314\243\113\367\133\376\270\174
\247\010\155\313\103\304\114\042\024\146\343\235\003\271\167\041
\253\104\153\041\107\043\310\040\372\052\313\221\166\035\165\154
\370\233\351\017\046\351\103\057\232\040\005\150\030\307\216\231
\205\055\101\007\246\144\216\130\341\215\225\200\244\115\137\365
\002\330\201\171\333\325\347\337\242\042\375\024\247\147\026\354
\331\130\114\312\251\335\352\032\216\251\010\144\117\121\041\266
\162\242\116\377\120\161\275\073\145\344\275\177\123\021\256\337
\020\071\173\135\366\107\160\027\367\103\221\003\172\141\045\137
\054\374\370\211\021\074\354\071\124\026\111\304\041\232\161\340
\171\213\166\035\166\075\007\131\270\007\261\214\334\307\315\116
\341\373\255\103\115\077\100\357\041\142\057\061\104\116\151\307
\157\042\313\253\124\113\350\302\372\021\150\254\310\156\016\336
\154\305\047\226\011\121\002\115\001\266\127\277\062\050\325\011

\103\226\367\304\210\265\371\124\376\032\072\152\267\054\265\044
\144\373\112\170\162\303\374\331\117\310\116\043\271\051\330\015
\241\110\101\223\002\155\277\022\205\233\306\305\140\055\360\221
\374\231\375\040\224\236\161\143\253\325\111\253\220\354\207\071
\205\177\215\205\314\013\350\333\113\073\016\374\302\166\175\106
\347\071\046\236\337\125\337\036\204\371\101\066\046\154\002\131
\053\216\373\274\351\037\047\044\142\004\147\204\341\077\330\235
\030\116\226\240\045\356\312\050\003\117\002\121\317\367\065\067
\151\244\264\326\326\325\036\031\103\047\026\037\107\121\356\112
\011\114\021\132\266\133\075\141\350\073\020\276\326\106\346\364
\034\375\270\105\275\174\372\165\132\354\341\122\043\015\216\037
\206\227\123\221\134\233\233\050\326\216\345\156\047\255\040\214
\247\301\101\251\227\067\213\054\352\156\030\005\227\366\316\003
\122\361\275\171\064\233\100\307\043\222\164\363\157\355\243\351
\131\360\125\113\002\001\003\243\143\060\141\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\313\260\335\075\214\074\337\142\054
\053\146\074\236\074\351\025\155\161\264\327\060\037\006\003\125
\035\043\004\030\060\026\200\024\313\260\335\075\214\074\337\142
\054\053\146\074\236\074\351\025\155\161\264\327\060\015\006\011
\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000
\242\175\125\004\146\356\026\024\274\202\201\207\045\031\071\142
\364\376\073\037\341\300\163\000\161\312\165\251\342\163\361\305
\015\101\243\135\216\301\055\331\145\133\331\211\342\360\216\305
\240\175\275\313\314\106\123\037\137\355\040\266\002\052\326\023
\362\235\175\121\112\100\125\161\255\236\354\166\352\105\040\216
\252\372\172\103\232\160\147\176\023\336\230\350\313\215\335\037
\254\064\322\241\265\355\376\270\347\026\317\370\321\070\060\215
\064\211\322\316\175\201\322\036\377\121\030\123\066\223\334\011
\313\010\026\270\010\327\132\060\220\212\012\371\057\265\317\304
\315\124\162\052\306\275\001\347\130\013\156\006\100\264\011\316
\264\216\263\232\351\211\221\224\254\172\124\341\373\343\204\054
\203\240\117\376\353\350\301\364\353\266\046\323\070\304\055\255
\254\105\200\064\155\041\075\135\205\072\342\173\376\124\267\335
\350\205\124\313\244\361\253\051\120\170\327\044\265\243\057\236
\257\021\146\256\030\270\375\135\050\317\100\327\125\340\054\353
\122\061\150\103\146\005\227\222\273\305\361\041\054\375\022\144
\061\231\103\157\213\235\113\140\376\024\136\122\263\043\250\341
\230\172\356\024\311\241\342\314\077\166\041\142\375\153\015\331
\264\112\225\346\156\133\172\044\303\323\306\326\037\242\353\067
\153\116\243\337\142\353\353\016\112\010\277\353\030\210\373\107
\032\255\302\121\303\325\174\367\037\053\263\310\112\120\016\151
\130\040\142\001\112\133\312\143\226\046\042\256\366\351\234\100
\254\147\003\235\235\151\025\302\300\370\135\247\044\261\047\074
\277\005\342\253\242\312\311\260\055\176\243\301\061\040\106\041
\145\222\335\312\336\337\223\033\274\155\057\137\251\026\244\127
\207\054\162\232\132\202\147\321\104\342\075\011\012\201\214\036

```
\020\375\306\064\150\354\377\167\141\166\177\046\367\333\374\022
\106\022\252\300\321\370\171\205\242\002\314\213\252\244\255\154
\024\300\275\374\150\256\104\175\042\371\012\105\135\354\004\346
\372\343\244\305\346\371\262\031\303\331\214\250\223\173\072\212
\151\073\122\023\074\035\063\002\116\226\100\237\271\225\375\223
\027\063\301\311\013\366\375\275\151\020\365\255\051\373\343\332
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "GLOBALTRUST 2015"

Issuer: CN=GLOBALTRUST 2015,OU=GLOBALTRUST Certification Service,O=e-commerce monitoring
GmbH,L=Wien,ST=Wien,C=AT

Serial Number: 0 (0x0)

Subject: CN=GLOBALTRUST 2015,OU=GLOBALTRUST Certification Service,O=e-commerce monitoring
GmbH,L=Wien,ST=Wien,C=AT

Not Valid Before: Thu Jun 11 00:00:00 2015

Not Valid After: Sun Jun 10 00:00:00 2040

Fingerprint (MD5): da:5a:b9:da:8e:0a:38:d4:82:63:03:9d:6c:96:6c:ed

Fingerprint (SHA1): 46:5b:26:be:be:71:06:dd:85:44:c1:13:9d:9f:a2:57:00:c1:d7:bd

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GLOBALTRUST 2015"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\106\133\046\276\276\161\006\335\205\104\301\023\235\237\242\127
\000\301\327\275
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\332\132\271\332\216\012\070\324\202\143\003\235\154\226\154\355
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\227\061\013\060\011\006\003\125\004\006\023\002\101\124
\061\015\060\013\006\003\125\004\010\023\004\127\151\145\156\061
\015\060\013\006\003\125\004\007\023\004\127\151\145\156\061\043
\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155\145
\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040\107
\155\142\110\061\052\060\050\006\003\125\004\013\023\041\107\114
\117\102\101\114\124\122\125\123\124\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\061
\031\060\027\006\003\125\004\003\023\020\107\114\117\102\101\114
\124\122\125\123\124\040\062\060\061\065
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\000
```

```
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Microsoft ECC Product Root Certificate Authority 2018"
# Issuer: CN=Microsoft ECC Product Root Certificate Authority 2018,O=Microsoft
Corporation,L=Redmond,ST=Washington,C=US
# Serial Number: 14:98:26:66:dc:7c:cd:8f:40:53:67:7b:b9:99:ec:85
# Subject: CN=Microsoft ECC Product Root Certificate Authority 2018,O=Microsoft
Corporation,L=Redmond,ST=Washington,C=US
# Not Valid Before: Tue Feb 27 20:42:08 2018
# Not Valid After: Fri Feb 27 20:50:46 2043
# Fingerprint (MD5): 1f:12:4e:de:13:e0:6a:02:3c:d7:c0:9a:4f:48:c3:d6
# Fingerprint (SHA1): 06:f1:aa:33:0b:92:7b:75:3a:40:e6:8c:df:22:e3:4b:cb:ef:33:52
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC Product Root Certificate Authority 2018"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\076\060\074\006\003\125\004\003
\023\065\115\151\143\162\157\163\157\146\164\040\105\103\103\040
\120\162\157\144\165\143\164\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\070
```

```
END
```

```
CKA_ID UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\076\060\074\006\003\125\004\003
\023\065\115\151\143\162\157\163\157\146\164\040\105\103\103\040
\120\162\157\144\165\143\164\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\070
```

```
END
```

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\024\230\046\146\334\174\315\217\100\123\147\173\271\231
\354\205

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\043\060\202\002\250\240\003\002\001\002\002\020\024
\230\046\146\334\174\315\217\100\123\147\173\271\231\354\205\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\224\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\023\060\021\006
\003\125\004\010\023\012\127\141\163\150\151\156\147\164\157\156
\061\020\060\016\006\003\125\004\007\023\007\122\145\144\155\157
\156\144\061\036\060\034\006\003\125\004\012\023\025\115\151\143
\162\157\163\157\146\164\040\103\157\162\160\157\162\141\164\151
\157\156\061\076\060\074\006\003\125\004\003\023\065\115\151\143
\162\157\163\157\146\164\040\105\103\103\040\120\162\157\144\165
\143\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060
\061\070\060\036\027\015\061\070\060\062\062\067\062\060\065\060\064
\060\070\132\027\015\064\063\060\062\062\067\062\060\065\060\064
\066\132\060\201\224\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\023\060\021\006\003\125\004\010\023\012\127\141\163
\150\151\156\147\164\157\156\061\020\060\016\006\003\125\004\007
\023\007\122\145\144\155\157\156\144\061\036\060\034\006\003\125
\004\012\023\025\115\151\143\162\157\163\157\146\164\040\103\157
\162\160\157\162\141\164\151\157\156\061\076\060\074\006\003\125
\004\003\023\065\115\151\143\162\157\163\157\146\164\040\105\103
\103\040\120\162\157\144\165\143\164\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\040\062\060\061\070\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\307\021\026\052\166\035\126\216\276\271\142\145\324\303\316
\264\360\303\060\354\217\155\327\156\071\274\310\111\253\253\270
\343\103\170\325\201\006\135\357\307\175\237\316\326\263\220\165
\336\014\260\220\336\043\272\310\321\076\147\340\031\251\033\206
\061\036\137\064\055\356\027\375\025\373\176\047\212\062\241\352
\311\217\311\176\030\313\057\073\054\110\172\175\246\364\001\007
\254\243\201\274\060\201\271\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\103\357\160\207\270\235\277\354\210\031\334\306\304
\153\165\015\165\064\063\010\060\020\006\011\053\006\001\004\001
\202\067\025\001\004\003\002\001\000\060\145\006\003\125\035\040
\004\136\060\134\060\006\006\004\125\035\040\000\060\122\006\014
\053\006\001\004\001\202\067\114\203\175\001\001\060\102\060\100
\006\010\053\006\001\005\005\007\002\001\026\064\150\164\164\160
\072\057\057\167\167\167\056\155\151\143\162\157\163\157\146\164
\056\143\157\155\057\160\153\151\157\160\163\057\104\157\143\163
\057\122\145\160\157\163\151\164\157\162\171\056\150\164\155\000

```
\060\012\006\010\052\206\110\316\075\004\003\003\003\151\000\060
\146\002\061\000\241\300\111\104\135\062\125\047\314\076\220\156
\045\042\235\044\133\233\121\065\307\221\111\111\052\243\371\157
\117\034\315\335\234\341\265\127\311\236\302\042\105\233\006\025
\160\034\105\277\002\061\000\305\323\050\353\162\307\076\260\254
\047\011\177\142\075\140\171\345\222\361\105\052\271\245\002\344
\140\273\376\172\053\234\140\247\265\231\024\362\260\276\360\273
\005\226\126\126\217\301\150
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "Microsoft ECC Product Root Certificate Authority 2018"

Issuer: CN=Microsoft ECC Product Root Certificate Authority 2018,O=Microsoft Corporation,L=Redmond,ST=Washington,C=US

Serial Number: 14:98:26:66:dc:7c:cd:8f:40:53:67:7b:b9:99:ec:85

Subject: CN=Microsoft ECC Product Root Certificate Authority 2018,O=Microsoft Corporation,L=Redmond,ST=Washington,C=US

Not Valid Before: Tue Feb 27 20:42:08 2018

Not Valid After: Fri Feb 27 20:50:46 2043

Fingerprint (MD5): 1f:12:4e:de:13:e0:6a:02:3c:d7:c0:9a:4f:48:c3:d6

Fingerprint (SHA1): 06:f1:aa:33:0b:92:7b:75:3a:40:e6:8c:df:22:e3:4b:cb:ef:33:52

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Microsoft ECC Product Root Certificate Authority 2018"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\006\361\252\063\013\222\173\165\072\100\346\214\337\042\343\113
\313\357\063\122
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\037\022\116\336\023\340\152\002\074\327\300\232\117\110\303\326
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\076\060\074\006\003\125\004\003
\023\065\115\151\143\162\157\163\157\146\164\040\105\103\103\040
\120\162\157\144\165\143\164\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\070
```

END


```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\024\230\046\146\334\174\315\217\100\123\147\173\271\231
\354\205
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "emSign Root CA - G2"
# Issuer: CN=emSign Root CA - G2,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Serial Number:86:4d:bf:0f:e3:5e:d7:7d:8e:d8
# Subject: CN=emSign Root CA - G2,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After: Wed Feb 18 18:30:00 2043
# Fingerprint (MD5): 63:ac:61:e5:f7:da:aa:05:80:53:bd:e4:ab:fd:bb:30
# Fingerprint (SHA1): 1e:65:77:b9:cf:70:d0:17:ca:e1:bd:a1:35:1d:47:25:a9:73:c0:6d
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\062
END
```

```
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\062
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\000\206\115\277\017\343\136\327\175\216\330
END
```

```
CKA_VALUE MULTILINE_OCTAL
\060\202\005\225\060\202\003\175\240\003\002\001\002\002\013\000
```

\206\115\277\017\343\136\327\175\216\330\060\015\006\011\052\206
\110\206\367\015\001\001\014\005\000\060\147\061\013\060\011\006
\003\125\004\006\023\002\111\116\061\023\060\021\006\003\125\004
\013\023\012\145\155\123\151\147\156\040\120\113\111\061\045\060
\043\006\003\125\004\012\023\034\145\115\165\144\150\162\141\040
\124\145\143\150\156\157\154\157\147\151\145\163\040\114\151\155
\151\164\145\144\061\034\060\032\006\003\125\004\003\023\023\145
\155\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040
\107\062\060\036\027\015\061\070\060\062\061\070\061\070\063\060
\060\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060
\060\132\060\147\061\013\060\011\006\003\125\004\006\023\002\111
\116\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151
\147\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023
\034\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154
\157\147\151\145\163\040\114\151\155\151\164\145\144\061\034\060
\032\006\003\125\004\003\023\023\145\155\123\151\147\156\040\122
\157\157\164\040\103\101\040\055\040\107\062\060\202\002\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\002\017\000\060\202\002\012\002\202\002\001\000\303\160\030\205
\226\332\101\337\034\257\254\135\063\160\304\135\073\053\342\025
\311\044\356\310\123\066\257\133\364\323\154\024\175\307\123\373
\073\071\070\316\120\154\306\005\026\167\235\135\002\072\200\041
\113\262\062\253\161\247\243\343\306\155\337\263\262\021\275\342
\150\373\073\012\303\370\220\014\223\303\062\207\365\246\136\352
\005\330\036\262\152\343\117\331\124\303\134\101\122\066\075\302
\051\343\100\177\110\003\166\201\106\176\145\245\055\040\353\325
\214\114\166\353\367\233\065\245\321\042\313\141\226\103\206\375
\306\201\371\004\160\017\015\155\227\275\367\361\231\157\320\315
\250\114\025\062\340\035\336\355\321\217\346\230\027\037\275\114
\216\241\317\012\203\150\373\033\375\177\103\123\005\077\241\120
\066\274\207\314\024\265\301\220\253\320\203\170\224\351\215\147
\003\331\263\366\000\307\125\033\252\025\244\300\024\171\114\350
\160\054\240\226\373\105\165\103\043\202\014\101\157\016\052\205
\253\265\035\163\306\360\353\175\207\002\373\144\310\274\266\104
\363\256\365\010\307\026\374\033\322\305\377\271\012\170\041\073
\264\146\132\127\060\323\235\173\242\176\135\346\261\036\004\254
\173\020\340\376\345\126\355\200\042\062\000\206\260\027\241\347
\103\211\326\373\244\307\037\355\060\001\166\266\024\117\122\150
\033\360\042\053\342\175\214\356\206\116\067\200\014\076\013\060
\064\201\146\021\314\270\022\277\074\237\340\322\101\201\267\357
\302\324\277\277\035\104\163\102\022\144\062\124\147\063\244\157
\136\200\255\174\252\051\112\131\354\346\332\331\231\070\275\357
\125\243\156\177\074\101\163\372\326\121\251\004\045\017\300\050
\354\356\272\116\142\364\224\046\322\076\225\306\305\373\176\352
\220\212\216\135\211\025\117\167\056\244\064\251\303\341\374\366
\101\155\217\221\212\143\345\347\313\202\361\143\355\310\274\062
\021\213\047\172\223\055\103\076\076\365\334\062\064\312\253\336
\022\233\010\257\160\064\075\334\056\311\102\073\011\055\143\203

\103\147\030\124\372\137\034\253\323\020\176\124\073\174\334\122
\130\133\313\365\352\115\251\155\244\070\221\134\100\335\245\335
\137\327\131\143\045\121\325\056\175\050\316\371\002\003\001\000
\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024
\355\354\115\105\141\030\050\347\263\043\050\021\034\115\245\047
\015\136\354\364\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001
\001\014\005\000\003\202\002\001\000\010\120\277\212\124\040\360
\244\302\124\034\105\045\157\354\153\072\046\221\055\044\065\206
\304\041\230\070\007\172\033\253\013\011\355\045\375\363\077\031
\201\374\301\247\075\047\140\051\160\300\230\326\154\123\165\107
\154\330\362\220\204\242\336\277\166\011\200\361\126\352\320\154
\141\300\363\071\140\337\322\146\253\215\311\022\061\073\167\024
\166\120\034\301\377\257\111\354\335\124\047\375\300\354\357\110
\001\167\253\106\271\226\073\333\165\263\111\066\227\322\161\005
\151\355\105\035\346\300\154\146\117\043\134\355\112\103\370\050
\375\127\377\030\063\347\254\201\146\306\220\010\030\115\354\202
\163\274\224\013\375\027\065\032\001\353\257\354\165\236\343\274
\115\364\236\376\155\014\305\367\174\207\270\205\300\010\364\313
\245\001\341\203\154\314\277\220\273\004\006\356\014\167\333\217
\120\256\333\336\031\363\175\262\205\047\301\163\070\226\032\311
\016\276\135\336\263\141\034\037\053\133\113\327\075\077\355\063
\062\231\032\357\061\202\324\121\353\274\266\377\026\207\156\037
\316\223\171\233\164\102\066\172\245\312\145\067\072\032\304\071
\303\277\064\311\350\040\266\022\174\276\250\177\300\074\120\256
\125\113\371\377\010\360\027\341\317\233\303\356\247\140\021\217
\327\004\247\335\276\322\247\036\255\361\332\160\332\271\204\307
\206\145\326\300\375\334\335\121\037\371\317\234\327\167\020\044
\236\137\046\161\361\233\321\343\015\111\065\320\232\140\177\213
\200\036\160\331\353\357\153\230\217\071\132\135\101\230\067\263
\153\157\245\350\270\155\051\236\035\077\004\033\126\132\235\024
\112\022\017\245\141\000\252\316\321\044\030\372\373\126\124\141
\166\170\071\272\302\303\336\266\017\030\115\332\235\175\037\034
\075\056\333\224\121\302\352\251\063\353\025\166\057\300\356\055
\242\350\373\050\231\300\221\244\324\175\161\235\021\241\125\264
\130\240\324\100\067\321\154\311\143\145\365\274\004\073\205\131
\347\210\050\340\151\160\006\252\073\024\352\311\045\064\317\147
\304\074\171\254\120\202\010\113\143\364\250\174\120\170\306\053
\144\052\200\376\144\302\013\155\214\340\051\100\306\202\241\354
\314\174\256\012\017\265\251\071\165

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "emSign Root CA - G2"

```
# Issuer: CN=emSign Root CA - G2,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Serial Number:86:4d:bf:0f:e3:5e:d7:7d:8e:d8
# Subject: CN=emSign Root CA - G2,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After: Wed Feb 18 18:30:00 2043
# Fingerprint (MD5): 63:ac:61:e5:f7:da:aa:05:80:53:bd:e4:ab:fd:bb:30
# Fingerprint (SHA1): 1e:65:77:b9:cf:70:d0:17:ca:e1:bd:a1:35:1d:47:25:a9:73:c0:6d
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\036\145\167\271\317\160\320\027\312\341\275\241\065\035\107\045
\251\163\300\155
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\143\254\141\345\367\332\252\005\200\123\275\344\253\375\273\060
END
CKA_ISSUER MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\000\206\115\277\017\343\136\327\175\216\330
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "emSign Root CA - C2"
# Issuer: CN=emSign Root CA - C2,O=eMudhra Inc,OU=emSign PKI,C=US
# Serial Number:2f:0a:b7:6b:0d:cb:4a:af:27:58
# Subject: CN=emSign Root CA - C2,O=eMudhra Inc,OU=emSign PKI,C=US
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After: Wed Feb 18 18:30:00 2043
# Fingerprint (MD5): eb:24:3b:fa:70:63:c8:e1:cd:5f:0e:ea:c8:97:2f:21
# Fingerprint (SHA1): bc:a2:18:80:74:c3:14:7e:16:f4:c4:8c:59:10:a8:9e:f7:52:f4:79
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - C2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\057\012\267\153\015\313\112\257\047\130
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\162\060\202\003\132\240\003\002\001\002\002\012\057
\012\267\153\015\313\112\257\047\130\060\015\006\011\052\206\110
\206\367\015\001\001\014\005\000\060\126\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\023\060\021\006\003\125\004\013
\023\012\145\155\123\151\147\156\040\120\113\111\061\024\060\022
\006\003\125\004\012\023\013\145\115\165\144\150\162\141\040\111
\156\143\061\034\060\032\006\003\125\004\003\023\023\145\155\123
\151\147\156\040\122\157\157\164\040\103\101\040\055\040\103\062
\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060\060
\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060\132
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\062\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\214\175\175\145\003\344\333
\232\037\130\042\171\221\200\345\275\354\205\161\340\265\011\177
\140\321\145\373\074\337\262\153\232\137\251\313\256\032\126\166
\040\130\356\055\350\056\374\176\010\337\113\270\327\371\316\023
\212\162\063\022\253\226\160\217\263\213\107\335\341\047\074\064
\067\373\044\343\151\333\265\126\137\112\260\121\212\263\054\064
\102\267\353\073\316\222\334\177\035\144\313\114\325\040\230\372
```

\057\116\256\077\042\267\220\212\375\371\200\054\255\130\376\337
\333\255\233\247\266\060\024\054\104\333\055\110\215\337\011\006
\000\032\372\020\115\017\037\120\266\256\116\243\126\151\200\044
\065\201\136\350\165\007\035\003\351\332\355\124\153\115\050\164
\305\342\017\232\021\027\022\334\016\161\200\160\115\110\377\321
\075\230\260\235\222\010\027\212\066\024\232\047\050\357\345\360
\145\341\150\076\033\332\351\342\011\346\235\067\056\335\303\273
\225\267\021\301\321\321\302\146\231\215\151\311\340\067\350\226
\227\051\144\115\063\322\021\215\203\025\064\047\051\342\070\101
\332\322\030\211\237\213\126\117\033\301\017\177\325\315\267\267
\031\257\336\357\173\265\246\145\127\155\215\027\213\155\113\132
\252\334\237\214\072\235\050\031\102\301\316\222\237\107\035\052
\031\132\233\076\351\020\064\140\043\070\262\015\360\240\315\100
\334\333\107\130\200\227\147\174\037\343\022\242\047\001\243\200
\042\167\304\343\055\147\015\277\217\050\011\142\371\335\232\305
\004\304\303\215\242\000\351\372\306\326\336\010\245\271\307\151
\320\073\250\042\111\173\152\251\044\336\247\331\344\012\001\111
\372\122\044\003\034\373\022\250\320\145\161\110\120\341\217\364
\143\111\224\346\270\041\233\143\201\366\265\320\113\121\133\324
\224\102\174\223\015\234\222\046\344\005\001\333\355\221\133\072
\271\116\014\373\111\264\241\243\303\154\146\115\024\155\011\305
\305\310\252\103\333\250\125\060\054\053\136\022\223\332\006\361
\015\363\176\303\064\361\307\117\241\026\364\132\122\031\222\124
\172\230\240\373\057\311\307\377\067\306\273\303\310\046\377\170
\030\140\175\105\237\124\340\016\275\257\167\217\233\057\014\276
\274\337\067\021\312\264\176\254\277\002\003\001\000\001\243\102
\060\100\060\035\006\003\125\035\016\004\026\004\024\263\367\212
\244\326\017\210\000\131\350\121\027\117\325\176\354\206\042\201
\235\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\014\005
\000\003\202\002\001\000\064\045\246\045\214\321\313\366\235\235
\007\346\065\154\006\255\061\332\256\266\103\102\360\250\004\354
\010\133\362\271\276\340\304\320\262\265\033\250\003\313\055\230
\363\204\273\371\140\360\210\061\217\201\110\216\214\241\042\265
\224\127\034\242\055\116\315\243\203\376\132\061\024\073\005\023
\304\212\144\020\353\157\031\104\075\176\043\245\160\141\355\041
\220\315\006\126\152\355\152\144\265\160\061\171\136\171\104\363
\354\242\275\272\247\141\115\000\304\105\175\224\041\322\302\327
\204\250\044\362\053\245\111\050\040\253\037\036\316\003\362\173
\255\305\152\046\004\213\207\077\167\064\143\334\163\202\236\306
\142\301\226\124\323\147\137\345\212\115\026\074\122\301\233\304
\343\127\043\032\233\053\245\143\037\100\122\066\263\235\321\155
\345\351\343\271\122\003\026\004\340\334\343\004\123\036\370\114
\005\270\113\336\004\042\101\020\001\371\256\366\056\336\230\266
\242\273\011\343\156\023\251\141\020\127\133\102\260\051\020\317
\346\052\374\351\032\227\274\207\002\102\203\170\345\334\077\272
\015\340\017\223\165\167\066\245\332\261\271\120\247\004\355\021

```
\231\154\366\046\221\222\111\342\143\211\071\077\070\374\021\260
\363\126\267\001\277\051\162\364\342\215\255\153\170\342\076\222
\156\040\045\155\130\060\034\365\035\332\270\021\040\046\136\153
\112\024\146\005\333\063\033\102\346\316\301\356\144\360\205\111
\200\265\345\020\103\010\340\154\153\306\303\104\237\051\004\125
\066\132\057\302\125\160\200\010\113\232\276\012\057\170\016\005
\153\226\355\337\312\064\075\154\154\004\377\214\246\207\002\165
\133\103\062\254\320\207\034\275\042\210\112\271\165\200\032\267
\254\240\213\312\016\015\361\026\116\253\004\352\343\175\134\011
\172\134\042\377\020\042\262\210\307\074\225\120\277\325\265\315
\122\050\036\237\204\102\017\370\061\000\266\324\326\310\137\144
\150\212\200\176\127\170\112\343\177\133\377\016\335\171\117\061
\330\317\034\227\123\206\322\163\337\156\160\021\227\221\217\063
\273\311\202\056\073\322\073\150\341\047\214\203\241\314\001\155
\304\201\276\172\265\007\015\057\002\075\123\311\231\234\333\321
\201\103\053\220\010\013
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "emSign Root CA - C2"
```

```
# Issuer: CN=emSign Root CA - C2,O=eMudhra Inc,OU=emSign PKI,C=US
```

```
# Serial Number:2f:0a:b7:6b:0d:cb:4a:af:27:58
```

```
# Subject: CN=emSign Root CA - C2,O=eMudhra Inc,OU=emSign PKI,C=US
```

```
# Not Valid Before: Sun Feb 18 18:30:00 2018
```

```
# Not Valid After: Wed Feb 18 18:30:00 2043
```

```
# Fingerprint (MD5): eb:24:3b:fa:70:63:c8:e1:cd:5f:0e:ea:c8:97:2f:21
```

```
# Fingerprint (SHA1): bc:a2:18:80:74:c3:14:7e:16:f4:c4:8c:59:10:a8:9e:f7:52:f4:79
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "emSign Root CA - C2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\274\242\030\200\164\303\024\176\026\364\304\214\131\020\250\236
\367\122\364\171
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\353\044\073\372\160\143\310\341\315\137\016\352\310\227\057\041
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
```

```
\040\103\101\040\055\040\103\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\057\012\267\153\015\313\112\257\047\130
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Microsoft ECC TS Root Certificate Authority 2018"
# Issuer: CN=Microsoft ECC TS Root Certificate Authority 2018,O=Microsoft
Corporation,L=Redmond,ST=Washington,C=US
# Serial Number: 15:38:75:e1:64:7e:d1:b0:47:b4:ef:af:41:12:82:45
# Subject: CN=Microsoft ECC TS Root Certificate Authority 2018,O=Microsoft
Corporation,L=Redmond,ST=Washington,C=US
# Not Valid Before: Tue Feb 27 20:51:34 2018
# Not Valid After: Fri Feb 27 21:00:12 2043
# Fingerprint (MD5): 37:94:29:58:86:2a:06:e6:bb:cf:d7:ab:59:c7:f2:3c
# Fingerprint (SHA1): 31:f9:fc:8b:a3:80:59:86:b7:21:ea:72:95:c6:5b:3a:44:53:42:74
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC TS Root Certificate Authority 2018"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\071\060\067\006\003\125\004\003
\023\060\115\151\143\162\157\163\157\146\164\040\105\103\103\040
\124\123\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060
\061\070
```

```
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\071\060\067\006\003\125\004\003
\023\060\115\151\143\162\157\163\157\146\164\040\105\103\103\040
```


\124\123\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060
\061\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\070\165\341\144\176\321\260\107\264\357\257\101\022
\202\105
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\027\060\202\002\236\240\003\002\001\002\002\020\025
\070\165\341\144\176\321\260\107\264\357\257\101\022\202\105\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\217\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\023\060\021\006
\003\125\004\010\023\012\127\141\163\150\151\156\147\164\157\156
\061\020\060\016\006\003\125\004\007\023\007\122\145\144\155\157
\156\144\061\036\060\034\006\003\125\004\012\023\025\115\151\143
\162\157\163\157\146\164\040\103\157\162\160\157\162\141\164\151
\157\156\061\071\060\067\006\003\125\004\003\023\060\115\151\143
\162\157\163\157\146\164\040\105\103\103\040\124\123\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101
\165\164\150\157\162\151\164\171\040\062\060\061\070\060\036\027
\015\061\070\060\062\062\067\062\060\065\061\063\064\132\027\015
\064\063\060\062\062\067\062\061\060\060\061\062\132\060\201\217
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\023\060
\021\006\003\125\004\010\023\012\127\141\163\150\151\156\147\164
\157\156\061\020\060\016\006\003\125\004\007\023\007\122\145\144
\155\157\156\144\061\036\060\034\006\003\125\004\012\023\025\115
\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162\141
\164\151\157\156\061\071\060\067\006\003\125\004\003\023\060\115
\151\143\162\157\163\157\146\164\040\105\103\103\040\124\123\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\145
\040\101\165\164\150\157\162\151\164\171\040\062\060\061\070\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\336\315\273\160\040\361\045\040\264
\224\350\327\264\073\017\156\207\335\253\254\317\115\100\057\201
\063\153\131\011\030\326\207\015\046\043\234\264\215\225\235\166
\237\245\271\006\102\346\255\066\262\304\263\256\172\074\010\325
\313\235\072\136\105\041\154\013\343\040\365\233\302\335\104\063
\343\102\271\352\362\050\102\222\252\376\014\007\312\212\023\231
\073\142\000\355\332\363\065\243\201\274\060\201\271\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035
\006\003\125\035\016\004\026\004\024\350\107\310\102\232\260\235
\256\157\013\050\073\230\025\217\343\261\350\200\262\060\020\006
\011\053\006\001\004\001\202\067\025\001\004\003\002\001\000\060
\145\006\003\125\035\040\004\136\060\134\060\006\006\004\125\035
\040\000\060\122\006\014\053\006\001\004\001\202\067\114\203\175
\001\001\060\102\060\100\006\010\053\006\001\005\005\007\002\001

```
\026\064\150\164\164\160\072\057\057\167\167\167\056\155\151\143
\162\157\163\157\146\164\056\143\157\155\057\160\153\151\157\160
\163\057\104\157\143\163\057\122\145\160\157\163\151\164\157\162
\171\056\150\164\155\000\060\012\006\010\052\206\110\316\075\004
\003\003\003\147\000\060\144\002\060\024\206\120\300\046\032\353
\352\241\024\167\072\133\337\143\071\245\063\307\120\100\325\153
\065\153\017\264\337\175\126\271\341\245\235\170\031\202\241\103
\156\032\327\130\243\125\003\102\333\002\060\030\224\264\036\072
\215\144\372\014\047\033\207\023\112\322\267\072\000\224\306\362
\345\143\277\257\343\372\334\223\325\347\106\232\153\201\151\076
\002\337\121\015\217\050\161\101\211\221\057
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "Microsoft ECC TS Root Certificate Authority 2018"

Issuer: CN=Microsoft ECC TS Root Certificate Authority 2018,O=Microsoft Corporation,L=Redmond,ST=Washington,C=US

Serial Number: 15:38:75:e1:64:7e:d1:b0:47:b4:ef:af:41:12:82:45

Subject: CN=Microsoft ECC TS Root Certificate Authority 2018,O=Microsoft Corporation,L=Redmond,ST=Washington,C=US

Not Valid Before: Tue Feb 27 20:51:34 2018

Not Valid After: Fri Feb 27 21:00:12 2043

Fingerprint (MD5): 37:94:29:58:86:2a:06:e6:bb:cf:d7:ab:59:c7:f2:3c

Fingerprint (SHA1): 31:f9:fc:8b:a3:80:59:86:b7:21:ea:72:95:c6:5b:3a:44:53:42:74

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Microsoft ECC TS Root Certificate Authority 2018"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\061\371\374\213\243\200\131\206\267\041\352\162\225\306\133\072
\104\123\102\164
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\067\224\051\130\206\052\006\346\273\317\327\253\131\307\362\074
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\127\141\163\150\151
\156\147\164\157\156\061\020\060\016\006\003\125\004\007\023\007
\122\145\144\155\157\156\144\061\036\060\034\006\003\125\004\012
\023\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160
\157\162\141\164\151\157\156\061\071\060\067\006\003\125\004\003
\023\060\115\151\143\162\157\163\157\146\164\040\105\103\103\040
\124\123\040\122\157\157\164\040\103\145\162\164\151\146\151\143
```

\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060
\061\070

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\025\070\165\341\144\176\321\260\107\264\357\257\101\022
\202\105

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "DigiCert CS ECC P384 Root G5"

Issuer: CN=DigiCert CS ECC P384 Root G5,O=DigiCert\, Inc.,C=US

Serial Number:03:69:8f:e7:12:d5:19:f3:ce:d0:fd:b7:b1:64:30:11

Subject: CN=DigiCert CS ECC P384 Root G5,O=DigiCert\, Inc.,C=US

Not Valid Before: Fri Jan 15 00:00:00 2021

Not Valid After: Sun Jan 14 23:59:59 2046

Fingerprint (MD5): dd:b4:30:09:e8:67:1f:45:a0:80:ec:9d:d9:b1:a1:54

Fingerprint (SHA1): 84:35:73:11:2a:3b:31:93:44:e5:e4:ec:ab:c9:f2:6c:7c:d5:4d:07

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert CS ECC P384 Root G5"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\103\123\040\105
\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\103\123\040\105
\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\003\151\217\347\022\325\031\363\316\320\375\267\261\144
\060\021

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\026\060\202\001\235\240\003\002\001\002\002\020\003

\151\217\347\022\325\031\363\316\320\375\267\261\144\060\021\060
\012\006\010\052\206\110\316\075\004\003\003\060\115\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\045\060\043\006\003\125\004\003\023\034\104\151
\147\151\103\145\162\164\040\103\123\040\105\103\103\040\120\063
\070\064\040\122\157\157\164\040\107\065\060\036\027\015\062\061
\060\061\061\065\060\060\060\060\060\060\132\027\015\064\066\060
\061\061\064\062\063\065\071\065\071\132\060\115\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125
\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111\156
\143\056\061\045\060\043\006\003\125\004\003\023\034\104\151\147
\151\103\145\162\164\040\103\123\040\105\103\103\040\120\063\070
\064\040\122\157\157\164\040\107\065\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\177\024\255\205\266\227\375\002\041\065\115\140\350\070\223
\223\233\075\005\020\155\257\323\376\357\372\273\373\163\231\363
\354\062\022\215\307\150\270\213\336\211\242\210\124\167\215\273
\041\176\063\225\126\226\011\350\325\214\241\004\270\233\156\031
\000\142\350\102\050\246\130\067\204\031\125\046\173\063\067\147
\362\232\162\255\241\256\256\000\102\074\034\176\270\172\236\041
\234\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024
\360\214\230\161\071\070\145\302\072\033\246\027\146\035\310\355
\145\336\222\066\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\012\006\010\052\206\110\316\075\004\003
\003\003\147\000\060\144\002\060\043\157\341\000\031\046\120\344
\106\040\145\213\067\247\317\353\006\341\314\062\311\052\241\354
\062\015\163\242\036\002\034\065\141\052\116\151\253\071\167\355
\227\210\300\175\153\352\211\335\002\060\103\361\321\130\243\165
\076\206\233\266\125\021\213\027\367\075\376\012\151\305\177\116
\306\165\033\132\224\313\352\021\021\306\010\042\210\336\320\172
\242\245\171\350\343\041\247\315\023\263

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "DigiCert CS ECC P384 Root G5"
Issuer: CN=DigiCert CS ECC P384 Root G5,O=DigiCert, Inc.,C=US
Serial Number:03:69:8f:e7:12:d5:19:f3:ce:d0:fd:b7:b1:64:30:11
Subject: CN=DigiCert CS ECC P384 Root G5,O=DigiCert, Inc.,C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After: Sun Jan 14 23:59:59 2046
Fingerprint (MD5): dd:b4:30:09:e8:67:1f:45:a0:80:ec:9d:d9:b1:a1:54
Fingerprint (SHA1): 84:35:73:11:2a:3b:31:93:44:e5:e4:ec:ab:c9:f2:6c:7c:d5:4d:07
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert CS ECC P384 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\204\065\163\021\052\073\061\223\104\345\344\354\253\311\362\154
\174\325\115\007
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\335\264\060\011\350\147\037\105\240\200\354\235\331\261\241\124
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\103\123\040\105
\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\151\217\347\022\325\031\363\316\320\375\267\261\144
\060\021
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

# Microsoft Code Signing Only Certificate
# Certificate "DigiCert CS RSA4096 Root G5"
# Issuer: CN=DigiCert CS RSA4096 Root G5,O=DigiCert, Inc.,C=US
# Serial Number:06:ce:e1:31:be:6d:55:c8:07:f7:c0:c7:fb:44:e6:20
# Subject: CN=DigiCert CS RSA4096 Root G5,O=DigiCert, Inc.,C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After: Sun Jan 14 23:59:59 2046
# Fingerprint (MD5): a7:33:ed:bf:1b:5d:e1:19:c4:91:c9:4a:ea:f7:6d:c7
# Fingerprint (SHA1): 5e:ee:d8:6f:a3:7c:67:52:30:64:2f:55:c8:4d:db:f6:7c:d3:3c:80

```

```

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert CS RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\114\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\044\060\042\006\003\125\004
\003\023\033\104\151\147\151\103\145\162\164\040\103\123\040\122
\123\101\064\060\071\066\040\122\157\157\164\040\107\065

```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\114\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\044\060\042\006\003\125\004
\003\023\033\104\151\147\151\103\145\162\164\040\103\123\040\122
\123\101\064\060\071\066\040\122\157\157\164\040\107\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\006\316\341\061\276\155\125\310\007\367\300\307\373\104
\346\040

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\144\060\202\003\114\240\003\002\001\002\002\020\006
\316\341\061\276\155\125\310\007\367\300\307\373\104\346\040\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\114
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164
\054\040\111\156\143\056\061\044\060\042\006\003\125\004\003\023
\033\104\151\147\151\103\145\162\164\040\103\123\040\122\123\101
\064\060\071\066\040\122\157\157\164\040\107\065\060\036\027\015
\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015\064
\066\060\061\061\064\062\063\065\071\065\071\132\060\114\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006
\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040
\111\156\143\056\061\044\060\042\006\003\125\004\003\023\033\104
\151\147\151\103\145\162\164\040\103\123\040\122\123\101\064\060
\071\066\040\122\157\157\164\040\107\065\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\266\063\163\200\330
\142\003\160\024\054\021\034\071\136\174\256\174\203\206\035\376
\046\057\114\044\255\213\352\203\137\251\274\075\133\374\013\230
\114\002\107\060\354\342\376\354\350\064\133\146\136\277\073\327
\054\246\045\377\214\131\263\337\352\332\174\051\331\106\120\162
\010\035\156\321\033\012\335\037\315\231\211\372\017\017\163\304
\341\234\035\165\062\315\157\227\332\052\152\225\262\154\311\011
\320\352\013\173\175\027\006\111\231\357\326\336\340\310\123\324
\256\306\167\361\206\273\043\034\270\300\337\131\367\216\175\321
\357\202\346\046\213\132\070\265\377\165\325\262\331\117\011\363
\067\210\120\332\021\244\212\024\024\321\123\004\000\175\363\152
\104\030\376\120\160\062\007\034\250\232\016\072\035\305\012\037
\156\013\046\151\267\074\242\127\160\054\206\372\114\156\225\251
\130\103\271\254\022\326\377\077\355\327\103\027\153\114\316\236
\304\220\253\377\372\020\120\232\243\220\127\326\347\214\020\256
\237\026\032\317\065\035\177\327\166\355\212\234\065\247\050\270
\247\135\041\374\060\067\335\336\010\031\117\025\306\347\246\332
\220\107\216\367\224\123\114\216\123\002\276\375\231\345\352\206

\320\257\003\002\323\233\252\223\361\253\050\216\040\001\377\114
\373\314\267\051\100\365\207\244\022\023\005\037\103\156\327\121
\120\237\070\264\040\355\027\011\022\217\314\271\031\257\237\315
\276\151\021\323\257\125\020\155\027\206\171\226\122\306\262\000
\235\345\257\070\260\065\364\210\153\217\016\004\075\174\356\257
\315\323\152\020\112\306\315\206\312\042\075\241\112\134\373\016
\377\210\337\134\142\247\300\271\036\331\254\154\176\070\067\376
\167\223\045\302\205\212\117\265\067\006\132\006\201\024\361\316
\224\235\231\221\352\062\132\316\147\075\156\004\146\255\014\117
\055\243\056\367\236\365\170\235\367\012\375\176\217\343\102\212
\125\226\274\361\237\067\055\374\236\137\225\376\214\030\033\374
\216\375\113\220\257\327\003\150\022\143\254\342\223\247\242\313
\004\345\117\144\316\003\372\306\024\237\331\213\350\314\324\142
\214\153\344\000\054\031\237\032\006\306\061\201\124\373\123\044
\232\257\125\231\272\235\165\256\270\302\335\002\003\001\000\001
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\150
\001\223\261\322\112\100\102\151\224\106\054\034\132\210\251\045
\264\107\117\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001
\014\005\000\003\202\002\001\000\222\374\356\270\002\171\027\002
\121\175\041\305\111\147\247\244\361\250\044\070\353\014\150\352
\132\102\153\234\364\163\301\151\112\055\263\067\005\120\102\230
\222\236\006\171\054\056\006\231\366\357\337\053\240\315\263\222
\001\203\265\240\313\047\265\074\043\032\230\111\242\354\055\231
\245\131\103\254\322\261\223\326\127\327\034\274\223\326\306\100
\341\263\157\031\125\267\023\327\345\103\063\244\265\253\313\332
\301\061\144\015\164\326\054\355\303\215\156\353\273\257\031\107
\141\141\055\300\364\005\271\157\170\334\072\367\102\100\145\123
\221\275\231\015\223\222\124\246\251\067\131\053\233\313\231\306
\274\075\367\004\204\360\224\063\035\017\202\132\071\313\056\105
\303\050\031\243\262\233\230\310\374\061\153\140\217\366\351\206
\050\274\340\074\175\164\135\026\211\133\151\044\307\020\213\304
\113\273\066\117\324\131\077\303\260\244\221\231\370\056\321\112
\001\235\365\210\022\357\277\132\021\152\131\117\131\153\132\147
\363\217\264\023\017\300\330\057\075\050\162\252\031\177\021\175
\152\133\237\225\347\137\267\224\117\361\076\241\132\377\055\314
\235\337\047\167\217\062\163\034\147\012\166\363\372\134\261\277
\274\035\275\014\050\233\262\307\027\147\013\063\017\303\275\066
\334\373\272\102\013\253\355\204\303\142\326\204\026\251\261\007
\153\251\156\356\306\317\346\260\104\051\302\360\263\141\200\052
\213\157\322\024\134\045\207\124\144\363\244\114\301\241\370\247
\153\352\376\352\072\374\171\333\016\217\334\306\363\311\324\154
\336\351\203\241\216\035\042\354\311\072\262\000\173\334\073\247
\102\032\177\334\213\251\021\075\216\247\300\040\157\135\011\135
\103\104\346\217\146\314\251\133\007\361\357\233\172\016\263\124
\341\224\375\016\054\306\223\327\125\375\161\230\065\270\011\112
\377\306\051\050\054\366\122\055\333\024\030\222\047\342\026\176

```
\214\312\324\141\276\202\207\221\353\230\067\077\277\137\135\167
\077\064\254\033\070\103\253\150\162\231\062\036\072\032\031\245
\243\070\114\043\327\243\347\314\325\052\222\027\220\013\132\113
\275\026\275\373\206\152\342\211\231\354\344\240\125\030\311\243
\010\037\023\340\062\010\162\320
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate

Trust for "DigiCert CS RSA4096 Root G5"

Issuer: CN=DigiCert CS RSA4096 Root G5,O=DigiCert, Inc.,C=US

Serial Number:06:ce:e1:31:be:6d:55:c8:07:f7:c0:c7:fb:44:e6:20

Subject: CN=DigiCert CS RSA4096 Root G5,O=DigiCert, Inc.,C=US

Not Valid Before: Fri Jan 15 00:00:00 2021

Not Valid After: Sun Jan 14 23:59:59 2046

Fingerprint (MD5): a7:33:ed:bf:1b:5d:e1:19:c4:91:c9:4a:ea:f7:6d:c7

Fingerprint (SHA1): 5e:ee:d8:6f:a3:7c:67:52:30:64:2f:55:c8:4d:db:f6:7c:d3:3c:80

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert CS RSA4096 Root G5"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\136\356\330\157\243\174\147\122\060\144\057\125\310\115\333\366
\174\323\074\200
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\247\063\355\277\033\135\341\031\304\221\311\112\352\367\155\307
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\114\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\044\060\042\006\003\125\004
\003\023\033\104\151\147\151\103\145\162\164\040\103\123\040\122
\123\101\064\060\071\066\040\122\157\157\164\040\107\065
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\006\316\341\061\276\155\125\310\007\367\300\307\373\104
\346\040
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

Microsoft Code Signing Only Certificate


```
# Certificate "DigiCert RSA4096 Root G5"
# Issuer: CN=DigiCert RSA4096 Root G5,O=DigiCert\, Inc.,C=US
# Serial Number:08:bf:a2:6f:9a:3f:33:65:a2:ac:f0:a6:38:c4:01:70
# Subject: CN=DigiCert RSA4096 Root G5,O=DigiCert\, Inc.,C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After: Sun Jan 14 23:59:59 2046
# Fingerprint (MD5): 26:18:9c:6e:60:22:79:b6:8d:0f:65:4c:99:17:56:12
# Fingerprint (SHA1): 87:b8:e6:d3:8f:1a:39:cd:97:f0:4a:9e:17:4b:3c:9e:e7:ee:11:15
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\111\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\041\060\037\006\003\125\004
\003\023\030\104\151\147\151\103\145\162\164\040\122\123\101\064
\060\071\066\040\122\157\157\164\040\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\111\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\041\060\037\006\003\125\004
\003\023\030\104\151\147\151\103\145\162\164\040\122\123\101\064
\060\071\066\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\277\242\157\232\077\063\145\242\254\360\246\070\304
\001\160
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\136\060\202\003\106\240\003\002\001\002\002\020\010
\277\242\157\232\077\063\145\242\254\360\246\070\304\001\160\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\111
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164
\054\040\111\156\143\056\061\041\060\037\006\003\125\004\003\023
\030\104\151\147\151\103\145\162\164\040\122\123\101\064\060\071
\066\040\122\157\157\164\040\107\065\060\036\027\015\062\061\060
\061\061\065\060\060\060\060\060\132\027\015\064\066\060\061
\061\064\062\063\065\071\065\071\132\060\111\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004
\012\023\016\104\151\147\151\103\145\162\164\054\040\111\156\143
\056\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\122\123\101\064\060\071\066\040\122\157\157
```

\164\040\107\065\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\252\276\015\262\006\175\046\371\107\352\344
\033\347\102\151\270\231\302\271\356\044\261\106\220\313\131\044
\122\124\065\246\044\302\137\221\031\310\266\102\326\363\107\145
\225\144\347\205\145\147\251\256\174\000\117\340\170\003\120\255
\363\177\216\270\021\347\201\142\261\213\337\362\111\046\011\336
\017\026\274\332\050\233\241\310\227\057\223\220\332\040\052\343
\204\324\377\251\236\260\055\277\264\000\336\233\037\310\240\143
\123\150\205\157\115\205\306\252\143\371\215\262\065\166\142\164
\003\334\223\230\150\005\236\315\220\145\335\322\172\061\253\044
\055\155\100\056\220\077\143\154\054\353\372\036\200\124\215\171
\002\220\024\263\265\117\116\365\210\004\103\200\303\110\263\046
\057\254\121\225\062\125\045\057\101\226\260\126\241\010\073\334
\230\037\162\205\054\167\312\230\314\070\373\216\162\311\155\354
\005\354\355\115\267\074\133\024\120\205\335\227\373\131\367\220
\022\364\023\277\203\115\200\262\025\145\021\227\140\345\326\134
\346\004\265\120\346\161\063\266\040\223\251\150\000\070\316\111
\333\264\134\073\162\327\105\134\124\277\315\074\001\043\036\174
\326\370\151\054\245\000\012\154\062\110\264\336\160\055\072\023
\027\301\177\144\313\363\060\355\241\075\226\147\361\224\265\140
\154\133\151\150\365\202\063\011\242\266\331\363\205\262\156\240
\224\360\302\304\175\241\054\312\163\365\256\340\122\234\242\146
\346\003\316\352\337\355\030\324\271\143\213\367\350\377\373\263
\133\217\103\305\257\267\164\224\120\065\145\256\326\057\361\205
\217\123\241\160\364\215\062\135\274\226\303\036\302\004\004\234
\004\017\263\135\176\211\040\312\136\047\015\211\112\022\043\264
\366\304\335\330\037\370\150\263\066\370\036\274\306\367\204\266
\350\212\116\210\060\070\300\046\330\160\012\011\072\064\016\153
\202\022\226\034\057\346\236\255\330\161\065\201\261\214\006\156
\364\156\146\377\113\112\256\275\360\376\327\134\137\123\273\062
\074\315\142\321\024\240\051\037\020\336\251\162\117\261\255\144
\345\203\052\217\213\352\204\225\356\230\045\230\232\263\161\074
\301\247\120\362\254\102\142\061\302\241\220\306\356\342\267\212
\250\265\266\033\073\002\003\001\000\001\243\102\060\100\060\035
\006\003\125\035\016\004\026\004\024\142\155\267\221\117\304\352
\243\142\140\217\240\320\276\265\217\006\174\150\000\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015
\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202\002
\001\000\141\350\373\047\155\326\342\270\263\011\257\252\360\261
\202\114\376\075\027\211\115\055\025\235\373\356\320\273\204\354
\204\165\333\103\023\336\214\237\307\051\357\207\164\313\023\160
\201\126\000\164\374\256\364\331\072\336\042\010\121\245\240\134
\202\146\266\173\114\251\332\217\253\254\034\101\226\146\326\235
\336\126\346\277\116\261\262\136\137\300\303\156\324\302\204\220
\365\175\261\272\026\321\051\212\310\235\351\317\320\307\031\073
\077\317\356\367\341\063\256\102\310\230\300\010\236\363\132\363

\337\324\053\073\216\250\050\126\031\307\116\167\074\045\124\334
\270\110\110\321\371\047\152\076\354\023\257\262\005\211\375\125
\137\363\175\216\015\234\011\135\054\212\176\205\316\370\341\277
\021\075\062\214\132\327\176\075\364\063\130\317\242\005\230\243
\263\373\316\211\277\375\302\026\335\156\334\210\111\015\013\240
\003\377\347\105\351\004\301\351\375\252\235\165\370\270\037\207
\203\331\353\071\323\132\247\313\230\254\023\211\000\374\157\225
\116\341\175\021\106\155\366\070\106\243\023\240\054\001\365\142
\317\277\034\120\221\047\164\135\267\354\107\174\320\321\165\313
\173\356\321\115\043\012\303\140\245\167\055\200\332\147\017\216
\153\166\007\360\246\017\352\204\256\036\171\277\010\212\332\011
\363\364\356\265\066\363\324\172\103\272\224\065\341\372\301\073
\033\226\231\244\127\143\353\265\250\202\367\255\370\167\327\166
\206\363\166\123\126\133\374\046\102\204\316\237\203\221\221\257
\364\276\160\025\200\245\330\350\151\261\330\221\124\270\031\262
\142\371\242\372\125\355\004\277\271\104\206\344\317\361\233\000
\277\021\017\276\265\164\044\121\377\167\064\143\354\110\043\016
\350\021\353\167\155\332\312\202\221\276\244\204\223\114\332\241
\376\314\006\204\350\041\350\124\272\346\323\035\143\075\302\132
\374\346\311\203\236\162\144\251\206\131\000\214\302\367\023\203
\266\320\244\061\306\254\221\216\173\244\042\126\023\306\165\307
\043\274\213\133\374\106\075\376\135\122\051\257\257\350\311\303
\166\113\350\253\107\002\362\232\015\323\054\210\200\007\206\300
\143\017\002\114\216\004\123\166\271\130\102\157\174\051\160\135
\277\047

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate
Trust for "DigiCert RSA4096 Root G5"
Issuer: CN=DigiCert RSA4096 Root G5,O=DigiCert\, Inc.,C=US
Serial Number:08:bf:a2:6f:9a:3f:33:65:a2:ac:f0:a6:38:c4:01:70
Subject: CN=DigiCert RSA4096 Root G5,O=DigiCert\, Inc.,C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After: Sun Jan 14 23:59:59 2046
Fingerprint (MD5): 26:18:9c:6e:60:22:79:b6:8d:0f:65:4c:99:17:56:12
Fingerprint (SHA1): 87:b8:e6:d3:8f:1a:39:cd:97:f0:4a:9e:17:4b:3c:9e:e7:ee:11:15
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert RSA4096 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\207\270\346\323\217\032\071\315\227\360\112\236\027\113\074\236
\347\356\021\025
END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\030\234\156\140\042\171\266\215\017\145\114\231\027\126\022
END
CKA_ISSUER MULTILINE_OCTAL
\060\111\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\041\060\037\006\003\125\004
\003\023\030\104\151\147\151\103\145\162\164\040\122\123\101\064
\060\071\066\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\277\242\157\232\077\063\145\242\254\360\246\070\304
\001\160
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

# Microsoft Code Signing Only Certificate
# Certificate "DigiCert ECC P384 Root G5"
# Issuer: CN=DigiCert ECC P384 Root G5,O=DigiCert\, Inc.,C=US
# Serial Number:0d:f3:d9:37:65:a3:79:c5:95:66:ea:92:e2:24:4f:34
# Subject: CN=DigiCert ECC P384 Root G5,O=DigiCert\, Inc.,C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After: Sun Jan 14 23:59:59 2046
# Fingerprint (MD5): 11:7f:85:ae:47:1f:51:61:6e:06:94:1e:6a:43:08:0b
# Fingerprint (SHA1): d1:ee:b1:e8:c0:90:20:ba:b8:5d:3d:e2:7f:78:ee:33:a0:6c:ae:db
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\042\060\040\006\003\125\004
\003\023\031\104\151\147\151\103\145\162\164\040\105\103\103\040
\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\042\060\040\006\003\125\004
\003\023\031\104\151\147\151\103\145\162\164\040\105\103\103\040
\120\063\070\064\040\122\157\157\164\040\107\065

```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\015\363\331\067\145\243\171\305\225\146\352\222\342\044
\117\064

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\021\060\202\001\227\240\003\002\001\002\002\020\015
\363\331\067\145\243\171\305\225\146\352\222\342\044\117\064\060
\012\006\010\052\206\110\316\075\004\003\003\060\112\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\042\060\040\006\003\125\004\003\023\031\104\151
\147\151\103\145\162\164\040\105\103\103\040\120\063\070\064\040
\122\157\157\164\040\107\065\060\036\027\015\062\061\060\061\061
\065\060\060\060\060\060\060\132\027\015\064\066\060\061\061\064
\062\063\065\071\065\071\132\060\112\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012\023
\016\104\151\147\151\103\145\162\164\054\040\111\156\143\056\061
\042\060\040\006\003\125\004\003\023\031\104\151\147\151\103\145
\162\164\040\105\103\103\040\120\063\070\064\040\122\157\157\164
\040\107\065\060\166\060\020\006\007\052\206\110\316\075\002\001
\006\005\053\201\004\000\042\003\142\000\004\374\131\037\316\231
\154\177\233\016\266\051\143\157\306\205\363\012\323\326\233\256
\127\025\114\016\355\135\343\011\176\155\052\243\206\252\272\170
\240\247\161\275\104\372\010\300\112\006\326\157\335\054\112\070
\164\345\320\275\377\172\377\345\071\116\275\275\027\036\037\103
\255\325\274\047\330\113\277\166\214\060\062\244\373\371\123\345
\330\252\070\123\135\250\240\067\240\147\012\243\102\060\100\060
\035\006\003\125\035\016\004\026\004\024\222\226\367\346\272\325
\021\272\371\042\056\173\176\132\331\360\045\345\005\033\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060\145
\002\061\000\375\300\115\361\244\247\333\247\014\046\021\364\111
\275\007\070\143\053\104\142\006\171\010\307\303\324\317\233\076
\253\072\047\252\220\307\375\131\242\270\062\122\333\312\216\027
\013\012\220\002\060\135\032\354\121\211\324\144\334\371\345\036
\070\275\133\056\343\345\104\344\073\030\172\327\360\225\100\217
\362\353\317\364\371\320\145\242\101\362\260\346\174\301\066\054
\217\136\071\335\067

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "DigiCert ECC P384 Root G5"

Issuer: CN=DigiCert ECC P384 Root G5,O=DigiCert, Inc.,C=US

```
# Serial Number:0d:f3:d9:37:65:a3:79:c5:95:66:ea:92:e2:24:4f:34
# Subject: CN=DigiCert ECC P384 Root G5,O=DigiCert\, Inc.,C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After: Sun Jan 14 23:59:59 2046
# Fingerprint (MD5): 11:7f:85:ae:47:1f:51:61:6e:06:94:1e:6a:43:08:0b
# Fingerprint (SHA1): d1:ee:b1:e8:c0:90:20:ba:b8:5d:3d:e2:7f:78:ee:33:a0:6c:ae:db
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert ECC P384 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\321\356\261\350\300\220\040\272\270\135\075\342\177\170\356\063
\240\154\256\333
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\021\177\205\256\107\037\121\141\156\006\224\036\152\103\010\013
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\042\060\040\006\003\125\004
\003\023\031\104\151\147\151\103\145\162\164\040\105\103\103\040
\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\015\363\331\067\145\243\171\305\225\146\352\222\342\044
\117\064
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "HARICA Code Signing RSA Root CA 2021"
# Issuer: CN=HARICA Code Signing RSA Root CA 2021,O=Hellenic Academic and Research Institutions
CA,C=GR
# Serial Number:15:c2:ae:2a:4d:99:9a:63:8c:d3:ba:13:19:76:08:f5
# Subject: CN=HARICA Code Signing RSA Root CA 2021,O=Hellenic Academic and Research Institutions
CA,C=GR
# Not Valid Before: Fri Feb 19 10:59:54 2021
# Not Valid After: Mon Feb 13 10:59:53 2045
# Fingerprint (MD5): 00:5d:c9:e3:b2:c0:90:e0:61:9a:42:c0:29:a1:6b:ba
# Fingerprint (SHA1): 8d:de:b8:20:46:b6:22:7c:79:24:6a:3e:ad:7b:32:c3:e8:8f:fc:ac
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Code Signing RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\165\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\055\060\053\006\003\125\004
\003\014\044\110\101\122\111\103\101\040\103\157\144\145\040\123
\151\147\156\151\156\147\040\122\123\101\040\122\157\157\164\040
\103\101\040\062\060\062\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL
\060\165\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\055\060\053\006\003\125\004
\003\014\044\110\101\122\111\103\101\040\103\157\144\145\040\123
\151\147\156\151\156\147\040\122\123\101\040\122\157\157\164\040
\103\101\040\062\060\062\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\025\302\256\052\115\231\232\143\214\323\272\023\031\166
\010\365

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\266\060\202\003\236\240\003\002\001\002\002\020\025
\302\256\052\115\231\232\143\214\323\272\023\031\166\010\365\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\165
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\101\061\055\060\053\006\003\125\004\003\014
\044\110\101\122\111\103\101\040\103\157\144\145\040\123\151\147
\156\151\156\147\040\122\123\101\040\122\157\157\164\040\103\101
\040\062\060\062\061\060\036\027\015\062\061\060\062\061\071\061
\060\065\071\065\064\132\027\015\064\065\060\062\061\063\061\060
\065\071\065\063\132\060\165\061\013\060\011\006\003\125\004\006
\023\002\107\122\061\067\060\065\006\003\125\004\012\014\056\110
\145\154\154\145\156\151\143\040\101\143\141\144\145\155\151\143
\040\141\156\144\040\122\145\163\145\141\162\143\150\040\111\156
\163\164\151\164\165\164\151\157\156\163\040\103\101\061\055\060
\053\006\003\125\004\003\014\044\110\101\122\111\103\101\040\103
\157\144\145\040\123\151\147\156\151\156\147\040\122\123\101\040

\122\157\157\164\040\103\101\040\062\060\062\061\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\212\152\356
\252\012\043\125\014\213\006\102\343\225\133\124\170\137\305\216
\006\054\174\074\061\276\257\015\251\241\354\112\040\130\005\235
\342\150\262\273\353\137\177\052\063\271\362\125\234\157\252\244
\036\355\020\276\203\051\021\066\346\236\077\372\155\173\121\341
\325\167\245\275\313\151\016\073\042\040\224\014\061\145\100\015
\011\257\020\065\172\233\352\171\010\104\244\213\147\251\053\115
\301\347\320\327\247\366\265\072\215\331\243\251\171\270\244\145
\134\274\363\076\367\237\231\366\270\303\145\150\055\253\203\056
\335\205\231\004\251\365\321\134\325\121\102\001\271\237\101\265
\113\042\262\000\364\313\147\020\357\151\304\020\255\372\224\006
\166\120\022\127\202\256\305\024\255\074\175\273\235\361\163\341
\174\360\256\161\336\133\367\022\335\367\200\361\334\076\361\140
\272\311\031\227\157\165\164\205\114\375\071\103\303\144\156\064
\254\023\301\034\145\266\122\102\361\106\353\057\372\135\246\317
\016\111\235\367\164\174\170\015\006\072\054\022\373\342\113\046
\344\157\213\041\201\063\102\071\023\350\102\253\133\125\324\033
\273\067\266\022\221\367\363\175\274\322\377\354\261\303\325\240
\314\262\053\307\217\135\176\114\122\102\110\373\217\375\132\220
\163\020\325\251\162\124\215\111\333\070\122\252\106\110\016\057
\372\000\054\314\163\014\066\113\044\316\023\154\246\244\244\243
\326\174\233\351\070\013\306\044\333\115\254\147\041\111\133\101
\067\144\346\140\153\037\355\052\057\140\031\060\036\330\074\234
\031\103\207\337\300\012\364\344\312\140\210\172\326\243\271\344
\045\056\171\342\376\301\313\074\267\367\317\116\130\114\373\303
\255\253\175\252\312\210\373\016\070\015\037\236\134\071\353\270
\007\304\120\042\115\370\205\177\156\354\214\372\266\161\115\336
\175\226\151\304\335\076\036\336\046\220\012\054\115\025\225\251
\242\076\334\075\016\167\174\215\101\050\117\270\203\121\276\076
\267\217\220\072\160\061\211\132\372\223\123\374\140\311\215\165
\220\356\132\057\035\204\237\000\251\346\303\206\043\242\036\335
\022\343\241\106\140\033\147\277\120\025\042\222\174\112\264\214
\217\156\234\225\302\054\334\073\072\040\266\274\213\002\003\001
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\264\144\026\110\350\374\132\113\063\051\211\353\231\100
\271\040\264\366\141\032\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\002\001\000\053\254\131\213\346\071
\104\334\373\255\112\210\340\144\377\253\303\362\322\316\160\057
\003\345\157\262\304\365\066\326\123\153\207\253\035\213\231\007
\310\060\216\107\162\375\241\270\165\326\027\241\026\275\144\163
\221\060\127\255\175\375\005\100\206\223\321\111\226\262\013\324
\174\144\023\213\323\041\111\070\273\373\350\314\076\061\361\256
\173\114\052\337\202\006\243\216\005\204\234\177\160\316\300\273
\105\027\337\135\145\014\344\120\110\007\104\213\244\057\126\332

\306\172\366\140\215\244\070\361\235\207\026\060\262\360\137\172
\102\125\040\161\317\314\356\000\261\022\107\277\102\271\344\263
\265\035\031\204\271\230\155\340\151\264\025\101\265\342\120\110
\307\037\352\232\267\171\221\335\325\325\123\031\374\256\030\154
\151\333\255\131\050\233\144\230\247\074\307\125\216\321\060\000
\317\324\062\236\142\261\303\052\356\065\042\306\273\360\174\273
\203\270\000\211\365\334\032\227\331\070\232\051\123\141\031\246
\247\364\073\107\375\335\147\225\017\216\244\146\054\202\232\267
\055\161\346\337\256\370\370\150\301\273\017\352\120\240\105\227
\267\032\225\022\157\310\263\266\005\150\332\152\036\016\065\205
\204\254\164\014\212\264\364\165\237\042\257\260\124\273\266\236
\042\371\331\353\325\212\015\307\334\370\230\061\137\236\372\306
\227\364\101\020\165\323\201\266\061\137\172\335\210\205\010\257
\160\107\002\067\173\342\112\354\135\362\335\051\022\104\310\212
\252\335\322\125\170\027\165\257\161\151\015\167\160\112\260\037
\177\102\333\307\161\334\130\326\030\275\120\305\271\162\004\307
\147\173\174\123\140\312\111\030\025\274\100\163\256\053\250\053
\254\157\021\104\071\354\202\110\176\021\312\373\326\077\266\300
\271\270\006\223\165\275\223\047\167\027\015\134\245\236\352\301
\133\000\055\014\250\065\140\307\342\157\065\033\075\166\265\347
\255\335\164\043\117\206\262\107\357\310\057\320\205\174\071\226
\067\241\053\051\002\275\076\207\317\250\366\035\165\062\317\070
\343\163\261\356\020\201\265\052\261\210\006\121\036\132\072\110
\121\363\066\131\142\337\102\146\131\120\267\130\276\365\166\100
\232\022\026\346\016\252\327\154\240\325

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Trust for "HARICA Code Signing RSA Root CA 2021"

Issuer: CN=HARICA Code Signing RSA Root CA 2021,O=Hellenic Academic and Research Institutions
CA,C=GR

Serial Number:15:c2:ae:2a:4d:99:9a:63:8c:d3:ba:13:19:76:08:f5

Subject: CN=HARICA Code Signing RSA Root CA 2021,O=Hellenic Academic and Research Institutions
CA,C=GR

Not Valid Before: Fri Feb 19 10:59:54 2021

Not Valid After: Mon Feb 13 10:59:53 2045

Fingerprint (MD5): 00:5d:c9:e3:b2:c0:90:e0:61:9a:42:c0:29:a1:6b:ba

Fingerprint (SHA1): 8d:de:b8:20:46:b6:22:7c:79:24:6a:3e:ad:7b:32:c3:e8:8f:fc:ac

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "HARICA Code Signing RSA Root CA 2021"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\215\336\270\040\106\266\042\174\171\044\152\076\255\173\062\303

\350\217\374\254

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\000\135\311\343\262\300\220\340\141\232\102\300\051\241\153\272

END

CKA_ISSUER MULTILINE_OCTAL

\060\165\061\013\060\011\006\003\125\004\006\023\002\107\122\061

\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156

\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040

\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165

\164\151\157\156\163\040\103\101\061\055\060\053\006\003\125\004

\003\014\044\110\101\122\111\103\101\040\103\157\144\145\040\123

\151\147\156\151\156\147\040\122\123\101\040\122\157\157\164\040

\103\101\040\062\060\062\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\025\302\256\052\115\231\232\143\214\323\272\023\031\166

\010\365

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

Microsoft Code Signing Only Certificate

Certificate "HARICA Code Signing ECC Root CA 2021"

Issuer: CN=HARICA Code Signing ECC Root CA 2021,O=Hellenic Academic and Research Institutions
CA,C=GR

Serial Number:4c:8a:63:1d:a9:63:8f:05:a2:fb:76:14:ff:5b:a2:cd

Subject: CN=HARICA Code Signing ECC Root CA 2021,O=Hellenic Academic and Research Institutions
CA,C=GR

Not Valid Before: Fri Feb 19 11:04:36 2021

Not Valid After: Mon Feb 13 11:04:35 2045

Fingerprint (MD5): 9d:dd:7d:39:b4:1c:95:fa:82:e0:c3:11:38:ba:69:84

Fingerprint (SHA1): e4:36:e5:37:b7:13:42:b6:2e:8e:00:30:5a:d9:a3:d1:d7:33:47:e9

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "HARICA Code Signing ECC Root CA 2021"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\165\061\013\060\011\006\003\125\004\006\023\002\107\122\061

\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156

\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040

\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165

\164\151\157\156\163\040\103\101\061\055\060\053\006\003\125\004

\003\014\044\110\101\122\111\103\101\040\103\157\144\145\040\123

\151\147\156\151\156\147\040\105\103\103\040\122\157\157\164\040
\103\101\040\062\060\062\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\165\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\055\060\053\006\003\125\004
\003\014\044\110\101\122\111\103\101\040\103\157\144\145\040\123
\151\147\156\151\156\147\040\105\103\103\040\122\157\157\164\040
\103\101\040\062\060\062\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\114\212\143\035\251\143\217\005\242\373\166\024\377\133
\242\315

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\146\060\202\001\355\240\003\002\001\002\002\020\114
\212\143\035\251\143\217\005\242\373\166\024\377\133\242\315\060
\012\006\010\052\206\110\316\075\004\003\003\060\165\061\013\060
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\101\061\055\060\053\006\003\125\004\003\014\044\110\101
\122\111\103\101\040\103\157\144\145\040\123\151\147\156\151\156
\147\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060
\062\061\060\036\027\015\062\061\060\062\061\071\061\061\060\064
\063\066\132\027\015\064\065\060\062\061\063\061\061\060\064\063
\065\132\060\165\061\013\060\011\006\003\125\004\006\023\002\107
\122\061\067\060\065\006\003\125\004\012\014\056\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\101\061\055\060\053\006\003
\125\004\003\014\044\110\101\122\111\103\101\040\103\157\144\145
\040\123\151\147\156\151\156\147\040\105\103\103\040\122\157\157
\164\040\103\101\040\062\060\062\061\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\103\237\274\134\102\152\103\341\254\113\270\016\137\200\006
\343\005\167\213\177\013\171\327\141\240\220\277\362\123\050\243
\130\272\224\300\146\152\034\131\332\200\130\201\000\114\274\311
\171\230\020\014\307\035\013\343\223\334\205\071\150\331\277\247
\103\322\061\314\202\202\047\272\210\321\322\055\126\067\367\072
\332\156\071\334\161\020\145\356\070\013\207\172\003\272\060\137
\144\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004

```
\024\152\161\301\163\152\223\102\246\227\162\136\273\220\137\202
\222\017\053\326\353\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\206\060\012\006\010\052\206\110\316\075\004\003
\003\003\147\000\060\144\002\060\036\245\325\013\104\225\020\344
\147\174\116\205\136\271\105\111\002\163\260\262\034\263\247\042
\321\000\141\100\017\263\207\067\026\215\000\355\266\213\125\045
\006\224\220\334\327\347\165\237\002\060\177\164\153\361\112\337
\360\367\204\173\362\305\171\060\003\110\362\036\040\042\127\144
\124\127\064\200\167\267\077\043\117\264\365\200\230\302\301\126
\133\240\347\326\241\217\365\014\157\035
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Trust for "HARICA Code Signing ECC Root CA 2021"
# Issuer: CN=HARICA Code Signing ECC Root CA 2021,O=Hellenic Academic and Research Institutions
CA,C=GR
# Serial Number:4c:8a:63:1d:a9:63:8f:05:a2:fb:76:14:ff:5b:a2:cd
# Subject: CN=HARICA Code Signing ECC Root CA 2021,O=Hellenic Academic and Research Institutions
CA,C=GR
# Not Valid Before: Fri Feb 19 11:04:36 2021
# Not Valid After: Mon Feb 13 11:04:35 2045
# Fingerprint (MD5): 9d:dd:7d:39:b4:1c:95:fa:82:e0:c3:11:38:ba:69:84
# Fingerprint (SHA1): e4:36:e5:37:b7:13:42:b6:2e:8e:00:30:5a:d9:a3:d1:d7:33:47:e9
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Code Signing ECC Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\344\066\345\067\267\023\102\266\056\216\000\060\132\331\243\321
\327\063\107\351
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\235\335\175\071\264\034\225\372\202\340\303\021\070\272\151\204
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\165\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\055\060\053\006\003\125\004
\003\014\044\110\101\122\111\103\101\040\103\157\144\145\040\123
\151\147\156\151\156\147\040\105\103\103\040\122\157\157\164\040
\103\101\040\062\060\062\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\114\212\143\035\251\143\217\005\242\373\166\024\377\133
\242\315
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
# Certificate "Microsoft Identity Verification Root Certificate Authority 2020"
# Issuer: CN=Microsoft Identity Verification Root Certificate Authority 2020,O=Microsoft Corporation,C=US
# Serial Number:54:98:d2:d1:d4:5b:19:95:48:13:79:c8:11:c0:87:99
# Subject: CN=Microsoft Identity Verification Root Certificate Authority 2020,O=Microsoft Corporation,C=US
# Not Valid Before: Thu Apr 16 18:36:16 2020
# Not Valid After: Sun Apr 16 18:44:40 2045
# Fingerprint (MD5): be:95:4f:16:01:21:22:44:8c:a8:bc:27:96:02:ac:f5
# Fingerprint (SHA1): f4:00:42:e2:e5:f7:e8:ef:81:89:fe:d1:55:19:ae:ce:42:c3:bf:a2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft Identity Verification Root Certificate Authority 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\167\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\110\060\106\006\003\125\004\003\023\077\115\151\143\162\157\163
\157\146\164\040\111\144\145\156\164\151\164\171\040\126\145\162
\151\146\151\143\141\164\151\157\156\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\040\062\060\062\060
```

```
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\167\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\110\060\106\006\003\125\004\003\023\077\115\151\143\162\157\163
\157\146\164\040\111\144\145\156\164\151\164\171\040\126\145\162
\151\146\151\143\141\164\151\157\156\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\040\062\060\062\060
```

```
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\124\230\322\321\324\133\031\225\110\023\171\310\021\300
\207\231
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\314\060\202\003\264\240\003\002\001\002\002\020\124
\230\322\321\324\133\031\225\110\023\171\310\021\300\207\231\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\167
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036\060
\034\006\003\125\004\012\023\025\115\151\143\162\157\163\157\146
\164\040\103\157\162\160\157\162\141\164\151\157\156\061\110\060
\106\006\003\125\004\003\023\077\115\151\143\162\157\163\157\146
\164\040\111\144\145\156\164\151\164\171\040\126\145\162\151\146
\151\143\141\164\151\157\156\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\062\060\060\036\027\015\062\060\060\064\061
\066\061\070\063\066\061\066\132\027\015\064\065\060\064\061\066
\061\070\064\064\064\060\132\060\167\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\036\060\034\006\003\125\004\012\023
\025\115\151\143\162\157\163\157\146\164\040\103\157\162\160\157
\162\141\164\151\157\156\061\110\060\106\006\003\125\004\003\023
\077\115\151\143\162\157\163\157\146\164\040\111\144\145\156\164
\151\164\171\040\126\145\162\151\146\151\143\141\164\151\157\156
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\145\040\101\165\164\150\157\162\151\164\171\040\062\060\062\060
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\263\221\052\007\203\006\147\375\236\235\340\307\300\267\244
\346\102\004\177\017\246\333\137\373\325\132\327\105\240\373\167
\013\360\200\363\246\155\132\115\171\123\330\240\206\204\127\105
\040\307\242\124\373\307\242\277\212\307\156\065\363\242\025\304
\057\116\343\112\205\226\111\015\377\276\231\330\024\366\274\047
\007\356\102\233\053\365\013\222\006\344\375\151\023\145\250\221
\162\362\230\204\353\203\075\016\344\327\161\022\110\041\313\015
\355\366\107\111\267\233\371\311\307\027\266\204\117\377\270\254
\232\327\163\147\111\205\343\206\275\067\100\320\045\206\324\336
\265\302\155\142\152\325\251\170\274\055\157\111\371\345\154\024
\024\375\024\307\323\145\026\067\336\313\156\274\136\051\215\375
\142\233\025\054\326\005\346\271\211\062\063\243\142\307\327\326
\122\147\010\304\056\364\126\053\236\013\207\314\354\247\264\246
\252\353\005\315\031\127\245\072\013\004\047\034\221\147\236\055
\142\055\057\036\276\332\300\040\313\004\031\312\063\373\211\276
\230\342\162\240\162\065\276\171\341\234\203\157\344\155\027\157
\220\363\075\000\206\165\070\216\320\340\111\232\273\333\323\370
\060\312\325\127\210\150\115\162\323\277\155\177\161\330\375\275
\015\256\222\144\110\267\133\157\171\046\265\315\233\225\041\204
\321\357\017\062\075\173\127\214\363\105\007\114\174\340\136\030
\016\065\166\213\155\236\313\066\164\253\005\370\340\163\135\062
\126\224\147\227\045\012\306\065\075\224\227\347\301\104\213\200
\375\301\370\364\164\031\345\060\366\006\373\041\127\076\006\034
\213\153\025\206\047\111\173\202\223\312\131\350\165\107\350\077

\070\364\307\123\171\240\266\264\342\134\121\357\275\137\070\301
\023\346\170\014\225\132\056\305\100\131\050\314\017\044\300\354
\272\011\167\043\231\070\246\266\034\332\307\272\040\266\327\067
\330\177\067\257\010\343\073\161\333\156\163\033\175\231\162\260
\344\206\063\131\164\265\026\000\173\120\155\306\206\023\332\375
\304\071\202\075\044\000\232\140\332\272\224\300\005\121\054\064
\254\120\231\023\207\273\263\005\200\262\115\060\002\134\270\046
\203\135\264\143\163\357\256\043\225\117\140\050\276\067\325\133
\245\002\003\001\000\001\243\124\060\122\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\310\176\322\152\205\052\033\312\031\230
\004\007\047\317\120\020\117\150\250\242\060\020\006\011\053\006
\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006\011
\052\206\110\206\367\015\001\001\014\005\000\003\202\002\001\000
\257\152\335\346\031\347\055\224\103\031\116\313\351\120\225\144
\245\003\221\002\213\342\066\200\073\025\242\122\302\026\031\266
\152\132\135\164\103\060\364\233\377\140\164\011\261\041\036\220
\026\155\305\044\217\134\146\210\143\364\117\314\175\362\022\114
\100\020\213\001\237\332\251\310\256\362\225\033\317\235\005\353
\111\076\164\240\150\133\345\126\054\145\034\202\176\123\332\126
\331\106\027\171\222\105\304\020\066\010\122\051\027\313\057\246
\362\176\324\151\044\212\036\217\260\163\015\314\034\112\253\262
\252\355\247\221\143\001\144\042\250\062\270\176\062\050\263\147
\163\055\221\264\334\061\001\013\367\107\012\246\361\327\112\355
\126\140\304\054\010\243\173\100\260\274\164\047\122\207\326\276
\210\335\067\212\211\156\147\210\035\365\311\135\240\376\266\253
\072\200\327\032\227\074\027\066\042\101\036\254\115\325\203\346
\074\070\275\117\060\351\124\251\323\266\004\303\062\166\141\273
\260\030\305\053\030\263\300\200\325\267\225\260\136\121\115\042
\374\354\130\252\350\330\224\264\245\056\355\222\336\347\030\174
\041\127\335\125\143\367\277\155\315\037\322\246\167\050\160\307
\342\133\072\133\010\322\133\116\310\000\226\263\341\203\066\257
\206\012\145\134\164\366\352\354\172\152\164\240\360\113\356\357
\224\243\254\120\362\207\355\327\072\060\203\311\373\175\127\276
\345\343\370\101\312\345\144\256\263\243\354\130\354\205\232\314
\357\271\352\363\126\030\271\134\163\232\257\305\167\027\203\131
\333\067\032\030\162\124\245\101\322\266\043\165\243\103\232\345
\167\174\226\171\267\101\215\277\354\334\200\240\237\321\167\165
\130\137\065\023\340\045\032\147\013\175\316\045\372\007\012\344
\141\041\330\324\034\345\007\306\066\231\364\226\320\306\025\376
\116\315\327\256\213\235\333\026\375\004\306\222\275\324\210\346
\251\243\252\273\367\144\070\073\137\314\014\320\065\276\164\031
\003\246\305\252\114\242\141\066\202\076\035\363\053\274\227\135
\333\113\170\073\055\365\073\357\140\043\350\365\354\013\043\066
\225\257\230\146\277\123\323\173\270\151\112\052\226\146\151\304
\224\306\364\137\156\254\230\170\210\200\006\134\242\262\355\242
END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_FALSE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Microsoft Code Signing Only Certificate
```

```
# Trust for "Microsoft Identity Verification Root Certificate Authority 2020"
```

```
# Issuer: CN=Microsoft Identity Verification Root Certificate Authority 2020,O=Microsoft Corporation,C=US
```

```
# Serial Number:54:98:d2:d1:d4:5b:19:95:48:13:79:c8:11:c0:87:99
```

```
# Subject: CN=Microsoft Identity Verification Root Certificate Authority 2020,O=Microsoft Corporation,C=US
```

```
# Not Valid Before: Thu Apr 16 18:36:16 2020
```

```
# Not Valid After: Sun Apr 16 18:44:40 2045
```

```
# Fingerprint (MD5): be:95:4f:16:01:21:22:44:8c:a8:bc:27:96:02:ac:f5
```

```
# Fingerprint (SHA1): f4:00:42:e2:e5:f7:e8:ef:81:89:fe:d1:55:19:ae:ce:42:c3:bf:a2
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Microsoft Identity Verification Root Certificate Authority 2020"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\364\000\102\342\345\367\350\357\201\211\376\321\125\031\256\316
\102\303\277\242
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\276\225\117\026\001\041\042\104\214\250\274\047\226\002\254\365
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\167\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\110\060\106\006\003\125\004\003\023\077\115\151\143\162\157\163
\157\146\164\040\111\144\145\156\164\151\164\171\040\126\145\162
\151\146\151\143\141\164\151\157\156\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\040\062\060\062\060
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\124\230\322\321\324\133\031\225\110\023\171\310\021\300
\207\231
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
Found in path(s):
```

```
* /opt/cola/permits/1425443200_1664017022.0583818/0/ca-certificates-2022.2.54-74.el7_9.src.rpm-cosi-expand-
archive-GCjLhYzR/certdata.txt
```


1.35 keyutils 1.5.8 3.e17

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```
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```

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```
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```

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```
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```

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1.36 jakarta-inject 2.6.1

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1.38 guava 30.1.1-android

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Found in path(s):

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/graph/package-info.java

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* This following method is a modified version of one found in

* <http://gee.cs.oswego.edu/cgi-bin/viewcvs.cgi/jsr166/src/test/tck/AbstractExecutorServiceTest.java?revision=1.30>

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- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/net/package-info.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/Atomics.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/Strings.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/ThreadFactoryBuilder.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/Ascii.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ContiguousSet.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/Monitor.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/ForwardingBlockingQueue.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/Equivalence.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/SortedLists.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/UncaughtExceptionHandler.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/primitives/package-info.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/annotations/Beta.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/ListeningExecutorService.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/annotations/package-info.java

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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/CompactHashing.java

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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/MoreObjects.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/math/Quantiles.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/eventbus/Subscriber.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/eventbus/Dispatcher.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/TrustedListenableFutureTask.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/ListenerCallQueue.java

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jar/com/google/common/util/concurrent/AbstractExecutionThreadService.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/ForwardingFuture.java
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/escape/Platform.java
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jar/com/google/common/base/Platform.java

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*/
/*
* This method was rewritten in Java from an intermediate step of the Murmur hash function in
* http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
* following header:
*
* MurmurHash3 was written by Austin Appleby, and is placed in the public domain. The author
* hereby disclaims copyright to this source code.
*/
```

Found in path(s):

```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/Hashing.java
```

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express
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* the License.
*/
/**
* Holder for web specializations of methods of { @code Floats }. Intended to be empty for regular
* version.
*/
```

Found in path(s):

```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/primitives/FloatsMethodsForWeb.java
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/*
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 * and released to the public domain, as explained at
 * http://creativecommons.org/licenses/publicdomain
 *
 * As of 2010/06/11, this method is identical to the (package private) hash method in OpenJDK 7's
 * java.util.HashMap class.
 */
```

Found in path(s):

```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/Striped.java
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Found in path(s):

```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/package-info.java
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```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/AbstractTable.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/reflect/TypeVisitor.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/VerifyException.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/Runnables.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Verify.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/HashingInputStream.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/eventbus/SubscriberExceptionContext.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Utf8.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/FilteredMultimapValues.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/CharSequenceReader.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/eventbus/SubscriberExceptionHandler.java
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/Resources.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/package-info.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/FinalizablePhantomReference.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/Suppliers.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/Charsets.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/LineReader.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-

jar/com/google/common/base/FinalizableSoftReference.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/CharStreams.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Predicate.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/ByteStreams.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/primitives/Primitives.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/LineBuffer.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/FinalizableWeakReference.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Predicates.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Functions.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/AbstractIterator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/package-info.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/HashBiMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/eventbus/DeadEvent.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/FinalizableReference.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/eventbus/Subscribe.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Objects.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Supplier.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/MultiInputStream.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/Interners.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/EnumMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/ExecutionList.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/package-info.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Defaults.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Function.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-

jar/com/google/common/base/FinalizableReferenceQueue.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/AbstractFuture.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/Closeables.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/eventbus/AllowConcurrentEvents.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/Files.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/eventbus/AsyncEventBus.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/LittleEndianDataOutputStream.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/eventbus/EventBus.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/CountingOutputStream.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Throwables.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/ListenableFuture.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/DirectExecutor.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/CountingInputStream.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/LittleEndianDataInputStream.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/Flushables.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/eventbus/package-info.java
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- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/net/PercentEscaper.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/thirdparty/publicsuffix/TrieParser.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/primitives/Booleans.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/internal/Finalizer.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/primitives/Doubles.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/CharMatcher.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/primitives/Floats.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/SequentialExecutor.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/primitives/Bytes.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/ListenableFutureTask.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/FluentIterable.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/Stopwatch.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/FileBackedOutputStream.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/primitives/Shorts.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/primitives/Ints.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/primitives/Chars.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/MultiReader.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/Joiner.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/escape/UnicodeEscaper.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/primitives/Longs.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/net/InetAddresses.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/escape/Escaper.java

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jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/RangeSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/SortedIterable.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/SortedIterables.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/AbstractRangeSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ImmutableSortedMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/GeneralRange.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/RegularImmutableSortedMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ForwardingSortedMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/Count.java
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 */
```

Found in path(s):

```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
```

jar/com/google/common/hash/LongAdder.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/cache/Striped64.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/cache/LongAdder.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/Striped64.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/AtomicDoubleArray.java
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*/  
/**  
* Holder for web specializations of methods of { @code Doubles}. Intended to be empty for regular  
* version.  
*/
```

Found in path(s):
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/primitives/DoublesMethodsForWeb.java
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```
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*/
/**
 * Not supported. <b>You are attempting to create a map that may contain a non-{@code Comparable}
 * key.</b> Proper calls will resolve to the version in {@code ImmutableSortedMap}, not this dummy
 * version.
 *
 * @throws UnsupportedOperationException always
 * @deprecated <b>Pass a key of type {@code Comparable} to use {@link
 *     ImmutableSortedMap#of(Comparable, Object)}.</b>
 */
```

Found in path(s):

```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ImmutableSortedMapFauxverideShim.java
```

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Found in path(s):

```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/reflect/Reflection.java
```

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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/GwtTransient.java

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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/IgnoreJRERequirement.java

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*/

/**

* Holder for extra methods of { @code Objects } only in web. Intended to be empty for regular
* version.

*/

Found in path(s):

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/ExtraObjectsMethodsForWeb.java

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*/

/**

* Returns an array containing all of the elements in the specified collection. This method

* returns the elements in the order they are returned by the collection's iterator. The returned

* array is "safe" in that no references to it are maintained by the collection. The caller is

* thus free to modify the returned array.

*

* <p>This method assumes that the collection size doesn't change while the method is running.

*

* <p>TODO(kevinb): support concurrently modified collections?

*

* @param c the collection for which to return an array of elements

*/

Found in path(s):

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ObjectArrays.java

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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/TopKSelector.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/SuccessorsFunction.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/Graph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/PredecessorsFunction.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/ImmutableGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/Graphs.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/MutableGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/Network.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/MutableNetwork.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/ImmutableNetwork.java

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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-

jar/com/google/common/collect/FilteredEntrySetMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ForwardingImmutableSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/SortedMultisetBridge.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/DescendingImmutableSortedSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/FilteredKeySetMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ImmutableEnumMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/FilteredEntryMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/DescendingMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/TreeRangeMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ForwardingNavigableSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/AllEqualOrdering.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/TreeTraverser.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/RegularImmutableAsList.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/CompactHashMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/TransformedIterator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ForwardingDeque.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/AbstractSortedKeySortedSetMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ForwardingNavigableMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/TransformedListIterator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ForwardingBlockingDeque.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ForwardingImmutableList.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/AbstractMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/CompactHashSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-

jar/com/google/common/collect/EvictingQueue.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/FilteredSetMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/CompactLinkedHashMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/CompactLinkedHashSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/AbstractNavigableMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ForwardingImmutableMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/FilteredKeyListMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/UnmodifiableSortedMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/RangeMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/FilteredMultimap.java

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jar/com/google/common/base/JdkPattern.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/PatternCompiler.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/CommonPattern.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/CommonMatcher.java

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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/InterruptibleTask.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/MacHashFunction.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/ReaderInputStream.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/AggregateFutureState.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/Platform.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ConsumingQueueIterator.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/AsyncCallable.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/FarmHashFingerprint64.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/CombinedFuture.java

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jar/com/google/common/hash/ImmutableSupplier.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/ExecutionSequencer.java

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jar/com/google/common/math/BigDecimalMath.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/io/Java8Compatibility.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/OverflowAvoidingLockSupport.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/Java8Compatibility.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/math/ToDoubleRounder.java

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/**
* Outer class that exists solely to let us write {@code Partially.GwtIncompatible} instead of plain
* {@code GwtIncompatible}. This is more accurate for {@link Futures#catching}, which is available
* under GWT but with a slightly different signature.
*
* <p>We can't use {@code PartiallyGwtIncompatible} because then the GWT compiler wouldn't recognize
* it as a {@code GwtIncompatible} annotation. And for {@code Futures.catching}, we need the GWT
* compiler to autostrip the normal server method in order to expose the special, inherited GWT
* version.
*/
```

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```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/Partially.java
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jar/com/google/common/util/concurrent/ServiceManagerBridge.java
```

```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Java8Usage.java
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/reflect/MutableTypeToInstanceMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/CharSource.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/CartesianList.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableRangeMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/escape/package-info.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/hash/LongAddable.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/BaseEncoding.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/ByteSource.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/math/PairedStatsAccumulator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/reflect/AbstractInvocationHandler.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/reflect/ClassPath.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/math/StatsAccumulator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/Closer.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/xml/package-info.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/SmoothRateLimiter.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/ListenableScheduledFuture.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/math/PairedStats.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/reflect/Invokable.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/reflect/TypeCapture.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/math/Stats.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/RateLimiter.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/reflect/Parameter.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/reflect/TypeToInstanceMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/reflect/Element.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/cache/LongAddables.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/FileWriteMode.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/hash/LongAddables.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/ByteSink.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/ServiceManager.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/base/StandardSystemProperty.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/CharSink.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/hash/AbstractByteHasher.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/math/LinearTransformation.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/html/package-info.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/hash/SipHashFunction.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/reflect/package-info.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/hash/ChecksumHashFunction.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableRangeSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/FilteredKeyMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/cache/LongAddable.java

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Found in path(s):

```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/AbstractHashFunction.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/ForwardingLock.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/ForwardingCondition.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/primitives/ImmutableDoubleArray.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/primitives/ImmutableIntArray.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/primitives/ImmutableLongArray.java
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```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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jar/com/google/common/collect/ObjectCountLinkedHashMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/Traverser.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/AbstractBaseGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/BaseGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ObjectCountHashMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/ClosingFuture.java

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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/cache/package-info.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/AbstractHasher.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/AbstractListeningExecutorService.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/primitives/UnsignedInts.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/primitives/UnsignedLongs.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/ListeningScheduledExecutorService.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/Crc32cHashFunction.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/cache/CacheLoader.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/cache/AbstractCache.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-

jar/com/google/common/math/package-info.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/AsyncFunction.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/AbstractNonStreamingHashFunction.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/primitives/ParseRequest.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/Funnel.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/cache/RemovalNotification.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/TreeRangeSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/cache/Weigher.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/Uninterruptibles.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/BloomFilterStrategies.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/HashCode.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/ExecutionError.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/MessageDigestHashFunction.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/Murmur3_128HashFunction.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/Hashing.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-

jar/com/google/common/util/concurrent/CycleDetectingLockFactory.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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jar/com/google/common/math/BigIntegerMath.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/cache/CacheBuilderSpec.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/HashingOutputStream.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/cache/RemovalListener.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/Hasher.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Enums.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/cache/LoadingCache.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/Present.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/AbstractSortedMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-

jar/com/google/common/util/concurrent/AbstractScheduledService.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/cache/RemovalCause.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/hash/Murmur3_32HashFunction.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/EmptyContiguousSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/reflect/TypeParameter.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/RegularImmutableMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/primitives/UnsignedInteger.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/net/MediaType.java
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jar/com/google/common/collect/SortedMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/SortedMultisets.java

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Found in path(s):

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/AbstractNetwork.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/UndirectedMultiNetworkConnections.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/LinkedHashMapMultimapGwtSerializationDependencies.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/UndirectedNetworkConnections.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/DirectedMultiNetworkConnections.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/MapIteratorCache.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-

jar/com/google/common/graph/ForwardingNetwork.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/DirectedGraphConnections.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/StandardValueGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/HashMultimapGwtSerializationDependencies.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/NetworkBuilder.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/EdgesConnecting.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ImmutableMultisetGwtSerializationDependencies.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/ElementOrder.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/StandardMutableGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/GraphConstants.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/ImmutableValueGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/AbstractGraphBuilder.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/NetworkConnections.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/MutableValueGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/StandardMutableValueGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/AbstractGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/StandardNetwork.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/MapRetrievalCache.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/AbstractDirectedNetworkConnections.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/UndirectedGraphConnections.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/ValueGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/GraphBuilder.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/EndpointPairIterator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/Comparators.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-

jar/com/google/common/graph/DirectedNetworkConnections.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/ForwardingGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/StandardMutableNetwork.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/GraphConnections.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/EndpointPair.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/RangeGwtSerializationDependencies.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ArrayListMultimapGwtSerializationDependencies.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/MultiEdgesConnecting.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/AbstractUndirectedNetworkConnections.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/ForwardingValueGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/AbstractValueGraph.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/graph/ValueGraphBuilder.java
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ForwardingSetMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ForwardingSortedSetMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/RowSortedTable.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingImmutableCollection.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/AbstractSequentialIterator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/UnmodifiableListIterator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingListMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/MinMaxPriorityQueue.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/SortedMapDifference.java

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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableClassToInstanceMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/RegularImmutableSortedSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ArrayTable.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableSortedMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingTable.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/DiscreteDomain.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/RegularImmutableList.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableSetMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableAsList.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/SingletonImmutableTable.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/EmptyImmutableSetMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableSortedSetFauxverideShim.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ComputationException.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ComparisonChain.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/AbstractIndexedListAdapter.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableEnumSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableTable.java

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* the License.
*/
/**
* Holder for web specializations of methods of { @code Ints }. Intended to be empty for regular
* version.
*/
```

Found in path(s):

```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/primitives/IntsMethodsForWeb.java
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*/
/*
* This method was rewritten in Java from an intermediate step of the Murmur hash function in
* http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
* following header:
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*/
```

Found in path(s):

```
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/SmallCharMatcher.java
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/TimeoutFuture.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/GwtFuturesCatchingSpecialization.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/annotations/VisibleForTesting.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/GwtFluentFutureCatchingSpecialization.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/FuturesGetChecked.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/SimpleTimeLimiter.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/FakeTimeLimiter.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/io/AppendableWriter.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/Futures.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/reflect/TypeToken.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/escape/CharEscaperBuilder.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/FluentFuture.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/AbstractTransformFuture.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/AbstractCatchingFuture.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/AggregateFuture.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/escape/CharEscaper.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/CollectionFuture.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/util/concurrent/ImmediateFuture.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-

jar/com/google/common/io/PatternFilenameFilter.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/TimeLimiter.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/util/concurrent/UncheckedTimeoutException.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/base/CaseFormat.java

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jar/com/google/common/collect/ImmutableEntry.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/thirdparty/publicsuffix/PublicSuffixPatterns.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/CollectPreconditions.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ImmutableMapEntrySet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ImmutableMapKeySet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ImmutableCollection.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/Table.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ImmutableSortedSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/UnmodifiableIterator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ImmutableMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-
jar/com/google/common/collect/ImmutableBiMap.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/TreeBasedTable.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/RegularImmutableBiMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Platform.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableListMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Tables.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Range.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/HashBasedTable.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/RegularImmutableMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Collections2.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/StandardTable.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Serialization.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/StandardRowSortedTable.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/PeekingIterator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/EmptyImmutableListMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableMapValues.java
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 - * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/BaseImmutableMultimap.java
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- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/EnumBiMap.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingSet.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingSortedSet.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableList.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingCollection.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/AbstractSetMultimap.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Multisets.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Ordering.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/NullsLastOrdering.java
- * /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ImmutableSet.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingMapEntry.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ClassToInstanceMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/AbstractMapEntry.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/SingletonImmutableSet.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ListMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/SortedSetMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/TreeMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/LinkedListMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Interner.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/UsingToStringOrdering.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/AbstractIterator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Maps.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingIterator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ComparatorOrdering.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingSortedMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/SetMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Lists.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingMultimap.java
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/MutableClassToInstanceMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/RegularImmutableSet.java
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/AbstractBiMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/AbstractMapBasedMultiset.java
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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Iterables.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/AbstractSortedSetMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/MapDifference.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/AbstractListMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/HashMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Multimaps.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ReverseNaturalOrdering.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/AbstractMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Sets.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingListIterator.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/Synchronized.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/CompoundOrdering.java

* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/NaturalOrdering.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ReverseOrdering.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ArrayListMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ByFunctionOrdering.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/NullsFirstOrdering.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/ForwardingList.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/TreeMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/HashMultiset.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/AbstractMapBasedMultimap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/EnumHashBiMap.java
* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/collect/LinkedHashMultiset.java

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* Holder for web specializations of methods of { @code Shorts }. Intended to be empty for regular
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*/

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* /opt/cola/permits/1148655839_1618904031.03/0/guava-30-1-1-android-sources-jar/com/google/common/primitives/ShortsMethodsForWeb.java

1.39 gson-fire 1.8.5

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1.41 kotlin 1.6.20

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* /opt/cola/permits/1316146529_1672939813.606877/0/kotlin-stdlib-1-6-20-sources-jar/kotlin/CharSequence.kt
* /opt/cola/permits/1316146529_1672939813.606877/0/kotlin-stdlib-1-6-20-sources-jar/kotlin/Iterator.kt
* /opt/cola/permits/1316146529_1672939813.606877/0/kotlin-stdlib-1-6-20-sources-
jar/kotlin/reflect/KDeclarationContainer.kt
* /opt/cola/permits/1316146529_1672939813.606877/0/kotlin-stdlib-1-6-20-sources-jar/kotlin/Comparable.kt
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* /opt/cola/permits/1316146529_1672939813.606877/0/kotlin-stdlib-1-6-20-sources-jar/kotlin/Any.kt
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jar/kotlin/annotation/Annotations.kt
```

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* /opt/cola/permits/1316146529_1672939813.606877/0/kotlin-stdlib-1-6-20-sources-jar/kotlin/Unit.kt
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```
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Found in path(s):

```
* /opt/cola/permits/1316146529_1672939813.606877/0/kotlin-stdlib-1-6-20-sources-jar/kotlin/String.kt
* /opt/cola/permits/1316146529_1672939813.606877/0/kotlin-stdlib-1-6-20-sources-jar/kotlin/Library.kt
* /opt/cola/permits/1316146529_1672939813.606877/0/kotlin-stdlib-1-6-20-sources-jar/kotlin/reflect/KVisibility.kt
* /opt/cola/permits/1316146529_1672939813.606877/0/kotlin-stdlib-1-6-20-sources-jar/kotlin/ArrayIntrinsics.kt
* /opt/cola/permits/1316146529_1672939813.606877/0/kotlin-stdlib-1-6-20-sources-jar/kotlin/internal/InternalAnnotations.kt
```

1.42 jboss-logging 3.3.2.Final

1.42.1 Available under license :

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1.43 jose4j 0.9.2

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```

Found in path(s):

```
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-
jar/org/jose4j/jws/HmacUsingShaAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-
jar/org/jose4j/zip/CompressionAlgorithmIdentifiers.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-
jar/org/jose4j/keys/BigEndianBigInteger.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-
jar/org/jose4j/base64url/SimplePEMEncoder.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-
jar/org/jose4j/jwt/consumer/InvalidJwtException.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-
jar/org/jose4j/jwe/RsaKeyManagementAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-
jar/org/jose4j/base64url/Base64Url.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-
jar/org/jose4j/jwk/EcJwkGenerator.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/mac/MacUtil.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-
jar/org/jose4j/jwx/JsonWebStructure.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-
jar/org/jose4j/jwk/KeyOperations.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/RsaKeyUtil.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-
jar/org/jose4j/jwt/consumer/AudValidator.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/lang/JsonHelp.java
```


* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwk/RsaJwkGenerator.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/GeneralJwtException.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/zip/DeflateRFC1951CompressionAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jca/ProviderContext.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/resolvers/VerificationKeyResolver.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jws/BaseSignatureAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwa/Algorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/HmacKey.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/PbkdfKey.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/resolvers/JwksVerificationKeyResolver.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwx/HeaderParameterNames.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/X509Util.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/json/JsonHeaderUtil.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwk/JsonWebKeySet.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/AesKeyWrapManagementAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/consumer/JweCustomizer.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwk/PublicJsonWebKey.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwx/Headers.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/lang/UnresolvableKeyException.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jws/RsaUsingShaAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/SimpleAeadCipher.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jws/EcdsaUsingShaAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/AesKey.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/AesGcmContentEncryptionAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/zip/CompressionAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/lang/DefaultByteGenerator.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/consumer/SubValidator.java

* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/EcdhKeyAgreementWithAesKeyWrapAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/lang/BouncyCastleProviderHelp.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/Pbes2HmacShaWithAesKeyWrapAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/consumer/ErrorCodeValidatorAdapter.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/KeyPersuasion.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/InitializationVectorHelp.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/consumer/ErrorCodeValidator.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/WrappingKeyManagementAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/EcdhKeyAgreementAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/http/SimpleGet.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/lang/InvalidAlgorithmException.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/ContentEncryptionKeys.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/consumer/ErrorCodes.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwk/Use.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/lang/IntegrityException.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/consumer/NumericDateValidator.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jws/JsonWebSignatureAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/ContentEncryptionHelp.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwk/RsaJsonWebKey.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/lang/StringUtil.java
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* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwk/VerificationJwkSelector.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/IntDate.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/resolvers/DecryptionKeyResolver.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwa/AlgorithmFactoryFactory.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/KeyManagementAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/lang/ByteUtil.java

* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwk/JsonWebKey.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/consumer/JwtConsumer.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwa/AlgorithmFactory.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jws/JsonWebSignature.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwx/CompactSerialization.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/lang/UncheckedJoseException.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/CipherStrengthSupport.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/ContentEncryptionAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/ContentEncryptionKeyDescriptor.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwk/OctetSequenceJsonWebKey.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/MalformedClaimException.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/consumer/JwtContext.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/JsonWebEncryption.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/KeyManagementAlgorithmIdentifiers.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/kdf/PasswordBasedKeyDerivationFunction2.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/consumer/Validator.java
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* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/EcKeyUtil.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/http/Get.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jws/UnsecuredNoneAlgorithm.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/NumericDate.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwt/consumer/JwsCustomizer.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/resolvers/X509VerificationKeyResolver.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jws/AlgorithmIdentifiers.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/ContentEncryptionAlgorithmIdentifiers.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/lang/JoseException.java

* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/ContentEncryptionParts.java
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* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/keys/resolvers/JwksDecryptionKeyResolver.java
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* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/kdf/ConcatenationKeyDerivationFunctionWithSha256.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/kdf/ConcatKeyDerivationFunction.java
* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/jwe/kdf/ConcatKeyDerivationFunctionFactory.java
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* /opt/cola/permits/1536708826_1674073990.0799286/0/jose4j-0-9-2-sources-jar/org/jose4j/base64url/internal/apache/commons/codec/binary/Base64.java

1.44 pygpgme 0.3

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1.45 jackson-xc 2.10.5

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1.46 httpcomponents-mime 4.5.12

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1.49 e2fsprogs 1.42.9-19.el7

1.49.1 Available under license :

This is the Debian GNU/Linux prepackaged version of the static EXT2 file system consistency checker (e2fsck.static). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

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```
#
# This is a Makefile stub which handles the creation of BSD shared
# libraries.
#
# In order to use this stub, the following makefile variables must be defined.
#
# BSDLIB_VERSION = 1.0
# BSDLIB_IMAGE = libce
# BSDLIB_MYDIR = et
# BSDLIB_INSTALL_DIR = $(SHLIBDIR)
#
```

```
all:: image
```

```
real-subdirs:: Makefile
```

```
@echo " MKDIR pic"
```

```
@mkdir -p pic
```

```
BSD_LIB = $(BSDLIB_IMAGE).so.$(BSDLIB_VERSION)
```

```
BSDLIB_PIC_FLAG = -fpic
```

```
image: $(BSD_LIB)
```

```
$(BSD_LIB): $(OBJS)
```

```
(cd pic; ld -Bshareable -o $(BSD_LIB) $(LDFLAGS_SHLIB) $(OBJS))
```

```
$(MV) pic/$(BSD_LIB) .
```

```
$(RM) -f ../$(BSD_LIB)
```

```
(cd ..; $(LN) $(LINK_BUILD_FLAGS) \
```

```
`echo $(my_dir) | sed -e 's;lib/;;'/'$(BSD_LIB) $(BSD_LIB))
```

```
install-shlibs install:: $(BSD_LIB)
```

```
@echo " INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
```

```
@$(INSTALL_PROGRAM) $(BSD_LIB) \
```

```
$(DESTDIR)$$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
```

@-\$(LDCONFIG)

install-strip: install

install-shlibs-strip:: install-shlibs

uninstall-shlibs uninstall::

\$(RM) -f \$(DESTDIR)\$ (BSDLIB_INSTALL_DIR)/\$(BSD_LIB)

clean::

\$(RM) -rf pic

\$(RM) -f \$(BSD_LIB)

\$(RM) -f ../\$(BSD_LIB)

This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

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Index: tdbsa/tdb.c

=====

--- tdbsa.orig/tdb.c

+++ tdbsa/tdb.c

@@ -4,11 +4,11 @@ Rev: 23371

Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)

*/

/*

- Unix SMB/CIFS implementation.
+ trivial database library - standalone version

- trivial database library - private includes

-

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Theodore Ts'o
23-June-2007

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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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Upstream Author: Theodore Ts'o <tytso@mit.edu>

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This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:
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Version 2, June 1991

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```
<one line to give the program's name and a brief idea of what it does.>  
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```

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```
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```

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```
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```

<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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1.50 metrics-jmx 4.1.33

1.50.1 Available under license :

No license file was found, but licenses were detected in source scan.

Manifest-Version: 1.0

Automatic-Module-Name: com.codahale.metrics.jmx

Build-Jdk-Spec: 1.8

Bundle-Description: A set of classes which allow you to report metrics via JMX.

Bundle-License: <https://www.apache.org/licenses/LICENSE-2.0.html>

Bundle-ManifestVersion: 2

Bundle-Name: Metrics Integration with JMX

Bundle-SymbolicName: io.dropwizard.metrics.jmx

Bundle-Version: 4.1.33

Created-By: Apache Maven Bundle Plugin 5.1.8

Export-Package: com.codahale.metrics.jmx;uses:="com.codahale.metrics,javax.management";version="4.1.33"

Implementation-Title: Metrics Integration with JMX

Implementation-Version: 4.1.33

Import-Package: org.slf4j;version="[1.6.0,2.0.0)",com.codahale.metrics;version="[4.1,5)",javax.management

Require-Capability: osgi.ee:filter="(&(osgi.ee=JavaSE)(version=1.8))"

Tool: Bnd-6.3.1.202206071316

Found in path(s):

* /opt/cola/permits/1480501768_1668971443.6143289/0/metrics-jmx-4-1-33-jar/META-INF/MANIFEST.MF

1.51 wget 1.14 18.el7_6.1

1.51.1 Available under license :

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1.52 binutils 2.27-44.base.el7_9.1

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In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run

that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a ``work based on the library" and a ``work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

@iftex

@appendixsubsec TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@end iftex

@ifinfo

@center GNU LESSER GENERAL PUBLIC LICENSE

@center TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@end ifinfo

@enumerate 0

@item

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A ``library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The ``Library", below, refers to any such software library or work which has been distributed under these terms. A ``work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term ``modification".)

``Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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and what the program that uses the Library does.

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The modified work must itself be a software library.

@item

You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

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You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

@item

If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

@end enumerate

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

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You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

@item

You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

@item

A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a ``work that uses the Library''. Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a ``work that uses the Library'' with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a ``work that uses the library''. The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a ``work that uses the Library'' uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

@item

As an exception to the Sections above, you may also combine or link a ``work that uses the Library'' with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by

this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

@enumerate a

@item

Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable ``work that uses the Library'', as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

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Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

@item

Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

@item

If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

@item

Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

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For an executable, the required form of the ``work that uses the Library'' must include any data and utility programs needed for reproducing the executable from it. However, as a special exception,

the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

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You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

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Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

@item

Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

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@end enumerate

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@heading END OF TERMS AND CONDITIONS

@end iftex

@ifinfo

@center END OF TERMS AND CONDITIONS

@end ifinfo

@page

@appendixsubsec How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the ``copyright" line and a pointer to where the full notice is found.

@smallexample

@var{one line to give the library's name and an idea of what it does.}

Copyright (C) @var{year} @var{name of author}

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.

@end smallexample

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a ``copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

```
@smallexample
```

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the library  
`Frob' (a library for tweaking knobs) written by James Random Hacker.
```

```
@var{signature of Ty Coon}, 1 April 1990
```

```
Ty Coon, President of Vice
```

```
@end smallexample
```

That's all there is to it!

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The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

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(This file is under construction.) -*- text -*-

If you've contributed to gas and your name isn't listed here, it is not meant as a slight. I just don't know about it. Email me, nickc@redhat.com and I'll correct the situation.

This file will eventually be deleted: The general info will go into the documentation, and info on specific files will go into an AUTHORS file, as requested by the FSF.

+++++

Dean Elsner wrote the original gas for vax. [more details?]

Jay Fenlason maintained gas for a while, adding support for gdb-specific debug information and the 68k series machines, most of the preprocessing pass, and extensive changes in messages.c, input-file.c, write.c.

K. Richard Pixley maintained gas for a while, adding various enhancements and many bug fixes, including merging support for several processors, breaking gas up to handle multiple object file format backends (including heavy rewrite, testing, an integration of the coff and b.out backends), adding configuration including heavy testing and verification of cross assemblers and file splits and renaming, converted gas to strictly ansi C including full prototypes, added support for m680[34]0 & cpu32, considerable work on i960 including a coff port (including considerable amounts of reverse engineering), a sparc opcode file rewrite, decstation, rs6000, and hp300hpux host ports, updated "know" assertions and made them work, much other reorganization, cleanup, and lint.

Ken Raeburn wrote the high-level BFD interface code to replace most of the code in format-specific I/O modules.

The original Vax-VMS support was contributed by David L. Kashtan. Eric Youngdale and Pat Rankin have done much work with it since.

The Intel 80386 machine description was written by Eliot Dresselhaus.

Minh Tran-Le at IntelliCorp contributed some AIX 386 support.

The Motorola 88k machine description was contributed by Devon Bowen of Buffalo University and Torbjorn Granlund of the Swedish Institute of Computer Science.

Keith Knowles at the Open Software Foundation wrote the original MIPS back end (tc-mips.c, tc-mips.h), and contributed Rose format support that hasn't been merged in yet. Ralph Campbell worked with the MIPS code to support a.out format.

Support for the Zilog Z8k and Hitachi H8/300, H8/500 and SH processors (tc-z8k, tc-h8300, tc-h8500, tc-sh), and IEEE 695 object file format (obj-ieee), was written by Steve Chamberlain of Cygnus Solutions. Steve also modified the COFF back end (obj-coffbfd) to use BFD for some low-level operations, for use with the Hitachi, 29k and Zilog targets.

John Gilmore built the AMD 29000 support, added .include support, and simplified the configuration of which versions accept which pseudo-ops. He updated the 68k machine description so that Motorola's opcodes always produced fixed-size instructions (e.g. jsr), while synthetic instructions remained shrinkable (jbsr). John fixed many bugs, including true tested cross-compilation support, and one bug in relaxation that took a week and required the proverbial one-bit fix.

Ian Lance Taylor of Cygnus Solutions merged the Motorola and MIT syntaxes for the 68k, completed support for some COFF targets (68k, i386 SVR3, and SCO Unix), wrote the ECOFF support based on Michael Meissner's mips-tfile program, wrote the PowerPC and RS/6000 support, and made a few other minor patches. He handled the binutils releases for versions 2.7 through 2.9.

David Edelsohn contributed fixes for the PowerPC and AIX support.

Steve Chamberlain made gas able to generate listings.

Support for the HP9000/300 was contributed by Glenn Engel of HP.

Support for ELF format files has been worked on by Mark Eichin of Cygnus Solutions (original, incomplete implementation), Pete Hoogenboom at the University of Utah (HPPA mainly), Michael Meissner of the Open Software Foundation (i386 mainly), and Ken Raeburn of Cygnus Solutions (sparc, initial 64-bit support).

Several engineers at Cygnus Solutions have also provided many small bug fixes and configuration enhancements.

The initial Alpha support was contributed by Carnegie-Mellon University. Additional work was done by Ken Raeburn of Cygnus Solutions. Richard Henderson then rewrote much of the Alpha support.

Ian Dall updated the support code for the National Semiconductor 32000 series, and added support for Mach 3 and NetBSD running on the PC532.

Klaus Kaempf ported the assembler and the binutils to openVMS/Alpha.

Steve Haworth contributed the support for the Texas Instruction c30 (tms320c30).

H.J. Lu has contributed many patches and much testing.

Alan Modra reworked much of the i386 backend, improving the error checking, updating the code, and improving the 16 bit support, using patches from the work of Martynas Kunigelis and H.J. Lu.

Many others have contributed large or small bugfixes and enhancements. If you've contributed significant work and are not mentioned on this list, and want to be, let us know. Some of the history has been lost; we aren't intentionally leaving anyone out.

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1.53 jackson-dataformat-yaml 2.13.2

1.53.1 Available under license :

Jackson JSON processor

Jackson is a high-performance, Free/Open Source JSON processing library. It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has been in development since 2007.

It is currently developed by a community of developers, as well as supported commercially by FasterXML.com.

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Jackson core and extension components may be licensed under different licenses. To find the details that apply to this artifact see the accompanying LICENSE file. For more information, including possible other licensing options, contact FasterXML.com (<http://fasterxml.com>).

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A list of contributors may be found from CREDITS file, which is included in some artifacts (usually source distributions); but is always available from the source code management (SCM) system project uses.

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1.54 kmod 20 28.el7

1.54.1 Available under license :

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Version 2.1, February 1999

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Preamble

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To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them

with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

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When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free

library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

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1.55 rpm-python 4.11.3-48.el7_9

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That's all there is to it!

1.56 libsemanage 2.5 14.el7

1.56.1 Available under license :

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Version 2.1, February 1999

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1.57 okhttp 4.9.3

1.57.1 Available under license :

Note that publicsuffixes.gz is compiled from The Public Suffix List:

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1.58 jakarta-annotation-api 1.3.5

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@unnumbered GNU General Public License
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This is an attempt to acknowledge early contributions to the garbage collector. Later contributions should instead be mentioned in README.changes.

HISTORY -

Early versions of this collector were developed as a part of research projects supported in part by the National Science Foundation and the Defense Advance Research Projects Agency.

The garbage collector originated as part of the run-time system for the Russell programming language implementation. The first version of the garbage collector was written primarily by Al Demers. It was then refined and mostly rewritten, primarily by Hans-J. Boehm, at Cornell U., the University of Washington, Rice University (where it was first used for C and assembly code), Xerox PARC, SGI, and HP Labs. However, significant contributions have also been made by many others.

Some other contributors:

More recent contributors are mentioned in the modification history in README.changes. My apologies for any omissions.

The SPARC specific code was originally contributed by Mark Weiser. The Encore Multimax modifications were supplied by Kevin Kenny (kenny@m.cs.uiuc.edu). The adaptation to the IBM PC/RT is largely due to Vernon Lee, on machines made available to Rice by IBM. Much of the HP specific code and a number of good suggestions for improving the generic code are due to Walter Underwood. Robert Brazile (brazile@diamond.bbn.com) originally supplied the ULTRIX code. Al Dosser (dosser@src.dec.com) and Regis Cridlig (Regis.Cridlig@cl.cam.ac.uk) subsequently provided updates and information on variation between ULTRIX systems. Parag Patel (parag@netcom.com) supplied the A/UX code. Jesper Peterson(jep@mtiame.mtia.oz.au), Michel Schinz, and Martin Tauchmann (martintauchmann@bigfoot.com) supplied the Amiga port. Thomas Funke (thf@zelator.in-berlin.de(?)) and Brian D.Carlstrom (bdc@clark.lcs.mit.edu) supplied the NeXT ports. Douglas Steel (doug@wg.icl.co.uk) provided ICL DRS6000 code. Bill Janssen (janssen@parc.xerox.com) supplied the SunOS dynamic loader specific code. Manuel Serrano (serrano@cornas.inria.fr) supplied linux and Sony News specific code. Al Dosser provided Alpha/OSF/1 code. He and Dave Detlefs(detlefs@src.dec.com) also provided several generic bug fixes. Alistair G. Crooks(agg@uts.amdahl.com) supplied the NetBSD and 386BSD ports. Jeffrey Hsu (hsu@soda.berkeley.edu) provided the FreeBSD port. Brent Benson (brent@jade.ssd.csd.harris.com) ported the collector to a Motorola 88K processor running CX/UX (Harris NightHawk). Ari Huttunen (Ari.Huttunen@hut.fi) generalized the OS/2 port to nonIBM development environments (a nontrivial task). Patrick Beard (beard@cs.ucdavis.edu) provided the initial MacOS port. David Chase, then at Olivetti Research, suggested several improvements. Scott Schwartz (schwartz@groucho.cse.psu.edu) supplied some of the code to save and print call stacks for leak detection on a SPARC. Jesse Hull and John Ellis supplied the C++ interface code. Zhong Shao performed much of the experimentation that led to the current typed allocation facility. (His dynamic type inference code hasn't made it into the released version of the collector, yet.)

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* m4/ax_func_which_gethostbyname_r.m4

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```
<one line to give the program's name and a brief idea of what it does.>  
Copyright (C) <year> <name of author>
```

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```
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This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.  
This is free software, and you are welcome to redistribute it  
under certain conditions; type `show c' for details.
```

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@appendixsubsec Preamble

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For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

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The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a ``work based on the library" and a ``work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

@iftex

@appendixsubsec TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@end iftex

@ifinfo

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@center TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

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@enumerate 0

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@heading END OF TERMS AND CONDITIONS

@end iftex

@ifinfo

@center END OF TERMS AND CONDITIONS

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@page

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively

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@smallexample

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@smallexample

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@var{signature of Ty Coon}, 1 April 1990

Ty Coon, President of Vice

@end smallexample

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@ignore

@c Set file name and title for man page.

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@settitle GNU Free Documentation License

@c man begin SEEALSO

gpl(7), fsf-funding(7).

@c man end

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@end ignore
@c Special handling for inclusion in the install manual.
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@html
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@unnumbered GNU Free Documentation License
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- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/monitors/ComposingMonitor.java

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- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/Behavior.java

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- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/NamedFieldInjection.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/Injectors.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Synchronizing.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/ComponentFactory.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/adapters/AbstractAdapter.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/BehaviorFactory.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/PicoVerificationException.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/annotations/Inject.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/parameters/BasicComponentParameter.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/annotations/Cache.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/containers/TransientPicoContainer.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/AnnotatedMethodInjector.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/adapters/InstanceAdapter.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/parameters/ComponentParameter.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/InjectionFactory.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/TypedFieldInjection.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/containers/ImmutablePicoContainer.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/SetterInjector.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/PropertyApplying.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/lifecycle/NullLifecycleStrategy.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Synchronized.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/monitors/LifecycleComponentMonitor.java

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Locked.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/HiddenImplementation.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Behaviors.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/annotations/Nullable.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/DefaultPicoContainer.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/AnnotatedFieldInjection.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/AdaptingBehavior.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/PicoContainer.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/containers/CommandLinePicoContainer.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/AbstractInjector.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/PicoException.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Locking.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/NamedMethodInjector.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/PropertyApplicator.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/Characteristics.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/PicoClassNotFoundException.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/parameters/CollectionComponentParameter.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Automating.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/NameBinding.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/ImplementationHiding.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/PicoBuilder.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/TypedFieldInjector.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/NamedFieldInjector.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Automated.java

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- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/ThreadCaching.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/MethodInjection.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/PicoCompositionException.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/ConstructorInjector.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/AdaptingInjection.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/ConstructorInjection.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/SetterInjection.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Caching.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/ThreadCached.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/AnnotatedMethodInjection.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/OptInCaching.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Cached.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Storing.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Guarding.java

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* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/monitors/ComponentMonitorHelper.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/monitors/ConsoleComponentMonitor.java
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* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
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jar/org/picocontainer/containers/PropertiesPicoContainer.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/containers/CommandLineArgumentsPicoContainer.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/ForgetfulConstructorInjection.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/behaviors/Intercepted.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/SingleMemberInjector.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/containers/SystemPropertiesPicoContainer.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/behaviors/Intercepting.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/ParameterNameBinding.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/MethodInjector.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/parameters/AbstractParameter.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/PicoLifecycleException.java
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* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/references/ThreadLocalReference.java

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/CompositeInjection.java

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/injectors/Injector.java

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/ComponentMonitorStrategy.java

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/behaviors/Stored.java

```

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/references/SimpleReference.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/ComponentLifecycle.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/ProviderAdapter.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/Reinjector.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/behaviors/Guarded.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/InjectInto.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/MultiInjection.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/Provider.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/Injector.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/MultiInjector.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/FactoryInjector.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/references/ThreadLocalMapObjectReference.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/CompositeInjector.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/security/CustomPermissionsURLClassLoader.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/ObjectReference.java
* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/injectors/Reinjection.java

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* Original code by Joerg Schaibe                                    *
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```

Found in path(s):

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* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-
jar/org/picocontainer/BindKey.java

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* Idea by Rachel Davies, Original code by various                  *
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Found in path(s):

- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/MutablePicoContainer.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/containers/CompositePicoContainer.java

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- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/Parameter.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/parameters/ConstantParameter.java

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- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-

jar/org/picocontainer/behaviors/Decorating.java

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-

jar/org/picocontainer/behaviors/FieldDecorating.java

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* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-

jar/org/picocontainer/containers/AbstractDelegatingMutablePicoContainer.java

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* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-

jar/org/picocontainer/classname/ClassLoadingPicoContainer.java

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-

jar/org/picocontainer/parameters/DefaultConstructorParameter.java

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-

jar/org/picocontainer/classname/ClassName.java

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-

jar/org/picocontainer/classname/DefaultClassLoadingPicoContainer.java

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-

jar/org/picocontainer/parameters/NullParameter.java

* /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-

jar/org/picocontainer/classname/ClassPathElement.java

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- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/visitors/VerifyingVisitor.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/visitors/TraversalCheckingVisitor.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/Converters.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/lifecycle/DefaultLifecycleState.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/PicoVisitor.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/LifecycleStrategy.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/converters/Converter.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/lifecycle/ReflectionLifecycleStrategy.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/visitors/AbstractPicoVisitor.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/lifecycle/StartableLifecycleStrategy.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/lifecycle/CompositeLifecycleStrategy.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/visitors/MethodCallingVisitor.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/lifecycle/AbstractMonitoringLifecycleStrategy.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/lifecycle/LifecycleState.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/ComponentAdapter.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/lifecycle/ReflectionLifecycleException.java
- * /opt/ws_local/PERMITS_SQL/1013480939_1590521618.42/0/picocontainer-2-15-sources-1-jar/org/picocontainer/lifecycle/JavaEE5LifecycleStrategy.java

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1.64 listenablefuture 9999.0-empty-to-avoid-conflict-with-guava

1.65 dropwizard-logging 2.0.34

1.65.1 Available under license :

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1.66 jul-to-slf4j 1.7.36

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* /opt/cola/permits/1281455938_1646319090.87/0/jul-to-slf4j-1-7-36-sources-jar/org/slf4j/bridge/SLF4JBridgeHandler.java

1.67 pycurl 7.19.0

1.67.1 Available under license :

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```

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* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Validator.java  
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1.69 shadow 0.79-6.e17

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```
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1.73 jackson-module-parameter-names 2.10.5

1.73.1 Available under license :

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- * <https://github.com/eclipse-ee4j/glassfish-hk2>
- * <https://github.com/eclipse-ee4j/glassfish-fighterfish>

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1.76 netty-resolver 4.1.87.Final

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* <https://code.google.com/p/jfastlz/>

This product contains a modified portion of and optionally depends on 'Protocol Buffers', Google's data interchange format, which can be obtained at:

* LICENSE:

* [license/LICENSE.protobuf.txt](#) (New BSD License)

* HOMEPAGE:

* <https://github.com/google/protobuf>

This product optionally depends on 'Bouncy Castle Crypto APIs' to generate a temporary self-signed X.509 certificate when the JVM does not provide the equivalent functionality. It can be obtained at:

* LICENSE:

- * license/LICENSE.bouncycastle.txt (MIT License)

- * HOMEPAGE:

- * <https://www.bouncycastle.org/>

This product optionally depends on 'Snappy', a compression library produced by Google Inc, which can be obtained at:

- * LICENSE:

- * license/LICENSE.snappy.txt (New BSD License)

- * HOMEPAGE:

- * <https://github.com/google/snappy>

This product optionally depends on 'JBoss Marshalling', an alternative Java serialization API, which can be obtained at:

- * LICENSE:

- * license/LICENSE.jboss-marshalling.txt (Apache License 2.0)

- * HOMEPAGE:

- * <https://github.com/jboss-remoting/jboss-marshalling>

This product optionally depends on 'Caliper', Google's micro-benchmarking framework, which can be obtained at:

- * LICENSE:

- * license/LICENSE.caliper.txt (Apache License 2.0)

- * HOMEPAGE:

- * <https://github.com/google/caliper>

This product optionally depends on 'Apache Commons Logging', a logging framework, which can be obtained at:

- * LICENSE:

- * license/LICENSE.commons-logging.txt (Apache License 2.0)

- * HOMEPAGE:

- * <https://commons.apache.org/logging/>

This product optionally depends on 'Apache Log4J', a logging framework, which can be obtained at:

- * LICENSE:

- * license/LICENSE.log4j.txt (Apache License 2.0)

- * HOMEPAGE:

- * <https://logging.apache.org/log4j/>

This product optionally depends on 'Aalto XML', an ultra-high performance non-blocking XML processor, which can be obtained at:

- * LICENSE:

- * license/LICENSE.aalto-xml.txt (Apache License 2.0)

- * HOMEPAGE:

- * <https://wiki.fasterxml.com/AaltoHome>

This product contains a modified version of 'HPACK', a Java implementation of the HTTP/2 HPACK algorithm written by Twitter. It can be obtained at:

- * LICENSE:

- * license/LICENSE.hpack.txt (Apache License 2.0)

- * HOMEPAGE:

- * <https://github.com/twitter/hpack>

This product contains a modified version of 'HPACK', a Java implementation of the HTTP/2 HPACK algorithm written by Cory Benfield. It can be obtained at:

- * LICENSE:

- * license/LICENSE.hyper-hpack.txt (MIT License)

- * HOMEPAGE:

- * <https://github.com/python-hyper/hpack/>

This product contains a modified version of 'HPACK', a Java implementation of the HTTP/2 HPACK algorithm written by Tatsuhiro Tsujikawa. It can be obtained at:

- * LICENSE:

- * license/LICENSE.nghttp2-hpack.txt (MIT License)

- * HOMEPAGE:

- * <https://github.com/nghttp2/nghttp2/>

This product contains a modified portion of 'Apache Commons Lang', a Java library provides utilities for the java.lang API, which can be obtained at:

- * LICENSE:

- * license/LICENSE.common-lang.txt (Apache License 2.0)

- * HOMEPAGE:

- * <https://commons.apache.org/proper/commons-lang/>

This product contains the Maven wrapper scripts from 'Maven Wrapper', that provides an easy way to ensure a user has everything necessary to run the Maven build.

- * LICENSE:

- * license/LICENSE.mvn-wrapper.txt (Apache License 2.0)

- * HOMEPAGE:

- * <https://github.com/takari/maven-wrapper>

This product contains the dnsinfo.h header file, that provides a way to retrieve the system DNS configuration on MacOS.

This private header is also used by Apple's open source

mDNSResponder (<https://opensource.apple.com/tarballs/mDNSResponder/>).

* LICENSE:

* license/LICENSE.dnsinfo.txt (Apple Public Source License 2.0)

* HOMEPAGE:

* <https://www.opensource.apple.com/source/configd/configd-453.19/dnsinfo/dnsinfo.h>

This product optionally depends on 'Brotli4j', Brotli compression and decompression for Java., which can be obtained at:

* LICENSE:

* license/LICENSE.brotli4j.txt (Apache License 2.0)

* HOMEPAGE:

* <https://github.com/hyperxpro/Brotli4j>

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You may obtain a copy of the License at:

<https://www.apache.org/licenses/>

A copy is also included with both the the downloadable source code package and jar that contains class bytecodes, as file "ASL 2.0". In both cases, that file should be located next to this file: in source distribution the location should be "release-notes/asl"; and in jar "META-INF/" Apache Harmony

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1.77 kotlin 1.6.10

1.77.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
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"js/src/org.w3c/org.w3c.dom.css.kt", "js/src/org.w3c/org.w3c.dom.encryptedmedia.kt", "js/src/org.w3c/org.w3c.dom.events.kt", "js/src/org.w3c/org.w3c.dom.kt", "js/src/org.w3c/org.w3c.fetch.kt", "js/src/org.w3c/org.w3c.dom.mediacapture.kt", "js/src/org.w3c/org.w3c.dom.mediasource.kt", "js/src/org.w3c/org.w3c.dom.pointerevents.kt", "js/src/org.w3c/org.w3c.dom.svg.kt", "js/src/org.w3c/org.w3c.files.kt", "js/src/org.w3c/org.w3c.notifications.kt", "js/src/org.w3c/org.w3c.workers.kt", "js/src/or

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String.fromCharCode : Kotlin.toString;\n return \"[\" + Array.prototype.map.call(a, function(e) { return toString(e); }).join(\", \") + \"]\";\n};\n\nKotlin.arrayDeepToString = function (arr) {\n return Kotlin.kotlin.collections.contentDeepToStringImpl(arr);\n};\n\nKotlin.arrayEquals = function (a, b) {\n if (a === b) {\n return true;\n }\n if (a === null || b === null || !Kotlin.isArrayish(b) || a.length !== b.length) {\n return false;\n }\n for (var i = 0, n = a.length; i < n; i++) {\n if (!Kotlin.equals(a[i], b[i])) {\n return false;\n }\n }\n return true;\n};\n\nKotlin.arrayDeepEquals = function (a, b) {\n return Kotlin.kotlin.collections.contentDeepEqualsImpl(a, b);\n};\n\nKotlin.arrayHashCode = function (arr) {\n if (arr === null) return 0;\n var result = 1;\n for (var i = 0, n = arr.length; i < n; i++) {\n result = ((31 * result | 0) + Kotlin.hashCode(arr[i])) | 0;\n }\n return result;\n};\n\nKotlin.arrayDeepHashCode =

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function (arr) {\n  return
Kotlin.kotlin.collections.contentDeepHashCodeImpl(arr);\n};\n\nKotlin.primitiveArraySort = function (array) {\n
array.sort(Kotlin.doubleCompareTo);\n};\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\nKotlin.getCallableRef = function(name, f) {\n  f.callableName = name;\n  return
f;\n};\n\nKotlin.getPropertyCallableRef = function(name, paramCount, getter, setter) {\n  getter.get = getter;\n
getter.set = setter;\n  getter.callableName = name;\n  return getPropertyRefClass(getter, setter,
propertyRefClassMetadataCache[paramCount]);\n};\n\nfunction getPropertyRefClass(obj, setter, cache) {\n
obj.$metadata$ = getPropertyRefMetadata(typeof setter === "function" ? cache.mutable : cache.immutable);\n
obj.constructor = obj;\n  return obj;\n};\n\nvar propertyRefClassMetadataCache = [\n  {\n    mutable: { value:
null, implementedInterface: function () {\n      return Kotlin.kotlin.reflect.KMutableProperty0 }\n    },\n
immutable: { value: null, implementedInterface: function () {\n      return Kotlin.kotlin.reflect.KProperty0 }\n
  }\n  },\n  {\n    mutable: { value: null, implementedInterface: function () {\n      return
Kotlin.kotlin.reflect.KMutableProperty1 }\n    },\n    immutable: { value: null, implementedInterface: function
() {\n      return Kotlin.kotlin.reflect.KProperty1 }\n    }\n  }\n];\n\nfunction getPropertyRefMetadata(cache)
{\n  if (cache.value === null) {\n    cache.value = {\n      interfaces: [cache.implementedInterface()],\n
baseClass: null,\n      functions: {},\n      properties: {},\n      types: {},\n      staticMembers: {}\n
};\n  }\n  return cache.value;\n};\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\nKotlin.toShort = function (a) {\n  return (a & 0xFFFF) << 16 >>
16;\n};\n\nKotlin.toByte = function (a) {\n  return (a & 0xFF) << 24 >> 24;\n};\n\nKotlin.toChar = function (a) {\n
return a & 0xFFFF;\n};\n\nKotlin.numberToLong = function (a) {\n  return a instanceof Kotlin.Long ? a :
Kotlin.Long.fromNumber(a);\n};\n\nKotlin.numberToInt = function (a) {\n  return a instanceof Kotlin.Long ?
a.toInt() : Kotlin.doubleToInt(a);\n};\n\nKotlin.numberToShort = function (a) {\n  return
Kotlin.toShort(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToByte = function (a) {\n  return
Kotlin.toByte(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToDouble = function (a) {\n  return
+a;\n};\n\nKotlin.numberToChar = function (a) {\n  return
Kotlin.toChar(Kotlin.numberToInt(a));\n};\n\nKotlin.doubleToInt = function(a) {\n  if (a > 2147483647) return
2147483647;\n  if (a < -2147483648) return -2147483648;\n  return a | 0;\n};\n\nKotlin.toBoxedChar = function
(a) {\n  if (a == null) return a;\n  if (a instanceof Kotlin.BoxedChar) return a;\n  return new
Kotlin.BoxedChar(a);\n};\n\nKotlin.unboxChar = function(a) {\n  if (a == null) return a;\n  return
Kotlin.toChar(a);\n};\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\nKotlin.equals = function (obj1, obj2) {\n  if (obj1 == null) {\n    return obj2 ==
null;\n  }\n  if (obj2 == null) {\n    return false;\n  }\n  if (obj1 !== obj2) {\n    return obj2 !== obj2;\n
}\n  if (typeof obj1 === "object" && typeof obj1.equals === "function") {\n    return obj1.equals(obj2);\n
}\n  if (typeof obj1 === "number" && typeof obj2 === "number") {\n    return obj1 === obj2 && (obj1 !==
0 || 1 / obj1 === 1 / obj2);\n  }\n  return obj1 === obj2;\n};\n\nKotlin.hashCode = function (obj) {\n  if (obj ==
null) {\n    return 0;\n  }\n  var objType = typeof obj;\n  if ("object" === objType) {\n    return "function"
=== typeof obj.hashCode ? obj.hashCode() : getObjectHashCode(obj);\n  }\n  if ("function" === objType) {\n
return getObjectHashCode(obj);\n  }\n  if ("number" === objType) {\n    return
Kotlin.numberHashCode(obj);\n  }\n  if ("boolean" === objType) {\n    return Number(obj)\n  }\n  var str
= String(obj);\n  return getStringHashCode(str);\n};\n\n\nKotlin.toString = function (o) {\n  if (o == null) {\n
return "null";\n  }\n  else if (Kotlin.isArrayish(o)) {\n    return "[...]";\n  }\n  else {\n    return
o.toString();\n  }\n};\n\n/** @const */\nvar POW_2_32 = 4294967296;\n// TODO: consider switching to Symbol
type once we are on ES6.\n/** @const */\nvar OBJECT_HASH_CODE_PROPERTY_NAME =
"KotlinHashCodeValue$";\n\nfunction getObjectHashCode(obj) {\n  if
(! (OBJECT_HASH_CODE_PROPERTY_NAME in obj)) {\n    var hash = (Math.random() * POW_2_32) | 0; //

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Make 32-bit signed integer.\n    Object.defineProperty(obj, OBJECT_HASH_CODE_PROPERTY_NAME, {
value: hash, enumerable: false });\n    }\n    return
obj[OBJECT_HASH_CODE_PROPERTY_NAME];\n}\n\nfunction getStringHashCode(str) {\n    var hash = 0;\n    for (var i = 0; i < str.length; i++) {\n        var code = str.charCodeAt(i);\n        hash = (hash * 31 + code) | 0; // Keep
it 32-bit.\n    }\n    return hash;\n}\n\nKotlin.identityHashCode = getObjectHashCode;\n"/*\n * Copyright 2010-
2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by
the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Copyright 2009 The Closure
Library Authors. All Rights Reserved.\n\n// Licensed under the Apache License, Version 2.0 (the "License");\n//
you may not use this file except in compliance with the License.\n// You may obtain a copy of the License at\n\n//
http://www.apache.org/licenses/LICENSE-2.0\n\n// Unless required by applicable law or agreed to in writing,
software\n// distributed under the License is distributed on an "AS-IS" BASIS,\n// WITHOUT WARRANTIES OR
CONDITIONS OF ANY KIND, either express or implied.\n\n/**\n * Constructs a 64-bit two's-complement integer,
given its low and high 32-bit\n * values as *signed* integers. See the from* functions below for more\n *
convenient ways of constructing Longs.\n * \n * The internal representation of a long is the two given signed, 32-bit
values.\n * \n * We use 32-bit pieces because these are the size of integers on which\n * Javascript performs bit-
operations. For operations like addition and\n * multiplication, we split each number into 16-bit pieces, which can
easily be\n * multiplied within Javascript's floating-point representation without overflow\n * or change in sign.\n *
\n * \n * In the algorithms below, we frequently reduce the negative case to the\n * positive case by negating the
input(s) and then post-processing the result.\n * \n * Note that we must ALWAYS check specially whether those values
are MIN_VALUE\n * (-2^63) because -MIN_VALUE == MIN_VALUE (since 2^63 cannot be represented as\n * a
positive number, it overflows back into a negative). Not handling this\n * case would often result in infinite
recursion.\n * \n * @param {number} low The low (signed) 32 bits of the long.\n * @param {number} high The
high (signed) 32 bits of the long.\n * @constructor\n * @final\n */\nKotlin.Long = function(low, high) {\n    /**\n *
@type {number}\n * @private\n */\n    this.low_ = low | 0; // force into 32 signed bits.\n\n    /**\n * @type
{number}\n * @private\n */\n    this.high_ = high | 0; // force into 32 signed bits.\n};\n\nKotlin.Long.$metadata$ =
{\n    kind: "class",\n    simpleName: "Long",\n    interfaces: []\n};\n\n// NOTE: Common constant values
ZERO, ONE, NEG_ONE, etc. are defined below the\n// from* methods on which they depend.\n\n/**\n * A cache
of the Long representations of small integer values.\n * @type {!Object}\n * @private\n */\nKotlin.Long.IntCache_
= {};\n\n/**\n * Returns a Long representing the given (32-bit) integer value.\n * @param {number} value The
32-bit integer in question.\n * @return {!Kotlin.Long} The corresponding Long value.\n */\nKotlin.Long.fromInt =
function(value) {\n    if (-128 <= value && value < 128) {\n        var cachedObj = Kotlin.Long.IntCache_[value];\n        if
(cachedObj) {\n            return cachedObj;\n        }\n        var obj = new Kotlin.Long(value | 0, value < 0 ? -1 : 0);\n        if (-
128 <= value && value < 128) {\n            Kotlin.Long.IntCache_[value] = obj;\n        }\n        return obj;\n};\n\n/**\n *
Converts this number value to `Long`. \n * The fractional part, if any, is rounded down towards zero.\n * Returns
zero if this `Double` value is `NaN`, `Long.MIN_VALUE` if it's less than `Long.MIN_VALUE`, \n *
`Long.MAX_VALUE` if it's bigger than `Long.MAX_VALUE`. \n * @param {number} value The number in
question.\n * @return {!Kotlin.Long} The corresponding Long value.\n */\nKotlin.Long.fromNumber =
function(value) {\n    if (isNaN(value)) {\n        return Kotlin.Long.ZERO;\n    } else if (value <= -
Kotlin.Long.TWO_PWR_63_DBL_) {\n        return Kotlin.Long.MIN_VALUE;\n    } else if (value + 1 >=
Kotlin.Long.TWO_PWR_63_DBL_) {\n        return Kotlin.Long.MAX_VALUE;\n    } else if (value < 0) {\n        return
Kotlin.Long.fromNumber(-value).negate();\n    } else {\n        return new Kotlin.Long(\n            (value %
Kotlin.Long.TWO_PWR_32_DBL_) | 0,\n            (value / Kotlin.Long.TWO_PWR_32_DBL_) | 0);\n    }\n};\n\n/**\n * Returns a Long representing the 64-bit integer that comes by concatenating\n * the given high and
low bits. Each is assumed to use 32 bits.\n * @param {number} lowBits The low 32-bits.\n * @param {number}
highBits The high 32-bits.\n * @return {!Kotlin.Long} The corresponding Long value.\n */\nKotlin.Long.fromBits =
function(lowBits, highBits) {\n    return new Kotlin.Long(lowBits, highBits);\n};\n\n/**\n * Returns a Long
representation of the given string, written using the given\n * radix.\n * @param {string} str The textual
representation of the Long.\n * @param {number=} opt_radix The radix in which the text is written.\n * @return

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{!Kotlin.Long} The corresponding Long value.\n *\nKotlin.Long.fromString = function(str, opt_radix) {\n if
(str.length == 0) {\n  throw Error('number format error: empty string');\n }\n\n var radix = opt_radix || 10;\n if
(radix < 2 || 36 < radix) {\n  throw Error('radix out of range: ' + radix);\n }\n\n if (str.charAt(0) == '-') {\n  return
Kotlin.Long.fromString(str.substring(1), radix).negate();\n } else if (str.indexOf('-') >= 0) {\n  throw Error('number
format error: interior \"-\" character: ' + str);\n }\n\n // Do several (8) digits each time through the loop, so as to\n //
minimize the calls to the very expensive emulated div.\n var radixToPower =
Kotlin.Long.fromNumber(Math.pow(radix, 8));\n\n var result = Kotlin.Long.ZERO;\n for (var i = 0; i < str.length;
i += 8) {\n  var size = Math.min(8, str.length - i);\n  var value = parseInt(str.substring(i, i + size), radix);\n  if
(size < 8) {\n    var power = Kotlin.Long.fromNumber(Math.pow(radix, size));\n    result =
result.multiply(power).add(Kotlin.Long.fromNumber(value));\n  } else {\n    result =
result.multiply(radixToPower);\n    result = result.add(Kotlin.Long.fromNumber(value));\n  }\n }\n return
result;\n};\n\n\n// NOTE: the compiler should inline these constant values below and then remove\n// these
variables, so there should be no runtime penalty for these.\n\n\n**\n * Number used repeated below in calculations.
This must appear before the\n * first call to any from* function below.\n * @type {number}\n * @private\n
*\nKotlin.Long.TWO_PWR_16_DBL_ = 1 << 16;\n\n\n**\n * @type {number}\n * @private\n
*\nKotlin.Long.TWO_PWR_24_DBL_ = 1 << 24;\n\n\n**\n * @type {number}\n * @private\n
*\nKotlin.Long.TWO_PWR_32_DBL_ =\n Kotlin.Long.TWO_PWR_16_DBL_ *
Kotlin.Long.TWO_PWR_16_DBL_;\n\n\n**\n * @type {number}\n * @private\n
*\nKotlin.Long.TWO_PWR_31_DBL_ =\n Kotlin.Long.TWO_PWR_32_DBL_ / 2;\n\n\n**\n * @type
{number}\n * @private\n *\nKotlin.Long.TWO_PWR_48_DBL_ =\n Kotlin.Long.TWO_PWR_32_DBL_ *
Kotlin.Long.TWO_PWR_16_DBL_;\n\n\n**\n * @type {number}\n * @private\n
*\nKotlin.Long.TWO_PWR_64_DBL_ =\n Kotlin.Long.TWO_PWR_32_DBL_ *
Kotlin.Long.TWO_PWR_32_DBL_;\n\n\n**\n * @type {number}\n * @private\n
*\nKotlin.Long.TWO_PWR_63_DBL_ =\n Kotlin.Long.TWO_PWR_64_DBL_ / 2;\n\n\n** @type
{!Kotlin.Long} *\nKotlin.Long.ZERO = Kotlin.Long.fromInt(0);\n\n\n** @type {!Kotlin.Long}
*\nKotlin.Long.ONE = Kotlin.Long.fromInt(1);\n\n\n** @type {!Kotlin.Long} *\nKotlin.Long.NEG_ONE =
Kotlin.Long.fromInt(-1);\n\n\n** @type {!Kotlin.Long} *\nKotlin.Long.MAX_VALUE =\n
Kotlin.Long.fromBits(0xFFFFFFFF | 0, 0x7FFFFFFF | 0);\n\n\n** @type {!Kotlin.Long}
*\nKotlin.Long.MIN_VALUE = Kotlin.Long.fromBits(0, 0x80000000 | 0);\n\n\n**\n * @type {!Kotlin.Long}\n *
@private\n *\nKotlin.Long.TWO_PWR_24_ = Kotlin.Long.fromInt(1 << 24);\n\n\n** @return {number} The
value, assuming it is a 32-bit integer. *\nKotlin.Long.prototype.toInt = function() {\n return this.low_;\n};\n\n\n**
@return {number} The closest floating-point representation to this value. *\nKotlin.Long.prototype.toNumber =
function() {\n return this.high_ * Kotlin.Long.TWO_PWR_32_DBL_ +\n
this.getLowBitsUnsigned();\n};\n\n\n** @return {number} The 32-bit hashCode of this value.
*\nKotlin.Long.prototype.hashCode = function() {\n return this.high_ ^ this.low_;\n};\n\n\n**\n * @param
{number=} opt_radix The radix in which the text should be written.\n * @return {string} The textual representation
of this value.\n * @override\n *\nKotlin.Long.prototype.toString = function(opt_radix) {\n var radix = opt_radix ||
10;\n if (radix < 2 || 36 < radix) {\n  throw Error('radix out of range: ' + radix);\n }\n\n if (this.isZero()) {\n
return '0';\n }\n\n if (this.isNegative()) {\n  if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n    // We need to
change the Long value before it can be negated, so we remove\n    // the bottom-most digit in this base and then
recurse to do the rest.\n    var radixLong = Kotlin.Long.fromNumber(radix);\n    var div = this.div(radixLong);\n
    var rem = div.multiply(radixLong).subtract(this);\n    return div.toString(radix) + rem.toInt().toString(radix);\n  }
else {\n    return '-' + this.negate().toString(radix);\n  }\n }\n\n // Do several (6) digits each time through the loop,
so as to\n // minimize the calls to the very expensive emulated div.\n var radixToPower =
Kotlin.Long.fromNumber(Math.pow(radix, 6));\n\n var rem = this;\n var result = '';\n while (true) {\n  var
remDiv = rem.div(radixToPower);\n  var intVal = rem.subtract(remDiv.multiply(radixToPower)).toInt();\n  var
digits = intVal.toString(radix);\n  rem = remDiv;\n  if (rem.isZero()) {\n    return digits + result;\n  } else {\n
while (digits.length < 6) {\n    digits = '0' + digits;\n  }\n  result = '' + digits + result;\n }\n }\n};\n\n\n**

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@return {number} The high 32-bits as a signed value. *^ Kotlin.Long.prototype.getHighBits = function() {\n
return this.high_;\n};\n\n/** @return {number} The low 32-bits as a signed value.
*^ Kotlin.Long.prototype.getLowBits = function() {\n return this.low_;\n};\n\n/** @return {number} The low
32-bits as an unsigned value. *^ Kotlin.Long.prototype.getLowBitsUnsigned = function() {\n return (this.low_ >=
0) ?\n this.low_ : Kotlin.Long.TWO_PWR_32_DBL_ + this.low_;\n};\n\n/**\n * @return {number} Returns
the number of bits needed to represent the absolute\n * value of this Long.\n
*^ Kotlin.Long.prototype.getNumBitsAbs = function() {\n if (this.isNegative()) {\n if
(this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return 64;\n } else {\n return
this.negate().getNumBitsAbs();\n } } else {\n var val = this.high_ != 0 ? this.high_ : this.low_;\n for (var bit
= 31; bit > 0; bit--) {\n if ((val & (1 << bit)) != 0) {\n break;\n } } } return this.high_ != 0 ? bit + 33
: bit + 1;\n } };\n\n/** @return {boolean} Whether this value is zero. *^ Kotlin.Long.prototype.isZero =
function() {\n return this.high_ == 0 && this.low_ == 0;\n};\n\n/** @return {boolean} Whether this value is
negative. *^ Kotlin.Long.prototype.isNegative = function() {\n return this.high_ < 0;\n};\n\n/** @return
{boolean} Whether this value is odd. *^ Kotlin.Long.prototype.isOdd = function() {\n return (this.low_ & 1) ==
1;\n};\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this
Long equals the other.\n *^ Kotlin.Long.prototype.equalsLong = function(other) {\n return (this.high_ ==
other.high_) && (this.low_ == other.low_);\n};\n\n/**\n * @param {Kotlin.Long} other Long to compare
against.\n * @return {boolean} Whether this Long does not equal the other.\n
*^ Kotlin.Long.prototype.notEqualsLong = function(other) {\n return (this.high_ != other.high_) || (this.low_ !=
other.low_);\n};\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return {boolean}
Whether this Long is less than the other.\n *^ Kotlin.Long.prototype.lessThan = function(other) {\n return
this.compare(other) < 0;\n};\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return
{boolean} Whether this Long is less than or equal to the other.\n *^ Kotlin.Long.prototype.lessThanOrEqual =
function(other) {\n return this.compare(other) <= 0;\n};\n\n/**\n * @param {Kotlin.Long} other Long to
compare against.\n * @return {boolean} Whether this Long is greater than the other.\n
*^ Kotlin.Long.prototype.greaterThan = function(other) {\n return this.compare(other) > 0;\n};\n\n/**\n *
@param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long is greater than or
equal to the other.\n *^ Kotlin.Long.prototype.greaterThanOrEqual = function(other) {\n return
this.compare(other) >= 0;\n};\n\n/**\n * Compares this Long with the given one.\n * @param {Kotlin.Long}
other Long to compare against.\n * @return {number} 0 if they are the same, 1 if the this is greater, and -1\n * if
the given one is greater.\n *^ Kotlin.Long.prototype.compare = function(other) {\n if (this.equalsLong(other)) {\n
return 0;\n } } \n\n var thisNeg = this.isNegative();\n var otherNeg = other.isNegative();\n if (thisNeg &&
!otherNeg) {\n return -1;\n } } \n\n if (!thisNeg && otherNeg) {\n return 1;\n } } \n\n // at this point, the signs are the
same, so subtraction will not overflow\n if (this.subtract(other).isNegative()) {\n return -1;\n } else {\n return
1;\n } };\n\n/** @return {!Kotlin.Long} The negation of this value. *^ Kotlin.Long.prototype.negate =
function() {\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.MIN_VALUE;\n } else
{\n return this.not().add(Kotlin.Long.ONE);\n } };\n\n/**\n * Returns the sum of this and the given Long.\n *
@param {Kotlin.Long} other Long to add to this one.\n * @return {!Kotlin.Long} The sum of this and the given
Long.\n *^ Kotlin.Long.prototype.add = function(other) {\n // Divide each number into 4 chunks of 16 bits, and
then sum the chunks.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 = this.low_
>>> 16;\n var a00 = this.low_ & 0xFFFF;\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ & 0xFFFF;\n
var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n var c48 = 0, c32 = 0, c16 = 0, c00 = 0;\n c00
+= a00 + b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 + b16;\n c32 += c16 >>> 16;\n c16 &=
0xFFFF;\n c32 += a32 + b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 + b48;\n c48 &=
0xFFFF;\n return Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) | c32);\n};\n\n/**\n * Returns the
difference of this and the given Long.\n * @param {Kotlin.Long} other Long to subtract from this.\n * @return
{!Kotlin.Long} The difference of this and the given Long.\n *^ Kotlin.Long.prototype.subtract = function(other)
{\n return this.add(other.negate());\n};\n\n/**\n * Returns the product of this and the given long.\n * @param

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{!Kotlin.Long} other Long to multiply with this.\n * @return {!Kotlin.Long} The product of this and the other.\n
*\nKotlin.Long.prototype.multiply = function(other) {\n if (this.isZero()) {\n return Kotlin.Long.ZERO;\n } else
if (other.isZero()) {\n return Kotlin.Long.ZERO;\n }\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n
return other.isOdd() ? Kotlin.Long.MIN_VALUE : Kotlin.Long.ZERO;\n } else if
(other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return this.isOdd() ? Kotlin.Long.MIN_VALUE :
Kotlin.Long.ZERO;\n }\n\n if (this.isNegative()) {\n if (other.isNegative()) {\n return
this.negate().multiply(other.negate());\n } else {\n return this.negate().multiply(other).negate();\n }\n } else if
(other.isNegative()) {\n return this.multiply(other.negate()).negate();\n }\n\n // If both longs are small, use float
multiplication\n if (this.lessThan(Kotlin.Long.TWO_PWR_24_) &&\n
other.lessThan(Kotlin.Long.TWO_PWR_24_)) {\n return Kotlin.Long.fromNumber(this.toNumber() *
other.toNumber());\n }\n\n // Divide each long into 4 chunks of 16 bits, and then add up 4x4 products.\n // We can
skip products that would overflow.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 =
this.low_ >>> 16;\n var a00 = this.low_ & 0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ &
0xFFFF;\n var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00
= 0;\n c00 += a00 * b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 * b00;\n c32 += c16 >>> 16;\n
c16 &= 0xFFFF;\n c16 += a00 * b16;\n c32 += c16 >>> 16;\n c16 &= 0xFFFF;\n c32 += a32 * b00;\n c48 +=
c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a16 * b16;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a00 *
b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 * b00 + a32 * b16 + a16 * b32 + a00 * b48;\n c48
&= 0xFFFF;\n return Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) | c32);\n};\n\n\n/**\n * Returns this
Long divided by the given one.\n * @param {Kotlin.Long} other Long by which to divide.\n * @return
{!Kotlin.Long} This Long divided by the given one.\n */\nKotlin.Long.prototype.div = function(other) {\n if
(other.isZero()) {\n throw Error('division by zero');\n } else if (this.isZero()) {\n return Kotlin.Long.ZERO;\n
}\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n if (other.equalsLong(Kotlin.Long.ONE) ||\n
other.equalsLong(Kotlin.Long.NEG_ONE)) {\n return Kotlin.Long.MIN_VALUE; // recall that -MIN_VALUE
== MIN_VALUE\n } else if (other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.ONE;\n
}\n } else {\n // At this point, we have |other| >= 2, so |this/other| < |MIN_VALUE|.\n var halfThis =
this.shiftRight(1);\n var approx = halfThis.div(other).shiftLeft(1);\n if
(approx.equalsLong(Kotlin.Long.ZERO)) {\n return other.isNegative() ? Kotlin.Long.ONE :
Kotlin.Long.NEG_ONE;\n } else {\n var rem = this.subtract(other.multiply(approx));\n var result =
approx.add(rem.div(other));\n return result;\n }\n }\n } else if
(other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.ZERO;\n }\n\n if (this.isNegative()) {\n
if (other.isNegative()) {\n return this.negate().div(other.negate());\n } else {\n return
this.negate().div(other).negate();\n }\n } else if (other.isNegative()) {\n return
this.div(other.negate()).negate();\n }\n\n // Repeat the following until the remainder is less than other: find a\n //
floating-point that approximates remainder / other *from below*, add this\n // into the result, and subtract it from
the remainder. It is critical that\n // the approximate value is less than or equal to the real value so that the\n //
remainder never becomes negative.\n var res = Kotlin.Long.ZERO;\n var rem = this;\n while
(rem.greaterThanOrEqual(other)) {\n // Approximate the result of division. This may be a little greater or\n //
smaller than the actual value.\n var approx = Math.max(1, Math.floor(rem.toNumber() / other.toNumber()));\n\n
// We will tweak the approximate result by changing it in the 48-th digit or\n // the smallest non-fractional digit,
whichever is larger.\n var log2 = Math.ceil(Math.log(approx) / Math.LN2);\n var delta = (log2 <= 48) ? 1 :
Math.pow(2, log2 - 48);\n\n // Decrease the approximation until it is smaller than the remainder. Note\n // that if
it is too large, the product overflows and is negative.\n var approxRes = Kotlin.Long.fromNumber(approx);\n
var approxRem = approxRes.multiply(other);\n while (approxRem.isNegative() || approxRem.greaterThan(rem))
{\n approx -= delta;\n approxRes = Kotlin.Long.fromNumber(approx);\n approxRem =
approxRes.multiply(other);\n }\n\n // We know the answer can't be zero... and actually, zero would cause\n //
infinite recursion since we would make no progress.\n if (approxRes.isZero()) {\n approxRes =
Kotlin.Long.ONE;\n }\n\n res = res.add(approxRes);\n rem = rem.subtract(approxRem);\n }\n return

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res;};\n\n/**\n * Returns this Long modulo the given one.\n * @param {Kotlin.Long} other Long by which to
mod.\n * @return {!Kotlin.Long} This Long modulo the given one.\n */\nKotlin.Long.prototype.modulo =
function(other) {\n return this.subtract(this.div(other).multiply(other));\n};\n\n/**\n * @return {!Kotlin.Long} The
bitwise-NOT of this value. */\nKotlin.Long.prototype.not = function() {\n return Kotlin.Long.fromBits(~this.low_,
~this.high_);\n};\n\n/**\n * Returns the bitwise-AND of this Long and the given one.\n * @param {Kotlin.Long}
other The Long with which to AND.\n * @return {!Kotlin.Long} The bitwise-AND of this and the other.\n
*/\nKotlin.Long.prototype.and = function(other) {\n return Kotlin.Long.fromBits(this.low_ & other.low_,\n
this.high_ & other.high_);\n};\n\n/**\n * Returns the bitwise-OR of this Long and the given one.\n *
@param {Kotlin.Long} other The Long with which to OR.\n * @return {!Kotlin.Long} The bitwise-OR of this and
the other.\n */\nKotlin.Long.prototype.or = function(other) {\n return Kotlin.Long.fromBits(this.low_ |
other.low_,\n this.high_ | other.high_);\n};\n\n/**\n * Returns the bitwise-XOR of this Long
and the given one.\n * @param {Kotlin.Long} other The Long with which to XOR.\n * @return {!Kotlin.Long}
The bitwise-XOR of this and the other.\n */\nKotlin.Long.prototype.xor = function(other) {\n return
Kotlin.Long.fromBits(this.low_ ^ other.low_,\n this.high_ ^ other.high_);\n};\n\n/**\n *
Returns this Long with bits shifted to the left by the given amount.\n * @param {number} numBits The number of
bits by which to shift.\n * @return {!Kotlin.Long} This shifted to the left by the given amount.\n
*/\nKotlin.Long.prototype.shiftLeft = function(numBits) {\n numBits &= 63;\n if (numBits == 0) {\n return
this;\n } else {\n var low = this.low_;\n if (numBits < 32) {\n var high = this.high_;\n return
Kotlin.Long.fromBits(\n low << numBits,\n (high << numBits) | (low >>> (32 - numBits));\n } else
{\n return Kotlin.Long.fromBits(0, low << (numBits - 32));\n }\n };\n};\n\n/**\n * Returns this Long with
bits shifted to the right by the given amount.\n * @param {number} numBits The number of bits by which to shift.\n
* @return {!Kotlin.Long} This shifted to the right by the given amount.\n */\nKotlin.Long.prototype.shiftRight =
function(numBits) {\n numBits &= 63;\n if (numBits == 0) {\n return this;\n } else {\n var high = this.high_;\n
if (numBits < 32) {\n var low = this.low_;\n return Kotlin.Long.fromBits(\n (low >>> numBits) | (high
<<< (32 - numBits)),\n high >>> numBits);\n } else {\n return Kotlin.Long.fromBits(\n high >>>
(numBits - 32),\n high >= 0 ? 0 : -1);\n }\n };\n};\n\n/**\n * Returns this Long with bits shifted to the right
by the given amount, with\n * zeros placed into the new leading bits.\n * @param {number} numBits The number
of bits by which to shift.\n * @return {!Kotlin.Long} This shifted to the right by the given amount, with\n *
zeros placed into the new leading bits.\n */\nKotlin.Long.prototype.shiftRightUnsigned = function(numBits) {\n numBits
&= 63;\n if (numBits == 0) {\n return this;\n } else {\n var high = this.high_;\n if (numBits < 32) {\n var
low = this.low_;\n return Kotlin.Long.fromBits(\n (low >>> numBits) | (high <<< (32 - numBits)),\n
high >>> numBits);\n } else if (numBits == 32) {\n return Kotlin.Long.fromBits(high, 0);\n } else {\n
return Kotlin.Long.fromBits(high >>> (numBits - 32), 0);\n }\n };\n};\n\n// Support for
Kotlin\nKotlin.Long.prototype.equals = function (other) {\n return other instanceof Kotlin.Long &&
this.equalsLong(other);\n};\n\nKotlin.Long.prototype.compareTo_11rb$ =
Kotlin.Long.prototype.compare;\n\nKotlin.Long.prototype.inc = function() {\n return
this.add(Kotlin.Long.ONE);\n};\n\nKotlin.Long.prototype.dec = function() {\n return
this.add(Kotlin.Long.NEG_ONE);\n};\n\nKotlin.Long.prototype.valueOf = function() {\n return
this.toNumber();\n};\n\nKotlin.Long.prototype.unaryPlus = function() {\n return
this;\n};\n\nKotlin.Long.prototype.unaryMinus = Kotlin.Long.prototype.negate;\n\nKotlin.Long.prototype.inv =
Kotlin.Long.prototype.not;\n\nKotlin.Long.prototype.rangeTo = function (other) {\n return new
Kotlin.kotlin.ranges.LongRange(this, other);\n};\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n/**\n * @param {string} id\n * @param {Object} declaration\n
*/\nKotlin.defineModule = function (id, declaration) {\n};\n\nKotlin.defineInlineFunction = function(tag, fun) {\n
return fun;\n};\n\nKotlin.wrapFunction = function(fun) {\n var f = function() {\n f = fun();\n return
f.apply(this, arguments);\n }; \n return function() {\n return f.apply(this, arguments);\n
};\n};\n\nKotlin.isTypeOf = function(type) {\n return function (object) {\n return typeof object === type;\n
};\n};

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}\n};\n\nKotlin.isInstanceOf = function (class) {\n  return function (object) {\n    return Kotlin.isType(object,
class);\n  }\n};\n\nKotlin.orNull = function (fn) {\n  return function (object) {\n    return object == null ||
fn(object);\n  }\n};\n\nKotlin.andPredicate = function (a, b) {\n  return function (object) {\n    return a(object)
&& b(object);\n  }\n};\n\nKotlin.kotlinModuleMetadata = function (abiVersion, moduleName, data)
{\n};\n\nKotlin.suspendCall = function (value) {\n  return value;\n};\n\nKotlin.coroutineResult = function (qualifier)
{\n  throwMarkerError();\n};\n\nKotlin.coroutineController = function (qualifier) {\n
throwMarkerError();\n};\n\nKotlin.coroutineReceiver = function (qualifier) {\n
throwMarkerError();\n};\n\nKotlin.setCoroutineResult = function (value, qualifier) {\n
throwMarkerError();\n};\n\nKotlin.getReifiedTypeParameterKType = function (typeParameter) {\n
throwMarkerError();\n};\n\nfunction throwMarkerError() {\n  throw new Error(\n    \"This marker function
should never be called. \" +\n    \"Looks like compiler did not eliminate it properly. \" +\n    \"Please, report
an issue if you caught this exception.\");\n}\n\nKotlin.getFunctionById = function (id, defaultValue) {\n  return
function() {\n    return defaultValue;\n  }\n};\n\n\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\nKotlin.compareTo = function (a, b) {\n  var typeA = typeof a;\n  if
(typeA === \"number\") {\n    if (typeof b === \"number\") {\n      return Kotlin.doubleCompareTo(a, b);\n    }
\n    return Kotlin.primitiveCompareTo(a, b);\n  }\n  if (typeA === \"string\" || typeA === \"boolean\") {\n
return Kotlin.primitiveCompareTo(a, b);\n  }\n  return
a.compareTo_11rb$(b);\n};\n\nKotlin.primitiveCompareTo = function (a, b) {\n  return a < b ? -1 : a > b ? 1 :
0;\n};\n\nKotlin.doubleCompareTo = function (a, b) {\n  if (a < b) return -1;\n  if (a > b) return 1;\n\n  if (a ===
b) {\n    if (a !== 0) return 0;\n\n    var ia = 1 / a;\n    return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);\n  }\n\n
return a !== a ? (b !== b ? 0 : 1) : -1;\n};\n\nKotlin.charInc = function (value) {\n  return
Kotlin.toChar(value+1);\n};\n\nKotlin.charDec = function (value) {\n  return Kotlin.toChar(value-
1);\n};\n\nKotlin.imul = Math.imul || imul;\n\nKotlin.imulEmulated = imul;\n\nfunction imul(a, b) {\n  return ((a &
0xffff0000) * (b & 0xffff) + (a & 0xffff) * (b | 0)) | 0;\n}\n\n(function() {\n  var buf = new ArrayBuffer(8);\n  var
bufFloat64 = new Float64Array(buf);\n  var bufFloat32 = new Float32Array(buf);\n  var bufInt32 = new
Int32Array(buf);\n  var lowIndex = 0;\n  var highIndex = 1;\n\n  bufFloat64[0] = -1; // bff00000_00000000\n  if
(bufInt32[lowIndex] !== 0) {\n    lowIndex = 1;\n    highIndex = 0;\n  }\n\n  Kotlin.doubleToBits =
function (value) {\n    return Kotlin.doubleToRawBits(isNaN(value) ? NaN : value);\n  };\n\n  Kotlin.doubleToRawBits = function (value) {\n    bufFloat64[0] = value;\n    return
Kotlin.Long.fromBits(bufInt32[lowIndex], bufInt32[highIndex]);\n  };\n\n  Kotlin.doubleFromBits =
function (value) {\n    bufInt32[lowIndex] = value.low_;\n    bufInt32[highIndex] = value.high_;\n    return
bufFloat64[0];\n  };\n\n  Kotlin.floatToBits = function (value) {\n    return Kotlin.floatToRawBits(isNaN(value)
? NaN : value);\n  };\n\n  Kotlin.floatToRawBits = function (value) {\n    bufFloat32[0] = value;\n    return
bufInt32[0];\n  };\n\n  Kotlin.floatFromBits = function (value) {\n    bufInt32[0] = value;\n    return
bufFloat32[0];\n  };\n\n  // returns zero value for number with positive sign bit and non-zero value for number
with negative sign bit.\n  Kotlin.doubleSignBit = function (value) {\n    bufFloat64[0] = value;\n    return
bufInt32[highIndex] & 0x80000000;\n  };\n\n  Kotlin.numberHashCode = function (obj) {\n    if ((obj | 0) ===
obj) {\n      return obj | 0;\n    } else {\n      bufFloat64[0] = obj;\n      return (bufInt32[highIndex]
* 31 | 0) + bufInt32[lowIndex] | 0;\n    }\n  }\n}\n\nKotlin.ensureNotNull = function (x) {\n  return x != null
? x : Kotlin.throwNPE();\n};\n\n\"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\nif (typeof String.prototype.startsWith === \"undefined\") {\n
Object.defineProperty(String.prototype, \"startsWith\", {\n  value: function (searchString, position) {\n
position = position || 0;\n    return this.lastIndexOf(searchString, position) === position;\n  }\n});\n\nif
(typeof String.prototype.endsWith === \"undefined\") {\n  Object.defineProperty(String.prototype, \"endsWith\",
{\n  value: function (searchString, position) {\n    var subjectString = this.toString();\n    if (position
=== undefined || position > subjectString.length) {\n      position = subjectString.length;\n    }\n

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position -= searchString.length;\n      var lastIndex = subjectString.indexOf(searchString, position);\nreturn lastIndex !== -1 && lastIndex === position;\n    }\n  });\n\n// ES6 Math polyfills\nif (typeof Math.sign\n=== \"undefined\") {\n  Math.sign = function(x) {\n    x = +x; // convert to a number\n    if (x === 0 ||\nisNaN(x)) {\n      return Number(x);\n    }\n    return x > 0 ? 1 : -1;\n  };\n}\n\nif (typeof Math.trunc ===\n\"undefined\") {\n  Math.trunc = function(x) {\n    if (isNaN(x)) {\n      return NaN;\n    }\n    if (x > 0)\n    {\n      return Math.floor(x);\n    }\n    return Math.ceil(x);\n  };\n}\n\n(function() {\n  var epsilon =\n2.220446049250313E-16;\n  var taylor_2_bound = Math.sqrt(epsilon);\n  var taylor_n_bound =\nMath.sqrt(taylor_2_bound);\n  var upper_taylor_2_bound = 1/taylor_2_bound;\n  var upper_taylor_n_bound =\n1/taylor_n_bound;\n\n  if (typeof Math.sinh === \"undefined\") {\n    Math.sinh = function(x) {\n      if\n(Math.abs(x) < taylor_n_bound) {\n        var result = x;\n        if (Math.abs(x) > taylor_2_bound) {\n          result += (x * x * x) / 6;\n        }\n        return result;\n      } else {\n        var y =\nMath.exp(x);\n        var y1 = 1 / y;\n        if (!isFinite(y)) return Math.exp(x - Math.LN2);\n        if\n(!isFinite(y1)) return -Math.exp(-x - Math.LN2);\n        return (y - y1) / 2;\n      }\n    };\n  }\n\n  if\n(typeof Math.cosh === \"undefined\") {\n    Math.cosh = function(x) {\n      var y = Math.exp(x);\n      var\ny1 = 1 / y;\n      if (!isFinite(y) || !isFinite(y1)) return Math.exp(Math.abs(x) - Math.LN2);\n      return (y +\ny1) / 2;\n    };\n  }\n\n  if (typeof Math.tanh === \"undefined\") {\n    Math.tanh = function(x) {\n      if\n(Math.abs(x) < taylor_n_bound) {\n        var result = x;\n        if (Math.abs(x) > taylor_2_bound) {\n          result -= (x * x * x) / 3;\n        }\n        return result;\n      } else {\n        var a =\nMath.exp(+x), b = Math.exp(-x);\n        return a === Infinity ? 1 : b === Infinity ? -1 : (a - b) / (a + b);\n      }\n    };\n  }\n\n  // Inverse hyperbolic function implementations derived from boost special math functions,\n// Copyright Eric Ford & Hubert Holin 2001.\n\n  if (typeof Math.asinh === \"undefined\") {\n    var asinh =\nfunction(x) {\n      if (x >= +taylor_n_bound)\n      {\n        if (x > upper_taylor_n_bound)\n        {\n          if (x > upper_taylor_2_bound)\n          {\n            // approximation by laurent series in\n1/x at 0+ order from -1 to 0\n            return Math.log(x) + Math.LN2;\n          }\n          else\n{\n            // approximation by laurent series in 1/x at 0+ order from -1 to 1\n            return\nMath.log(x * 2 + (1 / (x * 2)));\n          }\n        }\n        else\n        {\n          if (x <= -taylor_n_bound)\n          {\n            // approximation by laurent series in x at 0 up to\norder 2\n            var result = x;\n            if (Math.abs(x) >= taylor_2_bound)\n            {\n              var x3 =\nx * x * x;\n              // approximation by laurent series in x at 0 up to order 4\n              result -= x3 / 6;\n            }\n            return result;\n          }\n        }\n      }\n      Math.asinh = asinh;\n    };\n\n    if (typeof Math.acosh ===\n\"undefined\") {\n      Math.acosh = function(x) {\n        if (x < 1)\n        {\n          return NaN;\n        }\n        else if (x - 1 >= taylor_n_bound)\n        {\n          if (x > upper_taylor_2_bound)\n          {\n            // approximation by laurent series in 1/x at 0+ order from -1 to 0\n            return Math.log(x) + Math.LN2;\n          }\n          else\n          {\n            return Math.log(x + Math.sqrt(x * x - 1));\n          }\n        }\n        else\n        {\n          var y = Math.sqrt(x - 1);\n          // approximation by taylor series in y at 0\nup to order 2\n          var result = y;\n          if (y >= taylor_2_bound)\n          {\n            var y3 = y *\ny * y;\n            // approximation by taylor series in y at 0 up to order 4\n            result -= y3 / 12;\n          }\n          return Math.sqrt(2) * result;\n        }\n      };\n    }\n\n    if (typeof Math.atanh === \"undefined\")\n{\n      Math.atanh = function(x) {\n        if (Math.abs(x) < taylor_n_bound) {\n          var result = x;\n          if (Math.abs(x) > taylor_2_bound) {\n            result += (x * x * x) / 3;\n          }\n          return result;\n        }\n        return Math.log((1 + x) / (1 - x)) / 2;\n      };\n    }\n\n    if (typeof Math.log1p === \"undefined\") {\n      Math.log1p = function(x) {\n        if (Math.abs(x) < taylor_n_bound) {\n          var x2 = x * x;\n          var x3 = x2 * x;\n          var x4 = x3 * x;\n          // approximation by taylor series in x at 0 up to order 4\n          return (-x4 / 4 + x3 / 3 - x2 / 2 + x);\n        }\n        return Math.log(x + 1);\n      };\n    }\n\n    if (typeof\nMath.expm1 === \"undefined\") {\n      Math.expm1 = function(x) {\n        if (Math.abs(x) < taylor_n_bound)\n        {\n          var x2 = x * x;\n          var x3 = x2 * x;\n          var x4 = x3 * x;\n          // approximation by\ntaylor series in x at 0 up to order 4\n          return (x4 / 24 + x3 / 6 + x2 / 2 + x);\n        }\n        return\n
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Math.exp(x) - 1;\n    };\n    }\n});\n\nif (typeof Math.hypot === \"undefined\") {\n    Math.hypot = function() {\n        var y = 0;\n        var length = arguments.length;\n        for (var i = 0; i < length; i++) {\n            if (arguments[i]\n            === Infinity || arguments[i] === -Infinity) {\n                return Infinity;\n            }\n            y += arguments[i] *\n            arguments[i];\n        }\n        return Math.sqrt(y);\n    };\n}\n\nif (typeof Math.log10 === \"undefined\") {\n    Math.log10 = function(x) {\n        return Math.log(x) * Math.LOG10E;\n    };\n}\n\nif (typeof Math.log2 ===\n\"undefined\") {\n    Math.log2 = function(x) {\n        return Math.log(x) * Math.LOG2E;\n    };\n}\n\nif (typeof\nMath.clz32 === \"undefined\") {\n    Math.clz32 = (function(log, LN2) {\n        return function(x) {\n            var\n            asUint = x >>> 0;\n            if (asUint === 0) {\n                return 32;\n            }\n            return 31 - (log(asUint) /\n            LN2 | 0) | 0; // the \"| 0\" acts like math.floor\n        };\n    })(Math.log, Math.LN2);\n}\n\n// For HtmlUnit and\nPhantomJs\n\nif (typeof ArrayBuffer.isView === \"undefined\") {\n    ArrayBuffer.isView = function(a) {\n        return a != null && a.__proto__ != null && a.__proto__.__proto__ === Int8Array.prototype.__proto__;\n    };\n}\n\nif (typeof Array.prototype.fill === \"undefined\") {\n    // Polyfill from https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/fill#Polyfill\n    Object.defineProperty(Array.prototype, 'fill', {\n        value: function (value) {\n            // Steps 1-2.\n            if (this == null) {\n                throw new\n                TypeError('this is null or not defined');\n            }\n            var O = Object(this);\n            // Steps 3-5.\n            var len = O.length >>> 0;\n            // Steps 6-7.\n            var start = arguments[1];\n            var relativeStart = start\n            >> 0;\n            // Step 8.\n            var k = relativeStart < 0 ?\n            Math.max(len + relativeStart, 0) :\n            Math.min(relativeStart, len);\n            // Steps 9-10.\n            var end = arguments[2];\n            var\n            relativeEnd = end === undefined ?\n            len : end >> 0;\n            // Step 11.\n            var finalValue\n            = relativeEnd < 0 ?\n            Math.max(len + relativeEnd, 0) :\n            Math.min(relativeEnd,\n            len);\n            // Step 12.\n            while (k < finalValue) {\n                O[k] = value;\n                k++;\n            }\n            // Step 13.\n            return O;\n        };\n    });\n}\n\n(function() {\n    function normalizeOffset(offset, length)\n    {\n        if (offset < 0) return Math.max(0, offset + length);\n        return Math.min(offset, length);\n    }\n    function\n    typedArraySlice(begin, end) {\n        if (typeof end === \"undefined\") {\n            end = this.length;\n        }\n        begin = normalizeOffset(begin || 0, this.length);\n        end = Math.max(begin, normalizeOffset(end, this.length));\n        return new this.constructor(this.subarray(begin, end));\n    }\n    var arrays = [Int8Array, Int16Array,\n    Uint16Array, Int32Array, Float32Array, Float64Array];\n    for (var i = 0; i < arrays.length; ++i) {\n        var\n        TypedArray = arrays[i];\n        if (typeof TypedArray.prototype.fill === \"undefined\") {\n            Object.defineProperty(TypedArray.prototype, 'fill', {\n                value: Array.prototype.fill\n            });\n        }\n        if (typeof TypedArray.prototype.slice === \"undefined\") {\n            Object.defineProperty(TypedArray.prototype,\n            'slice', {\n                value: typedArraySlice\n            });\n        }\n    }\n}\n\n// Patch apply to work with TypedArrays\nif needed.\ntry {\n    (function() {}).apply(null, new Int32Array(0))\n} catch (e) {\n    var apply =\n    Function.prototype.apply;\n    Object.defineProperty(Function.prototype, 'apply', {\n        value: function(self,\n        array) {\n            return apply.call(this, self, [].slice.call(array));\n        }\n    });\n}\n\n// Patch map to\nwork with TypedArrays if needed.\nfor (var i = 0; i < arrays.length; ++i) {\n    var TypedArray = arrays[i];\n    if (typeof TypedArray.prototype.map === \"undefined\") {\n        Object.defineProperty(TypedArray.prototype,\n        'map', {\n            value: function(callback, self) {\n                return [].slice.call(this).map(callback, self);\n            }\n        });\n    }\n}\n\n// Patch sort to work with TypedArrays if needed.\n// TODO: consider to\nremove following function and replace it with `Kotlin.doubleCompareTo` (see misc.js)\nvar\n    totalOrderComparator = function (a, b) {\n        if (a < b) return -1;\n        if (a > b) return 1;\n        if (a === b) {\n            if (a !== 0) return 0;\n            var ia = 1 / a;\n            return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);\n        }\n        return a !== a ? (b !== b ? 0 : 1) : -1\n    };\n\nfor (var i = 0; i < arrays.length; ++i) {\n    var TypedArray =\n    arrays[i];\n    if (typeof TypedArray.prototype.sort === \"undefined\") {\n        Object.defineProperty(TypedArray.prototype, 'sort', {\n            value: function(compareFunction) {\n                return Array.prototype.sort.call(this, compareFunction || totalOrderComparator);\n            }\n        });\n    }\n}\n\n});\n\n\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use\n of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n */\n\nKotlin.Kind = {\n    CLASS: \"class\",\n    INTERFACE: \"interface\",\n    OBJECT:

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"object"\n};\n\nKotlin.callGetter = function (thisObject, class, propertyName) {\n    var propertyDescriptor =
Object.getOwnPropertyDescriptor(class, propertyName);\n    if (propertyDescriptor != null &&
propertyDescriptor.get != null) {\n        return propertyDescriptor.get.call(thisObject);\n    }\n    propertyDescriptor
= Object.getOwnPropertyDescriptor(thisObject, propertyName);\n    if (propertyDescriptor != null && "value" in
propertyDescriptor) {\n        return thisObject[propertyName];\n    }\n    return Kotlin.callGetter(thisObject,
Object.getPrototypeOf(class), propertyName);\n};\n\nKotlin.callSetter = function (thisObject, class, propertyName,
value) {\n    var propertyDescriptor = Object.getOwnPropertyDescriptor(class, propertyName);\n    if
(propertyDescriptor != null && propertyDescriptor.set != null) {\n        propertyDescriptor.set.call(thisObject,
value);\n        return;\n    }\n    propertyDescriptor = Object.getOwnPropertyDescriptor(thisObject,
propertyName);\n    if (propertyDescriptor != null && "value" in propertyDescriptor) {\n
thisObject[propertyName] = value;\n        return;\n    }\n    Kotlin.callSetter(thisObject,
Object.getPrototypeOf(class), propertyName, value);\n};\n\nfunction isInheritanceFromInterface(ctor, iface) {\n    if
(ctor === iface) return true;\n    var metadata = ctor.$metadata$;\n    if (metadata != null) {\n        var interfaces =
metadata.interfaces;\n        for (var i = 0; i < interfaces.length; i++) {\n            if
(isInheritanceFromInterface(interfaces[i], iface)) {\n                return true;\n            }\n        }\n    }\n    var
superPrototype = ctor.prototype != null ? Object.getPrototypeOf(ctor.prototype) : null;\n    var superConstructor =
superPrototype != null ? superPrototype.constructor : null;\n    return superConstructor != null &&
isInheritanceFromInterface(superConstructor, iface);\n}\n\n/**\n * \n * @param {*} object\n * @param
{Function|Object} klass\n * @returns {Boolean}\n */\nKotlin.isType = function (object, klass) {\n    if (klass ===
Object) {\n        switch (typeof object) {\n            case "string":\n                case "number":\n                case
"boolean":\n                case "function":\n                    return true;\n                default:\n                    return object instanceof
Object;\n        }\n    }\n    if (object == null || klass == null || (typeof object !== 'object' && typeof object !==
'function')) {\n        return false;\n    }\n    if (typeof klass === "function" && object instanceof klass) {\n
return true;\n    }\n    var proto = Object.getPrototypeOf(klass);\n    var constructor = proto != null ?
proto.constructor : null;\n    if (constructor != null && "$metadata$" in constructor) {\n        var metadata =
constructor.$metadata$;\n        if (metadata.kind === Kotlin.Kind.OBJECT) {\n            return object === klass;\n        }\n    }\n    var classMetadata = klass.$metadata$;\n    // In WebKit (JavaScriptCore) for some interfaces from
DOM typeof returns "object", nevertheless they can be used in RHS of instanceof\n    if (classMetadata == null) {\n
return object instanceof klass;\n    }\n    if (classMetadata.kind === Kotlin.Kind.INTERFACE &&
object.constructor != null) {\n        return isInheritanceFromInterface(object.constructor, klass);\n    }\n    return
false;\n};\n\nKotlin.isNumber = function (a) {\n    return typeof a === "number" || a instanceof
Kotlin.Long;\n};\n\nKotlin.isChar = function (value) {\n    return value instanceof
Kotlin.BoxedChar;\n};\n\nKotlin.isComparable = function (value) {\n    var type = typeof value;\n    return type
=== "string" ||\n        type === "boolean" ||\n        Kotlin.isNumber(value) ||\n        Kotlin.isType(value,
Kotlin.kotlin.Comparable);\n};\n\nKotlin.isCharSequence = function (value) {\n    return typeof value === "string"
|| Kotlin.isType(value, Kotlin.kotlin.CharSequence);\n};\n\n/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under the
module\n\n@PublishedApi\nnexternal internal fun <T> Array(size: Int): Array<T>\n\n@JsName("newArray")\nfun
<T> newArray(size: Int, initialValue: T) = fillArrayVal(Array<T>(size),
initialValue)\n\n@JsName("newArrayF")\ninline fun <T> arrayWithFun(size: Int, init: (Int) -> T) =
fillArrayFun(Array<T>(size), init)\n\n@JsName("fillArray")\ninline fun <T> fillArrayFun(array: Array<T>, init:
(Int) -> T): Array<T> {\n    for (i in 0..array.size - 1) {\n        array[i] = init(i)\n    }\n    return
array\n}\n\n@JsName("booleanArray")\nfun booleanArray(size: Int, init: dynamic): Array<Boolean> {\n    val
result: dynamic = Array<Boolean>(size)\n    result.$type$ = "BooleanArray"\n    return when (init) {\n        null,
true -> fillArrayVal(result, false)\n        false -> result\n        else -> fillArrayFun<Boolean>(result, init)\n
}\n}\n\n@JsName("booleanArrayF")\ninline fun booleanArrayWithFun(size: Int, init: (Int) -> Boolean):
Array<Boolean> = fillArrayFun(booleanArray(size, false),

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init)\n\n@JsName("charArray")\n@Suppress("UNUSED_PARAMETER")\nfun charArray(size: Int, init:
dynamic): Array<Char> {\n    val result = js("new Uint16Array(size)")\n    result.`$type$` = "CharArray"\n
return when (init) {\n        null, true, false -> result // For consistency\n        else -> fillArrayFun<Char>(result,
init)\n    }\n}\n\n@JsName("charArrayF")\ninline fun charArrayWithFun(size: Int, init: (Int) -> Char):
Array<Char> {\n    val array = charArray(size, null)\n    for (i in 0..array.size - 1) {\n
@Suppress("UNUSED_VARIABLE") // used in js block\n        val value = init(i)\n        js("array[i] = value;")\n
}\n    return array\n}\n\n@JsName("untypedCharArrayF")\ninline fun untypedCharArrayWithFun(size: Int, init:
(Int) -> Char): Array<Char> {\n    val array = Array<Char>(size)\n    for (i in 0..array.size - 1) {\n
@Suppress("UNUSED_VARIABLE") // used in js block\n        val value = init(i)\n        js("array[i] = value;")\n
}\n    return array\n}\n\n@JsName("longArray")\nfun longArray(size: Int, init: dynamic): Array<Long> {\n    val
result: dynamic = Array<Long>(size)\n    result.`$type$` = "LongArray"\n    return when (init) {\n        null, true ->
fillArrayVal(result, 0L)\n        false -> result\n        else -> fillArrayFun<Long>(result, init)\n
}\n}\n\n@JsName("longArrayF")\ninline fun longArrayWithFun(size: Int, init: (Int) -> Long): Array<Long> =
fillArrayFun(longArray(size, false), init)\n\nprivate fun <T> fillArrayVal(array: Array<T>, initialValue: T): Array<T>
{\n    for (i in 0..array.size - 1) {\n        array[i] = initialValue\n    }\n    return array\n}", "/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\npublic class
Enum<T> : Enum<T>> : Comparable<Enum<T>> {\n    @JsName("name$") private var _name: String = ""\n
@JsName("ordinal$") private var _ordinal: Int = 0\n    val name: String\n        get() = _name\n    val ordinal:
Int\n        get() = _ordinal\n    override fun compareTo(other: Enum<T>) = ordinal.compareTo(other.ordinal)\n\n
override fun equals(other: Any?) = this === other\n    override fun hashCode(): Int =
js("Kotlin.identityHashCode")(this)\n    override fun toString() = name\n    companion object\n}", "/*\n *
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js.internal\n\n@JsName("DoubleCompanionObject")\ninternal object DoubleCompanionObject {\n
@JsName("MIN_VALUE")\n    const val MIN_VALUE: Double = 4.9E-324\n\n
@JsName("MAX_VALUE")\n    const val MAX_VALUE: Double = 1.7976931348623157E308\n\n
@JsName("POSITIVE_INFINITY")\n    @Suppress("DIVISION_BY_ZERO")\n    const val
POSITIVE_INFINITY: Double = 1.0 / 0.0\n\n
@JsName("NEGATIVE_INFINITY")\n    @Suppress("DIVISION_BY_ZERO")\n    const val NEGATIVE_INFINITY: Double = -1.0 / 0.0\n\n
@JsName("NaN")\n    @Suppress("DIVISION_BY_ZERO")\n    const val NaN: Double = -(0.0 / 0.0)\n\n
@JsName("SIZE_BYTES")\n    const val SIZE_BYTES = 8\n\n
@JsName("SIZE_BITS")\n    const val
SIZE_BITS = 64\n}\n\n@JsName("FloatCompanionObject")\ninternal object FloatCompanionObject {\n
@JsName("MIN_VALUE")\n    const val MIN_VALUE: Float = 1.4E-45F\n\n
@JsName("MAX_VALUE")\n    const val MAX_VALUE: Float = 3.4028235E38F\n\n
@JsName("POSITIVE_INFINITY")\n    @Suppress("DIVISION_BY_ZERO")\n    const val POSITIVE_INFINITY: Float = 1.0F / 0.0F\n\n
@JsName("NEGATIVE_INFINITY")\n    @Suppress("DIVISION_BY_ZERO")\n    const val
NEGATIVE_INFINITY: Float = -1.0F / 0.0F\n\n
@JsName("NaN")\n    @Suppress("DIVISION_BY_ZERO")\n    const val NaN: Float = -(0.0F / 0.0F)\n\n
@JsName("SIZE_BYTES")\n    const val SIZE_BYTES = 4\n\n
@JsName("SIZE_BITS")\n    const val
SIZE_BITS = 32\n}\n\n@JsName("IntCompanionObject")\ninternal object IntCompanionObject {\n
@JsName("MIN_VALUE")\n    val MIN_VALUE: Int = -2147483647 - 1\n\n
@JsName("MAX_VALUE")\n    val MAX_VALUE: Int = 2147483647\n\n
@JsName("SIZE_BYTES")\n    const val SIZE_BYTES = 4\n\n
@JsName("SIZE_BITS")\n    const val SIZE_BITS = 32\n}\n\n@JsName("LongCompanionObject")\ninternal
object LongCompanionObject {\n    @JsName("MIN_VALUE")\n    val MIN_VALUE: Long =
js("Kotlin.Long.MIN_VALUE")\n\n
@JsName("MAX_VALUE")\n    val MAX_VALUE: Long =
js("Kotlin.Long.MAX_VALUE")\n\n
@JsName("SIZE_BYTES")\n    const val SIZE_BYTES = 8\n\n
@JsName("SIZE_BITS")\n    const val SIZE_BITS = 64\n}\n\n@JsName("ShortCompanionObject")\ninternal

```

```

object ShortCompanionObject {
    @JsName("MIN_VALUE") val MIN_VALUE: Short = -32768
    @JsName("MAX_VALUE") val MAX_VALUE: Short = 32767
    @JsName("SIZE_BYTES") const val SIZE_BYTES = 2
    @JsName("SIZE_BITS") const val SIZE_BITS = 16
}

@JsName("ByteCompanionObject") internal object ByteCompanionObject {
    @JsName("MIN_VALUE") val MIN_VALUE: Byte = -128
    @JsName("MAX_VALUE") val MAX_VALUE: Byte = 127
    @JsName("SIZE_BYTES") const val SIZE_BYTES = 1
    @JsName("SIZE_BITS") const val SIZE_BITS = 8
}

@JsName("CharCompanionObject") internal object CharCompanionObject {
    @JsName("MIN_VALUE") public const val MIN_VALUE: Char = '\u0000'
    @JsName("MAX_VALUE") public const val MAX_VALUE: Char = '\uFFFF'
    @JsName("MIN_HIGH_SURROGATE") public const val MIN_HIGH_SURROGATE: Char = '\uD800'
    @JsName("MAX_HIGH_SURROGATE") public const val MAX_HIGH_SURROGATE: Char = '\uDBFF'
    @JsName("MIN_LOW_SURROGATE") public const val MIN_LOW_SURROGATE: Char = '\uDC00'
    @JsName("MAX_LOW_SURROGATE") public const val MAX_LOW_SURROGATE: Char = '\uDFFF'
    @JsName("MIN_SURROGATE") public const val MIN_SURROGATE: Char = MIN_HIGH_SURROGATE
    @JsName("MAX_SURROGATE") public const val MAX_SURROGATE: Char = MAX_LOW_SURROGATE
    @JsName("SIZE_BYTES") const val SIZE_BYTES = 2
    @JsName("SIZE_BITS") const val SIZE_BITS = 16
}

internal object StringCompanionObject {}

internal object BooleanCompanionObject {}

/*
 * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */

@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("ArraysKt")
package kotlin.collections

// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt
// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib
import kotlin.random.*
import kotlin.ranges.contains
import kotlin.ranges.reversed

/**
 * Returns 1st element from the array.
 * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.
 */
@kotlin.internal.InlineOnly
public inline operator fun <T> Array<out T>.component1(): T {
    return get(0)
}

/**
 * Returns 1st element from the array.
 * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.
 */
@kotlin.internal.InlineOnly
public inline operator fun ByteArray.component1(): Byte {
    return get(0)
}

/**
 * Returns 1st element from the array.
 * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.
 */
@kotlin.internal.InlineOnly
public inline operator fun ShortArray.component1(): Short {
    return get(0)
}

/**
 * Returns 1st element from the array.
 * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.
 */
@kotlin.internal.InlineOnly
public inline operator fun IntArray.component1(): Int {
    return get(0)
}

/**
 * Returns 1st element from the array.
 * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.
 */
@kotlin.internal.InlineOnly
public inline operator fun LongArray.component1(): Long {
    return get(0)
}

/**
 * Returns 1st element from the array.
 * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.
 */
@kotlin.internal.InlineOnly
public inline operator fun FloatArray.component1(): Float {
    return get(0)
}

/**
 * Returns 1st element from the array.
 * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.
 */
@kotlin.internal.InlineOnly
public inline operator fun DoubleArray.component1(): Double {
    return get(0)
}

/**
 * Returns 1st element from the array.
 * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.
 */
@kotlin.internal.InlineOnly
public inline operator fun BooleanArray.component1(): Boolean {
    return get(0)
}

```

[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component1(): Char {\n    return\n    get(0)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component2(): T {\n    return\n    get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component2(): Byte {\n    return\n    get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component2(): Short {\n    return\n    get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component2(): Int {\n    return\n    get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component2(): Long {\n    return\n    get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component2(): Float {\n    return\n    get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component2(): Double {\n    return\n    get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component2(): Boolean {\n    return\n    get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component2(): Char {\n    return\n    get(1)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component3(): T {\n    return\n    get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component3(): Byte {\n    return\n    get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component3(): Short {\n    return\n    get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component3(): Int {\n    return\n    get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component3(): Long {\n    return\n    get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component3(): Float {\n    return\n    get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
```


[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component3(): Double {\n    return\n    get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component3(): Boolean {\n    return\n    get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component3(): Char {\n    return\n    get(2)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component4(): T {\n    return\n    get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component4(): Byte {\n    return\n    get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component4(): Short {\n    return\n    get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component4(): Int {\n    return\n    get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component4(): Long {\n    return\n    get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component4(): Float {\n    return\n    get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component4(): Double {\n    return\n    get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component4(): Boolean {\n    return\n    get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component4(): Char {\n    return\n    get(3)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component5(): T {\n    return\n    get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component5(): Byte {\n    return\n    get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component5(): Short {\n    return\n    get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an\n [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component5(): Int {\n    return\n    get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
```

[IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.

```

*^@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component5(): Long {\n    return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component5(): Float {\n    return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component5(): Double {\n    return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component5(): Boolean {\n    return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component5(): Char {\n    return
get(4)\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n\npublic operator fun
<@kotlin.internal.OnlyInputTypes T> Array<out T>.contains(element: T): Boolean {\n    return indexOf(element)
>= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n\npublic operator fun
ByteArray.contains(element: Byte): Boolean {\n    return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if
[element] is found in the array.\n */\n\npublic operator fun ShortArray.contains(element: Short): Boolean {\n    return
indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n\npublic operator fun
IntArray.contains(element: Int): Boolean {\n    return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if
[element] is found in the array.\n */\n\npublic operator fun LongArray.contains(element: Long): Boolean {\n    return
indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n\n@Deprecated("The
function has unclear behavior when searching for NaN or zero values and will be removed soon. Use 'any { it ==
element }' instead to continue using this behavior, or '.asList().contains(element: T)' to get the same search behavior
as in a list.", ReplaceWith("any { it == element }"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.6")\n@Suppress("DEPRECATION_ERROR")\npublic operator fun FloatArray.contains(element: Float):
Boolean {\n    return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n
*/\n\n@Deprecated("The function has unclear behavior when searching for NaN or zero values and will be removed
soon. Use 'any { it == element }' instead to continue using this behavior, or '.asList().contains(element: T)' to get the
same search behavior as in a list.", ReplaceWith("any { it == element
}"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.6")\n@Suppress("DEPRECATION_ERROR")\npublic operator fun DoubleArray.contains(element: Double):
Boolean {\n    return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n
*/\n\npublic operator fun BooleanArray.contains(element: Boolean): Boolean {\n    return indexOf(element) >=
0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n\npublic operator fun
CharArray.contains(element: Char): Boolean {\n    return indexOf(element) >= 0\n}\n\n/**\n * Returns an element
at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n *
@sample samples.collections.Collections.Elements.elementAt\n */\n\npublic expect fun <T> Array<out
T>.elementAt(index: Int): T\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n */\n\npublic expect fun ByteArray.elementAt(index: Int):
Byte\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n\npublic
expect fun ShortArray.elementAt(index: Int): Short\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n */\n\npublic expect fun IntArray.elementAt(index: Int):
Int\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is

```

out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun LongArray.elementAt(index: Int): Long\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun FloatArray.elementAt(index: Int): Float\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun DoubleArray.elementAt(index: Int): Double\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun BooleanArray.elementAt(index: Int): Boolean\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun CharArray.elementAt(index: Int): Char\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Byte): Byte {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Short): Short {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Int): Int {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Long): Long {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Float): Float {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Double): Double {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Boolean): Boolean {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Char): Char {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the

[index] is out of bounds of this array.\n * \n * @sample

```

samples.collections.Collections.Elements.elementAtOrNull\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Array<out T>.elementAtOrNull(index: Int): T? {\n  return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.elementAtOrNull(index: Int): Byte? {\n  return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.elementAtOrNull(index: Int): Short? {\n  return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.elementAtOrNull(index: Int): Int? {\n  return this.getOrNull(index)\n}\n\n/**\n * Returns an element at
the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.elementAtOrNull(index: Int): Long? {\n  return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.elementAtOrNull(index: Int): Float? {\n  return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.elementAtOrNull(index: Int): Double? {\n  return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.elementAtOrNull(index: Int): Boolean? {\n  return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.elementAtOrNull(index: Int): Char? {\n  return this.getOrNull(index)\n}\n\n/**\n * Returns the first
element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *^\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out
T>.find(predicate: (T) -> Boolean): T? {\n  return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element
matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.find(predicate: (Byte) -> Boolean): Byte? {\n  return firstOrNull(predicate)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.find(predicate: (Short) -> Boolean): Short? {\n  return firstOrNull(predicate)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.find(predicate: (Int) -> Boolean): Int? {\n  return firstOrNull(predicate)\n}\n\n/**\n * Returns the first
element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.find(predicate: (Long) -> Boolean): Long? {\n  return firstOrNull(predicate)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.find(predicate: (Float) -> Boolean): Float? {\n  return firstOrNull(predicate)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.find(predicate: (Double) -> Boolean): Double? {\n  return firstOrNull(predicate)\n}\n\n/**\n *

```

Returns the first element matching the given [predicate], or `null` if no such element was found.

```

samples.collections.Collections.Elements.find
BooleanArray.find(predicate: (Boolean) -> Boolean): Boolean? {
    return firstOrNull(predicate)
}
Returns the first element matching the given [predicate], or `null` if no such element was found.
CharArray.find(predicate: (Char) -> Boolean): Char? {
    return firstOrNull(predicate)
}
Returns the last element matching the given [predicate], or `null` if no such element was found.
<T> Array<out T>.findLast(predicate: (T) -> Boolean): T? {
    return lastOrNull(predicate)
}
Returns the last element matching the given [predicate], or `null` if no such element was found.
ByteArray.findLast(predicate: (Byte) -> Boolean): Byte? {
    return lastOrNull(predicate)
}
Returns the last element matching the given [predicate], or `null` if no such element was found.
ShortArray.findLast(predicate: (Short) -> Boolean): Short? {
    return lastOrNull(predicate)
}
Returns the last element matching the given [predicate], or `null` if no such element was found.
IntArray.findLast(predicate: (Int) -> Boolean): Int? {
    return lastOrNull(predicate)
}
Returns the last element matching the given [predicate], or `null` if no such element was found.
LongArray.findLast(predicate: (Long) -> Boolean): Long? {
    return lastOrNull(predicate)
}
Returns the last element matching the given [predicate], or `null` if no such element was found.
FloatArray.findLast(predicate: (Float) -> Boolean): Float? {
    return lastOrNull(predicate)
}
Returns the last element matching the given [predicate], or `null` if no such element was found.
DoubleArray.findLast(predicate: (Double) -> Boolean): Double? {
    return lastOrNull(predicate)
}
Returns the last element matching the given [predicate], or `null` if no such element was found.
BooleanArray.findLast(predicate: (Boolean) -> Boolean): Boolean? {
    return lastOrNull(predicate)
}
Returns the last element matching the given [predicate], or `null` if no such element was found.
CharArray.findLast(predicate: (Char) -> Boolean): Char? {
    return lastOrNull(predicate)
}
Returns first element.
@throws [NoSuchElementException] if the array is empty.
<T> Array<out T>.first(): T {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
Returns first element.
@throws [NoSuchElementException] if the array is empty.
public fun ByteArray.first(): Byte {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
Returns first element.
@throws [NoSuchElementException] if the array is empty.
public fun ShortArray.first(): Short {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
Returns first element.
@throws [NoSuchElementException] if the array is empty.
public fun IntArray.first(): Int {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
Returns first element.
@throws [NoSuchElementException] if the array is empty.
public fun LongArray.first(): Long {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
Returns first element.
@throws [NoSuchElementException] if the array is empty.
public fun FloatArray.first(): Float {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
Returns first element.
@throws [NoSuchElementException] if the array is empty.
public fun DoubleArray.first(): Double {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
}

```


Returns the first element, or `null` if the array is empty.

```

    * public fun <T> Array<out T>.firstOrNull(): T? {
    return if (isEmpty()) null else this[0]
    }
    * Returns the first element, or `null` if the array is empty.
    * public fun ByteArray.firstOrNull(): Byte? {
    return if (isEmpty()) null else this[0]
    }
    * Returns the first element, or `null` if the array is empty.
    * public fun ShortArray.firstOrNull(): Short? {
    return if (isEmpty()) null else this[0]
    }
    * Returns the first element, or `null` if the array is empty.
    * public fun IntArray.firstOrNull(): Int? {
    return if (isEmpty()) null else this[0]
    }
    * Returns the first element, or `null` if the array is empty.
    * public fun LongArray.firstOrNull(): Long? {
    return if (isEmpty()) null else this[0]
    }
    * Returns the first element, or `null` if the array is empty.
    * public fun FloatArray.firstOrNull(): Float? {
    return if (isEmpty()) null else this[0]
    }
    * Returns the first element, or `null` if the array is empty.
    * public fun DoubleArray.firstOrNull(): Double? {
    return if (isEmpty()) null else this[0]
    }
    * Returns the first element, or `null` if the array is empty.
    * public fun BooleanArray.firstOrNull(): Boolean? {
    return if (isEmpty()) null else this[0]
    }
    * Returns the first element, or `null` if the array is empty.
    * public fun CharArray.firstOrNull(): Char? {
    return if (isEmpty()) null else this[0]
    }
    * Returns the first element matching the given [predicate], or `null` if element was not found.
    * public inline fun <T> Array<out T>.firstOrNull(predicate: (T) -> Boolean): T? {
    for (element in this) if (predicate(element)) return element
    return null
    }
    * Returns the first element matching the given [predicate], or `null` if element was not found.
    * public inline fun ByteArray.firstOrNull(predicate: (Byte) -> Boolean): Byte? {
    for (element in this) if (predicate(element)) return element
    return null
    }
    * Returns the first element matching the given [predicate], or `null` if element was not found.
    * public inline fun ShortArray.firstOrNull(predicate: (Short) -> Boolean): Short? {
    for (element in this) if (predicate(element)) return element
    return null
    }
    * Returns the first element matching the given [predicate], or `null` if element was not found.
    * public inline fun IntArray.firstOrNull(predicate: (Int) -> Boolean): Int? {
    for (element in this) if (predicate(element)) return element
    return null
    }
    * Returns the first element matching the given [predicate], or `null` if element was not found.
    * public inline fun LongArray.firstOrNull(predicate: (Long) -> Boolean): Long? {
    for (element in this) if (predicate(element)) return element
    return null
    }
    * Returns the first element matching the given [predicate], or `null` if element was not found.
    * public inline fun FloatArray.firstOrNull(predicate: (Float) -> Boolean): Float? {
    for (element in this) if (predicate(element)) return element
    return null
    }
    * Returns the first element matching the given [predicate], or `null` if element was not found.
    * public inline fun DoubleArray.firstOrNull(predicate: (Double) -> Boolean): Double? {
    for (element in this) if (predicate(element)) return element
    return null
    }
    * Returns the first element matching the given [predicate], or `null` if element was not found.
    * public inline fun BooleanArray.firstOrNull(predicate: (Boolean) -> Boolean): Boolean? {
    for (element in this) if (predicate(element)) return element
    return null
    }
    * Returns the first element matching the given [predicate], or `null` if element was not found.
    * public inline fun CharArray.firstOrNull(predicate: (Char) -> Boolean): Char? {
    for (element in this) if (predicate(element)) return element
    return null
    }
    * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.
    * @kotlin.internal.InlineOnly
    * public inline fun <T> Array<out T>.getOrNull(index: Int, defaultValue: (Int) -> T): T? {
    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)
    }
    * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.
    * @kotlin.internal.InlineOnly
    * public inline fun ByteArray.getOrNull(index: Int, defaultValue: (Int) -> Byte): Byte? {
    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)
    }
    * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.
    * @kotlin.internal.InlineOnly
    * public inline fun ShortArray.getOrNull(index: Int, defaultValue: (Int) -> Short): Short? {
    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)
    }
    * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.
    * @kotlin.internal.InlineOnly
    * public inline fun IntArray.getOrNull(index: Int, defaultValue: (Int) -> Int): Int? {
    return if (index >= 0 && index <= lastIndex)

```

```

get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the
[defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline
fun LongArray.getOrNull(index: Int): Long? {\n    return if (index >= 0 && index <=
lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.getOrNull(index: Int, defaultValue: (Int) -> Float):
Float? {\n    return if (index >= 0 && index <= lastIndex) get(index) else
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.getOrNull(index: Int, defaultValue:
(Int) -> Double): Double? {\n    return if (index >= 0 && index <= lastIndex)
get(index) else
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.getOrNull(index: Int, defaultValue: (Int) -> Boolean): Boolean? {\n    return if (index >= 0 && index <=
lastIndex) get(index) else
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result
of calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.getOrNull(index: Int, defaultValue: (Int) -> Char):
Char? {\n    return if (index >= 0 && index <= lastIndex) get(index) else
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun <T> Array<out T>.getOrNull(index: Int): T?
{\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the
given [index] or `null` if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun ByteArray.getOrNull(index: Int): Byte? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given
[index] or `null` if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun ShortArray.getOrNull(index: Int): Short? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given
[index] or `null` if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun IntArray.getOrNull(index: Int): Int? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given
[index] or `null` if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun LongArray.getOrNull(index: Int): Long? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given
[index] or `null` if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun FloatArray.getOrNull(index: Int): Float? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given
[index] or `null` if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun DoubleArray.getOrNull(index: Int): Double?
{\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the
given [index] or `null` if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun BooleanArray.getOrNull(index: Int): Boolean?
{\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the
given [index] or `null` if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun CharArray.getOrNull(index: Int): Char? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of [element], or
-1 if the array does not contain element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Array<out
T>.indexOf(element: T): Int {\n    if (element == null) {\n        for (index in indices) {\n            if (this[index] ==
null) {\n                return index\n            }\n        }\n    } else {\n        for (index in indices) {\n            if (element ==
this[index]) {\n                return index\n            }\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of

```



```

[element], or -1 if the array does not contain element.\n */\npublic fun ByteArray.indexOf(element: Byte): Int {\n
for (index in indices) {\n    if (element == this[index]) {\n        return index\n    }\n }\n return -
1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun
ShortArray.indexOf(element: Short): Int {\n    for (index in indices) {\n        if (element == this[index]) {\n
return index\n    }\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not
contain element.\n */\npublic fun IntArray.indexOf(element: Int): Int {\n    for (index in indices) {\n        if (element
== this[index]) {\n            return index\n        }\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or
-1 if the array does not contain element.\n */\npublic fun LongArray.indexOf(element: Long): Int {\n    for (index in
indices) {\n        if (element == this[index]) {\n            return index\n        }\n }\n return -1\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n */\n@Deprecated("The function has unclear
behavior when searching for NaN or zero values and will be removed soon. Use 'indexOfFirst { it == element }'
instead to continue using this behavior, or '.asList().indexOf(element: T)' to get the same search behavior as in a
list.", ReplaceWith("indexOfFirst { it == element }"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.6")\npublic fun FloatArray.indexOf(element: Float): Int {\n    for (index in indices) {\n        if
(element == this[index]) {\n            return index\n        }\n }\n return -1\n}\n\n/**\n * Returns first index of
[element], or -1 if the array does not contain element.\n */\n@Deprecated("The function has unclear behavior when
searching for NaN or zero values and will be removed soon. Use 'indexOfFirst { it == element }' instead to continue
using this behavior, or '.asList().indexOf(element: T)' to get the same search behavior as in a list.",
ReplaceWith("indexOfFirst { it == element }"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.6")\npublic fun DoubleArray.indexOf(element: Double): Int {\n    for (index in indices) {\n        if (element ==
this[index]) {\n            return index\n        }\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or -1 if
the array does not contain element.\n */\npublic fun BooleanArray.indexOf(element: Boolean): Int {\n    for (index
in indices) {\n        if (element == this[index]) {\n            return index\n        }\n }\n return -1\n}\n\n/**\n *
Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun
CharArray.indexOf(element: Char): Int {\n    for (index in indices) {\n        if (element == this[index]) {\n
return index\n    }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given
[predicate], or -1 if the array does not contain such element.\n */\npublic inline fun <T> Array<out
T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n    for (index in indices) {\n        if (predicate(this[index])) {\n
return index\n    }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given
[predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ByteArray.indexOfFirst(predicate: (Byte) -> Boolean): Int {\n    for (index in indices) {\n        if
(predicate(this[index])) {\n            return index\n        }\n }\n return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ShortArray.indexOfFirst(predicate: (Short) -> Boolean): Int {\n    for (index in indices) {\n        if
(predicate(this[index])) {\n            return index\n        }\n }\n return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
IntArray.indexOfFirst(predicate: (Int) -> Boolean): Int {\n    for (index in indices) {\n        if (predicate(this[index]))
{\n            return index\n        }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the
given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
LongArray.indexOfFirst(predicate: (Long) -> Boolean): Int {\n    for (index in indices) {\n        if
(predicate(this[index])) {\n            return index\n        }\n }\n return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
FloatArray.indexOfFirst(predicate: (Float) -> Boolean): Int {\n    for (index in indices) {\n        if
(predicate(this[index])) {\n            return index\n        }\n }\n return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
DoubleArray.indexOfFirst(predicate: (Double) -> Boolean): Int {\n    for (index in indices) {\n        if
(predicate(this[index])) {\n            return index\n        }\n }\n return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun

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BooleanArray.indexOfFirst(predicate: (Boolean) -> Boolean): Int {\n  for (index in indices) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
CharArray.indexOfFirst(predicate: (Char) -> Boolean): Int {\n  for (index in indices) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun <T>
Array<out T>.indexOfLast(predicate: (T) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ByteArray.indexOfLast(predicate: (Byte) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ShortArray.indexOfLast(predicate: (Short) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
IntArray.indexOfLast(predicate: (Int) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
LongArray.indexOfLast(predicate: (Long) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
FloatArray.indexOfLast(predicate: (Float) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
DoubleArray.indexOfLast(predicate: (Double) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
BooleanArray.indexOfLast(predicate: (Boolean) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
CharArray.indexOfLast(predicate: (Char) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns the last element.\n */
\n * @throws NoSuchElementException if the array is empty.\n */\n\n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun <T> Array<out T>.last(): T {\n  if (isEmpty())\n  throw NoSuchElementException("Array is empty.")\n  return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n */\n\n * @throws NoSuchElementException if the array is empty.\n */\n\n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun ByteArray.last(): Byte {\n  if (isEmpty())\n  throw NoSuchElementException("Array is empty.")\n  return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n */\n\n * @throws NoSuchElementException if the array is empty.\n */\n\n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun ShortArray.last(): Short {\n  if (isEmpty())\n  throw NoSuchElementException("Array is empty.")\n  return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n */\n\n * @throws NoSuchElementException if the array is empty.\n */\n\n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun IntArray.last(): Int {\n  if (isEmpty())\n  throw
NoSuchElementException("Array is empty.")\n  return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n */
\n * @throws NoSuchElementException if the array is empty.\n */\n\n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun LongArray.last(): Long {\n  if (isEmpty())\n  throw
NoSuchElementException("Array is empty.")\n  return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n */\n\n * @throws NoSuchElementException if the array is empty.\n */\n\n * @sample

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samples.collections.Collections.Elements.last\n *^/npublic fun FloatArray.last(): Float {\n  if (isEmpty())\n  throw NoSuchElementException("Array is empty.")\n  return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n *^/npublic fun DoubleArray.last(): Double {\n  if (isEmpty())\n  throw NoSuchElementException("Array is empty.")\n  return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n *^/npublic fun BooleanArray.last(): Boolean {\n  if (isEmpty())\n  throw NoSuchElementException("Array is empty.")\n  return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n *^/npublic fun CharArray.last(): Char {\n  if (isEmpty())\n  throw NoSuchElementException("Array is empty.")\n  return this[lastIndex]\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n *^/npublic inline fun <T> Array<out T>.last(predicate: (T) -> Boolean): T {\n  for (index in this.indices.reversed()) {\n    val element = this[index]\n    if (predicate(element)) return element\n  }\n  throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n *^/npublic inline fun ByteArray.last(predicate: (Byte) -> Boolean): Byte {\n  for (index in this.indices.reversed()) {\n    val element = this[index]\n    if (predicate(element)) return element\n  }\n  throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n *^/npublic inline fun ShortArray.last(predicate: (Short) -> Boolean): Short {\n  for (index in this.indices.reversed()) {\n    val element = this[index]\n    if (predicate(element)) return element\n  }\n  throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n *^/npublic inline fun IntArray.last(predicate: (Int) -> Boolean): Int {\n  for (index in this.indices.reversed()) {\n    val element = this[index]\n    if (predicate(element)) return element\n  }\n  throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n *^/npublic inline fun LongArray.last(predicate: (Long) -> Boolean): Long {\n  for (index in this.indices.reversed()) {\n    val element = this[index]\n    if (predicate(element)) return element\n  }\n  throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n *^/npublic inline fun FloatArray.last(predicate: (Float) -> Boolean): Float {\n  for (index in this.indices.reversed()) {\n    val element = this[index]\n    if (predicate(element)) return element\n  }\n  throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n *^/npublic inline fun DoubleArray.last(predicate: (Double) -> Boolean): Double {\n  for (index in this.indices.reversed()) {\n    val element = this[index]\n    if (predicate(element)) return element\n  }\n  throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n *^/npublic inline fun BooleanArray.last(predicate: (Boolean) ->

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Boolean): Boolean {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}
}

* Returns the last element matching the given [predicate].
* @throws NoSuchElementException if no such element is found.
* @sample
samples.collections.Collections.Elements.last

* /public inline fun CharArray.last(predicate: (Char) -> Boolean): Char {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}

* Returns last index of [element], or -1 if the array does not contain element.
* /public fun <@kotlin.internal.OnlyInputTypes T> Array<out T>.lastIndexOf(element: T): Int {
    if (element == null) {
        for (index in indices.reversed()) {
            if (this[index] == null) {
                return index
            }
        }
    } else {
        for (index in indices.reversed()) {
            if (element == this[index]) {
                return index
            }
        }
    }
    return -1
}

* Returns last index of [element], or -1 if the array does not contain element.
* /public fun ByteArray.lastIndexOf(element: Byte): Int {
    for (index in indices.reversed()) {
        if (element == this[index]) {
            return index
        }
    }
    return -1
}

* Returns last index of [element], or -1 if the array does not contain element.
* /public fun ShortArray.lastIndexOf(element: Short): Int {
    for (index in indices.reversed()) {
        if (element == this[index]) {
            return index
        }
    }
    return -1
}

* Returns last index of [element], or -1 if the array does not contain element.
* /public fun IntArray.lastIndexOf(element: Int): Int {
    for (index in indices.reversed()) {
        if (element == this[index]) {
            return index
        }
    }
    return -1
}

* Returns last index of [element], or -1 if the array does not contain element.
* /public fun LongArray.lastIndexOf(element: Long): Int {
    for (index in indices.reversed()) {
        if (element == this[index]) {
            return index
        }
    }
    return -1
}

* Returns last index of [element], or -1 if the array does not contain element.
* /@Deprecated("The function has unclear behavior when searching for NaN or zero values and will be removed soon. Use 'indexOfLast { it == element }' instead to continue using this behavior, or '.asList().lastIndexOf(element: T)' to get the same search behavior as in a list.")
* ReplaceWith("indexOfLast { it == element }")
* /@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")
* /public fun FloatArray.lastIndexOf(element: Float): Int {
    for (index in indices.reversed()) {
        if (element == this[index]) {
            return index
        }
    }
    return -1
}

* Returns last index of [element], or -1 if the array does not contain element.
* /@Deprecated("The function has unclear behavior when searching for NaN or zero values and will be removed soon. Use 'indexOfLast { it == element }' instead to continue using this behavior, or '.asList().lastIndexOf(element: T)' to get the same search behavior as in a list.")
* ReplaceWith("indexOfLast { it == element }")
* /@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")
* /public fun DoubleArray.lastIndexOf(element: Double): Int {
    for (index in indices.reversed()) {
        if (element == this[index]) {
            return index
        }
    }
    return -1
}

* Returns last index of [element], or -1 if the array does not contain element.
* /public fun BooleanArray.lastIndexOf(element: Boolean): Int {
    for (index in indices.reversed()) {
        if (element == this[index]) {
            return index
        }
    }
    return -1
}

* Returns last index of [element], or -1 if the array does not contain element.
* /public fun CharArray.lastIndexOf(element: Char): Int {
    for (index in indices.reversed()) {
        if (element == this[index]) {
            return index
        }
    }
    return -1
}

* Returns the last element, or `null` if the array is empty.
* @sample
samples.collections.Collections.Elements.last

* /public fun <T> Array<out T>.lastOrNull(): T? {
    return if (isEmpty()) null else this[size - 1]
}

* Returns the last element, or `null` if the array is empty.
* @sample
samples.collections.Collections.Elements.last

* /public fun ByteArray.lastOrNull(): Byte? {
    return if (isEmpty()) null else this[size - 1]
}

* Returns the last element, or `null` if the array is empty.
* @sample
samples.collections.Collections.Elements.last

* /public fun ShortArray.lastOrNull(): Short? {
    return if (isEmpty()) null else this[size - 1]
}

* Returns the last element, or `null` if the array is empty.
* @sample
samples.collections.Collections.Elements.last

* /public fun IntArray.lastOrNull(): Int? {
    return if (isEmpty()) null else this[size - 1]
}

* Returns the last element, or `null` if the array is empty.
* @sample
samples.collections.Collections.Elements.last

* /public fun LongArray.lastOrNull(): Long? {
    return

```

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if (isEmpty()) null else this[size - 1]\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n */\npublic fun FloatArray.lastOrNull(): Float? {\n return
if (isEmpty()) null else this[size - 1]\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n */\npublic fun DoubleArray.lastOrNull(): Double? {\n
return if (isEmpty()) null else this[size - 1]\n\n/**\n * Returns the last element, or `null` if the array is empty.\n *
\n * @sample samples.collections.Collections.Elements.last\n */\npublic fun BooleanArray.lastOrNull(): Boolean?
{\n return if (isEmpty()) null else this[size - 1]\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun <T> Array<out T>.lastOrNull(predicate: (T) ->
Boolean): T? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun ByteArray.lastOrNull(predicate: (Byte) ->
Boolean): Byte? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun ShortArray.lastOrNull(predicate: (Short) ->
Boolean): Short? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun IntArray.lastOrNull(predicate: (Int) ->
Boolean): Int? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun LongArray.lastOrNull(predicate: (Long) ->
Boolean): Long? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun FloatArray.lastOrNull(predicate: (Float) ->
Boolean): Float? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun DoubleArray.lastOrNull(predicate: (Double) ->
Boolean): Double? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun BooleanArray.lastOrNull(predicate: (Boolean)
-> Boolean): Boolean? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun CharArray.lastOrNull(predicate: (Char) ->
Boolean): Char? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns a random element from this array.\n
\n * @throws NoSuchElementException if this array is empty.\n
\n * \n * @since Kotlin("1.3")\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.random(): T {\n
return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws

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NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
inline fun ByteArray.random(): Byte {\n    return random(Random)\n}\n\n/**\n * Returns a random element from
this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.random(): Short {\n    return
random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
inline fun IntArray.random(): Int {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this
array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n
@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.random(): Long {\n    return
random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
inline fun FloatArray.random(): Float {\n    return random(Random)\n}\n\n/**\n * Returns a random element from
this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n
@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.random(): Double {\n    return
random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
inline fun BooleanArray.random(): Boolean {\n    return random(Random)\n}\n\n/**\n * Returns a random element
from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n
@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.random(): Char {\n    return
random(Random)\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic
fun <T> Array<out T>.random(random: Random): T {\n    if (isEmpty())\n        throw
NoSuchElementException("Array is empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if
this array is empty.\n */\n@SinceKotlin("1.3")\npublic fun ByteArray.random(random: Random): Byte {\n    if
(isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic
fun ShortArray.random(random: Random): Short {\n    if (isEmpty())\n        throw
NoSuchElementException("Array is empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if
this array is empty.\n */\n@SinceKotlin("1.3")\npublic fun IntArray.random(random: Random): Int {\n    if
(isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic
fun LongArray.random(random: Random): Long {\n    if (isEmpty())\n        throw
NoSuchElementException("Array is empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if
this array is empty.\n */\n@SinceKotlin("1.3")\npublic fun FloatArray.random(random: Random): Float {\n    if
(isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic
fun DoubleArray.random(random: Random): Double {\n    if (isEmpty())\n        throw
NoSuchElementException("Array is empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if
this array is empty.\n */\n@SinceKotlin("1.3")\npublic fun BooleanArray.random(random: Random): Boolean {\n    if
(isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of

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randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic
fun CharArray.random(random: Random): Char {\n if (isEmpty())\n throw NoSuchElementException("Array
is empty.")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array, or `null` if
this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <T> Array<out T>.randomOrNull(): T? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun ByteArray.randomOrNull(): Byte? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random
element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun ShortArray.randomOrNull(): Short? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun IntArray.randomOrNull(): Int? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random
element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun LongArray.randomOrNull(): Long? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun FloatArray.randomOrNull(): Float? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun DoubleArray.randomOrNull(): Double? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun BooleanArray.randomOrNull(): Boolean? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun CharArray.randomOrNull(): Char? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array using the specified source of randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> Array<out
T>.randomOrNull(random: Random): T? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
ByteArray.randomOrNull(random: Random): Byte? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
ShortArray.randomOrNull(random: Random): Short? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
IntArray.randomOrNull(random: Random): Int? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun

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LongArray.randomOrNull(random: Random): Long? {\n  if (isEmpty())\n    return null\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
FloatArray.randomOrNull(random: Random): Float? {\n  if (isEmpty())\n    return null\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
DoubleArray.randomOrNull(random: Random): Double? {\n  if (isEmpty())\n    return null\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
BooleanArray.randomOrNull(random: Random): Boolean? {\n  if (isEmpty())\n    return null\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
CharArray.randomOrNull(random: Random): Char? {\n  if (isEmpty())\n    return null\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or
has more than one element.\n
*/\npublic fun <T> Array<out T>.single(): T {\n  return when (size) {\n    0 ->
throw NoSuchElementException("Array is empty.")\n    1 -> this[0]\n    else -> throw
IllegalArgumentException("Array has more than one element.")\n  }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*/\npublic fun ByteArray.single(): Byte
{\n  return when (size) {\n    0 -> throw NoSuchElementException("Array is empty.")\n    1 -> this[0]\n
else -> throw IllegalArgumentException("Array has more than one element.")\n  }\n}\n\n/**\n * Returns the
single element, or throws an exception if the array is empty or has more than one element.\n
*/\npublic fun ShortArray.single(): Short {\n  return when (size) {\n    0 -> throw NoSuchElementException("Array is
empty.")\n    1 -> this[0]\n    else -> throw IllegalArgumentException("Array has more than one element.")\n  }\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one
element.\n
*/\npublic fun IntArray.single(): Int {\n  return when (size) {\n    0 -> throw
NoSuchElementException("Array is empty.")\n    1 -> this[0]\n    else -> throw
IllegalArgumentException("Array has more than one element.")\n  }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*/\npublic fun LongArray.single(): Long
{\n  return when (size) {\n    0 -> throw NoSuchElementException("Array is empty.")\n    1 -> this[0]\n
else -> throw IllegalArgumentException("Array has more than one element.")\n  }\n}\n\n/**\n * Returns the
single element, or throws an exception if the array is empty or has more than one element.\n
*/\npublic fun FloatArray.single(): Float {\n  return when (size) {\n    0 -> throw NoSuchElementException("Array is
empty.")\n    1 -> this[0]\n    else -> throw IllegalArgumentException("Array has more than one element.")\n  }\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one
element.\n
*/\npublic fun DoubleArray.single(): Double {\n  return when (size) {\n    0 -> throw
NoSuchElementException("Array is empty.")\n    1 -> this[0]\n    else -> throw
IllegalArgumentException("Array has more than one element.")\n  }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*/\npublic fun BooleanArray.single():
Boolean {\n  return when (size) {\n    0 -> throw NoSuchElementException("Array is empty.")\n    1 ->
this[0]\n    else -> throw IllegalArgumentException("Array has more than one element.")\n  }\n}\n\n/**\n *
Returns the single element, or throws an exception if the array is empty or has more than one element.\n
*/\npublic fun CharArray.single(): Char {\n  return when (size) {\n    0 -> throw NoSuchElementException("Array is
empty.")\n    1 -> this[0]\n    else -> throw IllegalArgumentException("Array has more than one element.")\n  }\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or

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more than one matching element.\n *\npublic inline fun <T> Array<out T>.single(predicate: (T) -> Boolean): T {\n
var single: T? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if
(found) throw IllegalArgumentException("Array contains more than one matching element.")\n single =
element\n found = true\n } } if (!found) throw NoSuchElementException("Array contains no
element matching the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as T\n}\n\n/**\n *
Returns the single element matching the given [predicate], or throws exception if there is no or more than one
matching element.\n *\npublic inline fun ByteArray.single(predicate: (Byte) -> Boolean): Byte {\n var single:
Byte? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw
IllegalArgumentException("Array contains more than one matching element.")\n single = element\n
found = true\n } } if (!found) throw NoSuchElementException("Array contains no element matching
the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as Byte\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n *\npublic inline fun ShortArray.single(predicate: (Short) -> Boolean): Short {\n var single: Short? =
null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw
IllegalArgumentException("Array contains more than one matching element.")\n single = element\n
found = true\n } } if (!found) throw NoSuchElementException("Array contains no element matching
the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as Short\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n *\npublic inline fun IntArray.single(predicate: (Int) -> Boolean): Int {\n var single: Int? = null\n var
found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw
IllegalArgumentException("Array contains more than one matching element.")\n single = element\n
found = true\n } } if (!found) throw NoSuchElementException("Array contains no element matching
the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as Int\n}\n\n/**\n * Returns the single
element matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\npublic inline fun LongArray.single(predicate: (Long) -> Boolean): Long {\n var single: Long? = null\n var
found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw
IllegalArgumentException("Array contains more than one matching element.")\n single = element\n
found = true\n } } if (!found) throw NoSuchElementException("Array contains no element matching
the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as Long\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n *\npublic inline fun FloatArray.single(predicate: (Float) -> Boolean): Float {\n var single: Float? =
null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw
IllegalArgumentException("Array contains more than one matching element.")\n single = element\n
found = true\n } } if (!found) throw NoSuchElementException("Array contains no element matching
the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as Float\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n *\npublic inline fun DoubleArray.single(predicate: (Double) -> Boolean): Double {\n var single:
Double? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found)
throw IllegalArgumentException("Array contains more than one matching element.")\n single = element\n
found = true\n } } if (!found) throw NoSuchElementException("Array contains no element
matching the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as Double\n}\n\n/**\n *
Returns the single element matching the given [predicate], or throws exception if there is no or more than one
matching element.\n *\npublic inline fun BooleanArray.single(predicate: (Boolean) -> Boolean): Boolean {\n var
single: Boolean? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if
(found) throw IllegalArgumentException("Array contains more than one matching element.")\n single =
element\n found = true\n } } if (!found) throw NoSuchElementException("Array contains no
element matching the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as
Boolean\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no

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or more than one matching element.\n */\npublic inline fun CharArray.single(predicate: (Char) -> Boolean): Char
{\n    var single: Char? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("Array contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as Char\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun <T>
Array<out T>.singleOrNull(): T? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or
`null` if the array is empty or has more than one element.\n */\npublic fun ByteArray.singleOrNull(): Byte? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n */\npublic fun ShortArray.singleOrNull(): Short? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic
fun IntArray.singleOrNull(): Int? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element,
or `null` if the array is empty or has more than one element.\n */\npublic fun LongArray.singleOrNull(): Long? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n */\npublic fun FloatArray.singleOrNull(): Float? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic
fun DoubleArray.singleOrNull(): Double? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single
element, or `null` if the array is empty or has more than one element.\n */\npublic fun BooleanArray.singleOrNull():
Boolean? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is
empty or has more than one element.\n */\npublic fun CharArray.singleOrNull(): Char? {\n    return if (size == 1)
this[0] else null\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not
found or more than one element was found.\n */\npublic inline fun <T> Array<out T>.singleOrNull(predicate: (T) -
> Boolean): T? {\n    var single: T? = null\n    var found = false\n    for (element in this) {\n        if
(predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n
    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element matching the given [predicate],
or `null` if element was not found or more than one element was found.\n */\npublic inline fun
ByteArray.singleOrNull(predicate: (Byte) -> Boolean): Byte? {\n    var single: Byte? = null\n    var found = false\n
for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n
found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic
inline fun ShortArray.singleOrNull(predicate: (Short) -> Boolean): Short? {\n    var single: Short? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n
            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n
 * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element
was found.\n */\npublic inline fun IntArray.singleOrNull(predicate: (Int) -> Boolean): Int? {\n    var single: Int? = null\n
var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n
            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n
 * Returns the single element matching the given [predicate], or `null` if element was not found or more than one
element was found.\n */\npublic inline fun LongArray.singleOrNull(predicate: (Long) -> Boolean): Long? {\n    var
single: Long? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n           
if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n
return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found
or more than one element was found.\n */\npublic inline fun FloatArray.singleOrNull(predicate: (Float) -> Boolean):
Float? {\n    var single: Float? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element))
{\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return
null\n    return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element
was not found or more than one element was found.\n */\npublic inline fun DoubleArray.singleOrNull(predicate:
(Double) -> Boolean): Double? {\n    var single: Double? = null\n    var found = false\n    for (element in this) {\n

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if (predicate(element)) {\n        if (found) return null\n        single = element\n        found = true\n    }\n}\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given\n [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun\n BooleanArray.singleOrNull(predicate: (Boolean) -> Boolean): Boolean? {\n    var single: Boolean? = null\n    var\n found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single\n = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the\n single element matching the given [predicate], or `null` if element was not found or more than one element was\n found.\n */\npublic inline fun CharArray.singleOrNull(predicate: (Char) -> Boolean): Char? {\n    var single: Char?\n = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return\n null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return\n single\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws\n IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Array<out T>.drop(n: Int): List<T> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -\n n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws\n IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic fun ByteArray.drop(n: Int): List<Byte> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -\n n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws\n IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic fun ShortArray.drop(n: Int): List<Short> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -\n n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws\n IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic fun IntArray.drop(n: Int): List<Int> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -\n n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws\n IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic fun LongArray.drop(n: Int): List<Long> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -\n n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws\n IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic fun FloatArray.drop(n: Int): List<Float> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -\n n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws\n IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic fun DoubleArray.drop(n: Int): List<Double> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -\n n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws\n IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic fun BooleanArray.drop(n: Int): List<Boolean>\n {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -\n n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws\n IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic fun CharArray.drop(n: Int): List<Char> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -\n n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n */\n * @throws\n IllegalArgumentException if [n] is negative.\n */\n * @sample

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samples.collections.Collections.Transformations.drop\n *\npublic fun <T> Array<out T>.dropLast(n: Int): List<T>
{\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun ByteArray.dropLast(n: Int): List<Byte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun ShortArray.dropLast(n: Int): List<Short> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun IntArray.dropLast(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun LongArray.dropLast(n: Int): List<Long> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun FloatArray.dropLast(n: Int): List<Float> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun DoubleArray.dropLast(n: Int): List<Double>
{\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun BooleanArray.dropLast(n: Int):
List<Boolean> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun CharArray.dropLast(n: Int): List<Char> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun <T>
Array<out T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {\n  for (index in lastIndex downTo 0) {\n    if
(!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n/**\n * Returns
a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun ByteArray.dropLastWhile(predicate:
(Byte) -> Boolean): List<Byte> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n
return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun ShortArray.dropLastWhile(predicate:
(Short) -> Boolean): List<Short> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n
return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun IntArray.dropLastWhile(predicate:

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(Int) -> Boolean): List<Int> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    } \n  } \n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun LongArray.dropLastWhile(predicate: (Long) -> Boolean): List<Long> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    } \n  } \n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun FloatArray.dropLastWhile(predicate: (Float) -> Boolean): List<Float> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    } \n  } \n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun DoubleArray.dropLastWhile(predicate: (Double) -> Boolean): List<Double> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    } \n  } \n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun BooleanArray.dropLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    } \n  } \n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun CharArray.dropLastWhile(predicate: (Char) -> Boolean): List<Char> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    } \n  } \n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun <T> Array<out T>.dropWhile(predicate: (T) -> Boolean): List<T> {\n  var yielding = false\n  val list = ArrayList<T>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))\n      list.add(item)\n      yielding = true\n  }\n  return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun ByteArray.dropWhile(predicate: (Byte) -> Boolean): List<Byte> {\n  var yielding = false\n  val list = ArrayList<Byte>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))\n      list.add(item)\n      yielding = true\n  }\n  return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun ShortArray.dropWhile(predicate: (Short) -> Boolean): List<Short> {\n  var yielding = false\n  val list = ArrayList<Short>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))\n      list.add(item)\n      yielding = true\n  }\n  return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun IntArray.dropWhile(predicate: (Int) -> Boolean): List<Int> {\n  var yielding = false\n  val list = ArrayList<Int>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))\n      list.add(item)\n      yielding = true\n  }\n  return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun LongArray.dropWhile(predicate: (Long) -> Boolean): List<Long> {\n  var yielding = false\n  val list = ArrayList<Long>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))\n      list.add(item)\n      yielding = true\n  }\n  return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun FloatArray.dropWhile(predicate: (Float) -> Boolean): List<Float> {\n  var yielding = false\n  val list = ArrayList<Float>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))

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    list.add(item)\n        yielding = true\n    }\n    return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic inline fun DoubleArray.dropWhile(predicate:
(Double) -> Boolean): List<Double> {\n    var yielding = false\n    val list = ArrayList<Double>()\n    for (item in
this)\n        if (yielding)\n            list.add(item)\n        else if (!predicate(item)) {\n            list.add(item)\n
yielding = true\n        }\n    return list\n}\n\n/**\n * Returns a list containing all elements except first elements that
satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic
inline fun BooleanArray.dropWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n    var yielding = false\n
val list = ArrayList<Boolean>()\n    for (item in this)\n        if (yielding)\n            list.add(item)\n        else if
(!predicate(item)) {\n            list.add(item)\n            yielding = true\n        }\n    return list\n}\n\n/**\n * Returns a list
containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic inline fun CharArray.dropWhile(predicate:
(Char) -> Boolean): List<Char> {\n    var yielding = false\n    val list = ArrayList<Char>()\n    for (item in this)\n
if (yielding)\n        list.add(item)\n    else if (!predicate(item)) {\n        list.add(item)\n        yielding =
true\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n *
@sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun <T> Array<out
T>.filter(predicate: (T) -> Boolean): List<T> {\n    return filterTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns
a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun ByteArray.filter(predicate: (Byte) -> Boolean):
List<Byte> {\n    return filterTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements
matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline
fun ShortArray.filter(predicate: (Short) -> Boolean): List<Short> {\n    return filterTo(ArrayList<Short>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun IntArray.filter(predicate: (Int) -> Boolean):
List<Int> {\n    return filterTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing only elements
matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline
fun LongArray.filter(predicate: (Long) -> Boolean): List<Long> {\n    return filterTo(ArrayList<Long>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun FloatArray.filter(predicate: (Float) ->
Boolean): List<Float> {\n    return filterTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list containing
only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic
inline fun DoubleArray.filter(predicate: (Double) -> Boolean): List<Double> {\n    return
filterTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun
BooleanArray.filter(predicate: (Boolean) -> Boolean): List<Boolean> {\n    return filterTo(ArrayList<Boolean>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun CharArray.filter(predicate: (Char) ->
Boolean): List<Char> {\n    return filterTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Returns a list containing
only elements matching the given [predicate].\n * \n * @param [predicate] function that takes the index of an element
and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun <T> Array<out
T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {\n    return filterIndexedTo(ArrayList<T>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic
inline fun ByteArray.filterIndexed(predicate: (index: Int, Byte) -> Boolean): List<Byte> {\n    return
filterIndexedTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * \n * @param [predicate] function that takes the index of an element and the element itself\n * and

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returns the result of predicate evaluation on the element.\n * \n * @sample

samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun ShortArray.filterIndexed(predicate: (index: Int, Short) -> Boolean): List<Short> {\n return filterIndexedTo(ArrayList<Short>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun IntArray.filterIndexed(predicate: (index: Int, Int) -> Boolean): List<Int> {\n return filterIndexedTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun LongArray.filterIndexed(predicate: (index: Int, Long) -> Boolean): List<Long> {\n return filterIndexedTo(ArrayList<Long>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun FloatArray.filterIndexed(predicate: (index: Int, Float) -> Boolean): List<Float> {\n return filterIndexedTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun DoubleArray.filterIndexed(predicate: (index: Int, Double) -> Boolean): List<Double> {\n return filterIndexedTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun BooleanArray.filterIndexed(predicate: (index: Int, Boolean) -> Boolean): List<Boolean> {\n return filterIndexedTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun CharArray.filterIndexed(predicate: (index: Int, Char) -> Boolean): List<Char> {\n return filterIndexedTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Array<out T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element)) destination.add(element)\n }\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Byte>> ByteArray.filterIndexedTo(destination: C, predicate: (index: Int, Byte) -> Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element)) destination.add(element)\n }\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Short>> ShortArray.filterIndexedTo(destination: C, predicate: (index: Int, Short) -> Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element)) destination.add(element)\n }\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of

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predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Int>> IntArray.filterIndexedTo(destination: C, predicate: (index:
Int, Int) -> Boolean): C {\n  forEachIndexed { index, element ->\n    if (predicate(index, element))
destination.add(element)\n  }\n  return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Long>> LongArray.filterIndexedTo(destination: C, predicate: (index: Int, Long) -> Boolean): C {\n  forEachIndexed {
index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Float>> FloatArray.filterIndexedTo(destination: C, predicate:
(index: Int, Float) -> Boolean): C {\n  forEachIndexed { index, element ->\n    if (predicate(index, element))
destination.add(element)\n  }\n  return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Double>> DoubleArray.filterIndexedTo(destination: C, predicate: (index: Int, Double) -> Boolean): C {\n
forEachIndexed { index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Boolean>> BooleanArray.filterIndexedTo(destination: C, predicate:
(index: Int, Boolean) -> Boolean): C {\n  forEachIndexed { index, element ->\n    if (predicate(index, element))
destination.add(element)\n  }\n  return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Char>> CharArray.filterIndexedTo(destination: C, predicate: (index: Int, Char) -> Boolean): C {\n  forEachIndexed {
index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return
destination\n}\n\n/**\n * Returns a list containing all elements that are instances of specified type parameter R.\n *
\n * @sample samples.collections.Collections.Filtering.filterIsInstance\n
*\npublic inline fun <reified R>
Array<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {\n  return
filterIsInstanceTo(ArrayList<R>())\n}\n\n/**\n * Appends all elements that are instances of specified type
parameter R to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterIsInstanceTo\n
*\npublic inline fun <reified R, C :
MutableCollection<in R>> Array<*>.filterIsInstanceTo(destination: C): C {\n  for (element in this) if (element is
R) destination.add(element)\n  return destination\n}\n\n/**\n * Returns a list containing all elements not matching
the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*\npublic inline fun <T>
Array<out T>.filterNot(predicate: (T) -> Boolean): List<T> {\n  return filterNotTo(ArrayList<T>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\npublic inline fun ByteArray.filterNot(predicate: (Byte) ->
Boolean): List<Byte> {\n  return filterNotTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing
all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*\npublic inline fun ShortArray.filterNot(predicate: (Short) -> Boolean): List<Short> {\n  return
filterNotTo(ArrayList<Short>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the
given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*\npublic inline fun

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IntArray.filterNot(predicate: (Int) -> Boolean): List<Int> {\n  return filterNotTo(ArrayList<Int>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun LongArray.filterNot(predicate: (Long) ->
Boolean): List<Long> {\n  return filterNotTo(ArrayList<Long>(), predicate)\n}\n\n/**\n * Returns a list
containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun FloatArray.filterNot(predicate: (Float) ->
Boolean): List<Float> {\n  return filterNotTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list
containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun DoubleArray.filterNot(predicate: (Double) ->
Boolean): List<Double> {\n  return filterNotTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list
containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun BooleanArray.filterNot(predicate: (Boolean) ->
Boolean): List<Boolean> {\n  return filterNotTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list
containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun CharArray.filterNot(predicate: (Char) ->
Boolean): List<Char> {\n  return filterNotTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Returns a list containing
all elements that are not `null`.\n * \n * @sample samples.collections.Collections.Filtering.filterNotNull\n */\npublic
fun <T : Any> Array<out T?>.filterNotNull(): List<T> {\n  return filterNotNullTo(ArrayList<T>())\n}\n\n/**\n *
Appends all elements that are not `null` to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterNotNullTo\n */\npublic fun <C : MutableCollection<in T>, T : Any>
Array<out T?>.filterNotNullTo(destination: C): C {\n  for (element in this) if (element != null)
destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements not matching the given
[predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic
inline fun <T, C : MutableCollection<in T>> Array<out T>.filterNotTo(destination: C, predicate: (T) ->
Boolean): C {\n  for (element in this) if (!predicate(element)) destination.add(element)\n  return
destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in
Byte>> ByteArray.filterNotTo(destination: C, predicate: (Byte) -> Boolean): C {\n  for (element in this) if
(!predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Short>>
ShortArray.filterNotTo(destination: C, predicate: (Short) -> Boolean): C {\n  for (element in this) if
(!predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Int>>
IntArray.filterNotTo(destination: C, predicate: (Int) -> Boolean): C {\n  for (element in this) if
(!predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Long>>
LongArray.filterNotTo(destination: C, predicate: (Long) -> Boolean): C {\n  for (element in this) if
(!predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Float>>
FloatArray.filterNotTo(destination: C, predicate: (Float) -> Boolean): C {\n  for (element in this) if
(!predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Double>>
DoubleArray.filterNotTo(destination: C, predicate: (Double) -> Boolean): C {\n  for (element in this) if

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(!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in Boolean>>
BooleanArray.filterNotTo(destination: C, predicate: (Boolean) -> Boolean): C {\n for (element in this) if
(!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in Char>>
CharArray.filterNotTo(destination: C, predicate: (Char) -> Boolean): C {\n for (element in this) if
(!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\npublic inline fun <T, C : MutableCollection<in T>> Array<out T>.filterTo(destination: C, predicate: (T) ->
Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in
Byte>> ByteArray.filterTo(destination: C, predicate: (Byte) -> Boolean): C {\n for (element in this) if
(predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\npublic inline fun <C : MutableCollection<in Short>> ShortArray.filterTo(destination: C, predicate: (Short) ->
Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in
Int>> IntArray.filterTo(destination: C, predicate: (Int) -> Boolean): C {\n for (element in this) if (predicate(element))
destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to
the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun
<C : MutableCollection<in Long>> LongArray.filterTo(destination: C, predicate: (Long) -> Boolean): C {\n for
(element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in Float>>
FloatArray.filterTo(destination: C, predicate: (Float) -> Boolean): C {\n for (element in this) if
(predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\npublic inline fun <C : MutableCollection<in Double>> DoubleArray.filterTo(destination: C, predicate: (Double)
-> Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in
Boolean>> BooleanArray.filterTo(destination: C, predicate: (Boolean) -> Boolean): C {\n for (element in this) if
(predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\npublic inline fun <C : MutableCollection<in Char>> CharArray.filterTo(destination: C, predicate: (Char) ->
Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return
destination\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n *\npublic
fun <T> Array<out T>.slice(indices: IntRange): List<T> {\n if (indices.isEmpty()) return listOf()\n return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n *\npublic fun ByteArray.slice(indices: IntRange): List<Byte> {\n if
(indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n *\npublic
fun ShortArray.slice(indices: IntRange): List<Short> {\n if (indices.isEmpty()) return listOf()\n return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at

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indices in the specified [indices] range.\n */\npublic fun IntArray.slice(indices: IntRange): List<Int> {\n    if
(indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun LongArray.slice(indices: IntRange): List<Long> {\n    if (indices.isEmpty()) return listOf()\n    return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun FloatArray.slice(indices: IntRange): List<Float> {\n    if
(indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun DoubleArray.slice(indices: IntRange): List<Double> {\n    if (indices.isEmpty()) return listOf()\n    return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun BooleanArray.slice(indices: IntRange): List<Boolean> {\n
if (indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun CharArray.slice(indices: IntRange): List<Char> {\n    if (indices.isEmpty()) return listOf()\n    return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
specified [indices].\n */\npublic fun <T> Array<out T>.slice(indices: Iterable<Int>): List<T> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<T>(size)\n    for
(index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at
specified [indices].\n */\npublic fun ByteArray.slice(indices: Iterable<Int>): List<Byte> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Byte>(size)\n    for
(index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at
specified [indices].\n */\npublic fun ShortArray.slice(indices: Iterable<Int>): List<Short> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Short>(size)\n
for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing
elements at specified [indices].\n */\npublic fun IntArray.slice(indices: Iterable<Int>): List<Int> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Int>(size)\n    for
(index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at
specified [indices].\n */\npublic fun LongArray.slice(indices: Iterable<Int>): List<Long> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Long>(size)\n
for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing
elements at specified [indices].\n */\npublic fun FloatArray.slice(indices: Iterable<Int>): List<Float> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Float>(size)\n
for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing
elements at specified [indices].\n */\npublic fun DoubleArray.slice(indices: Iterable<Int>): List<Double> {\n    val
size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list =
ArrayList<Double>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**
 * Returns a list containing elements at specified [indices].\n */\npublic fun BooleanArray.slice(indices: Iterable<Int>):
List<Boolean> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list
= ArrayList<Boolean>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**
 * Returns a list containing elements at specified [indices].\n */\npublic fun CharArray.slice(indices: Iterable<Int>):
List<Char> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list =
ArrayList<Char>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**
 * Returns an array containing elements of this array at specified [indices].\n */\npublic fun <T>
Array<T>.sliceArray(indices: Collection<Int>): Array<T> {\n    val result = arrayOfNulls(this, indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
ByteArray.sliceArray(indices: Collection<Int>): ByteArray {\n    val result = ByteArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return

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result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\npublic fun
ShortArray.sliceArray(indices: Collection<Int>): ShortArray {\n    val result = ShortArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\npublic fun
IntArray.sliceArray(indices: Collection<Int>): IntArray {\n    val result = IntArray(indices.size)\n    var targetIndex
= 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\npublic fun
LongArray.sliceArray(indices: Collection<Int>): LongArray {\n    val result = LongArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\npublic fun
FloatArray.sliceArray(indices: Collection<Int>): FloatArray {\n    val result = FloatArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\npublic fun
DoubleArray.sliceArray(indices: Collection<Int>): DoubleArray {\n    val result = DoubleArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\npublic fun
BooleanArray.sliceArray(indices: Collection<Int>): BooleanArray {\n    val result = BooleanArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\npublic fun
CharArray.sliceArray(indices: Collection<Int>): CharArray {\n    val result = CharArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n *\npublic fun
<T> Array<T>.sliceArray(indices: IntRange): Array<T> {\n    if (indices.isEmpty()) return copyOfRange(0, 0)\n    return
copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at
indices in the specified [indices] range.\n *\npublic fun ByteArray.sliceArray(indices: IntRange): ByteArray {\n    if
(indices.isEmpty()) return ByteArray(0)\n    return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n
* Returns an array containing elements at indices in the specified [indices] range.\n *\npublic fun
ShortArray.sliceArray(indices: IntRange): ShortArray {\n    if (indices.isEmpty()) return ShortArray(0)\n    return
copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices
in the specified [indices] range.\n *\npublic fun IntArray.sliceArray(indices: IntRange): IntArray {\n    if
(indices.isEmpty()) return IntArray(0)\n    return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n
* Returns an array containing elements at indices in the specified [indices] range.\n *\npublic fun
LongArray.sliceArray(indices: IntRange): LongArray {\n    if (indices.isEmpty()) return LongArray(0)\n    return
copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices
in the specified [indices] range.\n *\npublic fun FloatArray.sliceArray(indices: IntRange): FloatArray {\n    if
(indices.isEmpty()) return FloatArray(0)\n    return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n
* Returns an array containing elements at indices in the specified [indices] range.\n *\npublic fun
DoubleArray.sliceArray(indices: IntRange): DoubleArray {\n    if (indices.isEmpty()) return DoubleArray(0)\n    return
copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at
indices in the specified [indices] range.\n *\npublic fun BooleanArray.sliceArray(indices: IntRange): BooleanArray
{\n    if (indices.isEmpty()) return BooleanArray(0)\n    return copyOfRange(indices.start, indices.endInclusive +
1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n *\npublic fun
CharArray.sliceArray(indices: IntRange): CharArray {\n    if (indices.isEmpty()) return CharArray(0)\n    return
copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns a list containing first [n] elements.\n *\n
* @throws IllegalArgumentException if [n] is negative.\n *\n * @sample
samples.collections.Collections.Transformations.take\n *\npublic fun <T> Array<out T>.take(n: Int): List<T> {\n
require(n >= 0) {\n    "Requested element count $n is less than zero." }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<T>(n)\n    for

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(item in this) {\n    list.add(item)\n    if (++count == n)\n        break\n    }\n    return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun ByteArray.take(n: Int): List<Byte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<Byte>(n)\n    for
(item in this) {\n    list.add(item)\n    if (++count == n)\n        break\n    }\n    return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun ShortArray.take(n: Int): List<Short> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<Short>(n)\n    for
(item in this) {\n    list.add(item)\n    if (++count == n)\n        break\n    }\n    return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun IntArray.take(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<Int>(n)\n    for
(item in this) {\n    list.add(item)\n    if (++count == n)\n        break\n    }\n    return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun LongArray.take(n: Int): List<Long> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<Long>(n)\n    for
(item in this) {\n    list.add(item)\n    if (++count == n)\n        break\n    }\n    return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun FloatArray.take(n: Int): List<Float> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<Float>(n)\n    for
(item in this) {\n    list.add(item)\n    if (++count == n)\n        break\n    }\n    return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun DoubleArray.take(n: Int): List<Double> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<Double>(n)\n
for (item in this) {\n    list.add(item)\n    if (++count == n)\n        break\n    }\n    return list\n}\n\n/**\n *
Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun BooleanArray.take(n: Int):
List<Boolean> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return
emptyList()\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list =
ArrayList<Boolean>(n)\n    for (item in this) {\n    list.add(item)\n    if (++count == n)\n        break\n    }\n
return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if
[n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun
CharArray.take(n: Int): List<Char> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if
(n == 0) return emptyList()\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n
val list = ArrayList<Char>(n)\n    for (item in this) {\n    list.add(item)\n    if (++count == n)\n        break\n
    }\n    return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun <T> Array<out T>.takeLast(n: Int): List<T>
{\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    val
size = size\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[size - 1])\n    val list =
ArrayList<T>(n)\n    for (index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n * Returns
a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample

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samples.collections.Collections.Transformations.take\n *^\npublic fun ByteArray.takeLast(n: Int): List<Byte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Byte>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun ShortArray.takeLast(n: Int): List<Short> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Short>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun IntArray.takeLast(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Int>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun LongArray.takeLast(n: Int): List<Long> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Long>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun FloatArray.takeLast(n: Int): List<Float> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Float>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun DoubleArray.takeLast(n: Int): List<Double>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val
size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list =
ArrayList<Double>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n *
Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n *^\npublic fun BooleanArray.takeLast(n: Int):
List<Boolean> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return
emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list
= ArrayList<Boolean>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n *
Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n *^\npublic fun CharArray.takeLast(n: Int):
List<Char> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return
emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list
= ArrayList<Char>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n *
Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic inline fun <T> Array<out
T>.takeLastWhile(predicate: (T) -> Boolean): List<T> {\n for (index in lastIndex downTo 0) {\n if
(!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a
list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic inline fun ByteArray.takeLastWhile(predicate:
(Byte) -> Boolean): List<Byte> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *^\npublic

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inline fun ShortArray.takeLastWhile(predicate: (Short) -> Boolean): List<Short> {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return drop(index + 1)
        }
    }
    return toList()
}
/** Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun IntArray.takeLastWhile(predicate: (Int) -> Boolean): List<Int> {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return drop(index + 1)
        }
    }
    return toList()
}
/** Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun LongArray.takeLastWhile(predicate: (Long) -> Boolean): List<Long> {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return drop(index + 1)
        }
    }
    return toList()
}
/** Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun FloatArray.takeLastWhile(predicate: (Float) -> Boolean): List<Float> {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return drop(index + 1)
        }
    }
    return toList()
}
/** Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun DoubleArray.takeLastWhile(predicate: (Double) -> Boolean): List<Double> {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return drop(index + 1)
        }
    }
    return toList()
}
/** Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun BooleanArray.takeLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return drop(index + 1)
        }
    }
    return toList()
}
/** Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun CharArray.takeLastWhile(predicate: (Char) -> Boolean): List<Char> {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return drop(index + 1)
        }
    }
    return toList()
}
/** Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun <T> Array<out T>.takeWhile(predicate: (T) -> Boolean): List<T> {
    val list = ArrayList<T>()
    for (item in this) {
        if (!predicate(item)) {
            break
        }
        list.add(item)
    }
    return list
}
/** Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun ByteArray.takeWhile(predicate: (Byte) -> Boolean): List<Byte> {
    val list = ArrayList<Byte>()
    for (item in this) {
        if (!predicate(item)) {
            break
        }
        list.add(item)
    }
    return list
}
/** Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun ShortArray.takeWhile(predicate: (Short) -> Boolean): List<Short> {
    val list = ArrayList<Short>()
    for (item in this) {
        if (!predicate(item)) {
            break
        }
        list.add(item)
    }
    return list
}
/** Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun IntArray.takeWhile(predicate: (Int) -> Boolean): List<Int> {
    val list = ArrayList<Int>()
    for (item in this) {
        if (!predicate(item)) {
            break
        }
        list.add(item)
    }
    return list
}
/** Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun LongArray.takeWhile(predicate: (Long) -> Boolean): List<Long> {
    val list = ArrayList<Long>()
    for (item in this) {
        if (!predicate(item)) {
            break
        }
        list.add(item)
    }
    return list
}
/** Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun FloatArray.takeWhile(predicate: (Float) -> Boolean): List<Float> {
    val list = ArrayList<Float>()
    for (item in this) {
        if (!predicate(item)) {
            break
        }
        list.add(item)
    }
    return list
}
/** Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun DoubleArray.takeWhile(predicate: (Double) -> Boolean): List<Double> {
    val list = ArrayList<Double>()
    for (item in this) {
        if (!predicate(item)) {
            break
        }
        list.add(item)
    }
}

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return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic inline fun BooleanArray.takeWhile(predicate:
(Boolean) -> Boolean): List<Boolean> {\n    val list = ArrayList<Boolean>()\n    for (item in this) {\n        if
(!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first
elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*^\npublic inline fun CharArray.takeWhile(predicate: (Char) -> Boolean): List<Char> {\n    val list =
ArrayList<Char>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n
return list\n}\n\n/**\n * Reverses elements in the array in-place.\n *^\npublic fun <T> Array<T>.reverse(): Unit {\n
val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n
reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *^\npublic fun ByteArray.reverse():
Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n
reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *^\npublic fun ShortArray.reverse():
Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n
reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *^\npublic fun IntArray.reverse():
Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n
reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *^\npublic fun LongArray.reverse():
Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n
reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *^\npublic fun FloatArray.reverse():
Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n
reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *^\npublic fun
DoubleArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex =
lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n
this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n
*^\npublic fun BooleanArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var
reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index] =
this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the
array in-place.\n *^\npublic fun CharArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0)
return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index]
= this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of
the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
* @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.4")\npublic fun <T>
Array<T>.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex =
toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] =
this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
* @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.4")\npublic fun
ByteArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex,

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size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex =
toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] =
this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun
ShortArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex =
toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] =
this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun
IntArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex =
toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] =
this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun
LongArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex =
toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] =
this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun
FloatArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex =
toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] =
this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun
DoubleArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex =
toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] =
this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun
BooleanArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex,

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toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var
reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n
this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses
elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to
reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic
fun CharArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex,
toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var
reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n
this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Returns a
list with elements in reversed order.\n */\npublic fun <T> Array<out T>.reversed(): List<T> {\n    if (isEmpty())
return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with
elements in reversed order.\n */\npublic fun ByteArray.reversed(): List<Byte> {\n    if (isEmpty()) return
emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements
in reversed order.\n */\npublic fun ShortArray.reversed(): List<Short> {\n    if (isEmpty()) return emptyList()\n    val
list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n
*/\npublic fun IntArray.reversed(): List<Int> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n
list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun
LongArray.reversed(): List<Long> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n
return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun
FloatArray.reversed(): List<Float> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n
return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun
DoubleArray.reversed(): List<Double> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n
return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun
BooleanArray.reversed(): List<Boolean> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n
return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun
CharArray.reversed(): List<Char> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n
return list\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic
fun <T> Array<T>.reversedArray(): Array<T> {\n    if (isEmpty()) return this\n    val result = arrayOfNulls(this,
size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return
result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun
ByteArray.reversedArray(): ByteArray {\n    if (isEmpty()) return this\n    val result = ByteArray(size)\n    val
lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n *
Returns an array with elements of this array in reversed order.\n */\npublic fun ShortArray.reversedArray():
ShortArray {\n    if (isEmpty()) return this\n    val result = ShortArray(size)\n    val lastIndex = lastIndex\n    for (i in
0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this
array in reversed order.\n */\npublic fun IntArray.reversedArray(): IntArray {\n    if (isEmpty()) return this\n    val
result = IntArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n
return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun
LongArray.reversedArray(): LongArray {\n    if (isEmpty()) return this\n    val result = LongArray(size)\n    val
lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n *
Returns an array with elements of this array in reversed order.\n */\npublic fun FloatArray.reversedArray():
FloatArray {\n    if (isEmpty()) return this\n    val result = FloatArray(size)\n    val lastIndex = lastIndex\n    for (i in
0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this
array in reversed order.\n */\npublic fun DoubleArray.reversedArray(): DoubleArray {\n    if (isEmpty()) return
this\n    val result = DoubleArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex -
i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic

```

```

fun BooleanArray.reversedArray(): BooleanArray {
    if (isEmpty()) return this
    val result = BooleanArray(size)
    val lastIndex = lastIndexOf
    for (i in 0..lastIndex)
        result[lastIndex - i] = this[i]
    return result
}

/**
 * Returns an array with elements of this array in reversed order.
 */
public fun CharArray.reversedArray(): CharArray {
    if (isEmpty()) return this
    val result = CharArray(size)
    val lastIndex = lastIndexOf
    for (i in 0..lastIndex)
        result[lastIndex - i] = this[i]
    return result
}

/**
 * Randomly shuffles elements in this array in-place.
 */
@SinceKotlin("1.4")
public fun <T> Array<T>.shuffle(): Unit {
    shuffle(Random)
}

/**
 * Randomly shuffles elements in this array in-place.
 */
@SinceKotlin("1.4")
public fun ByteArray.shuffle(): Unit {
    shuffle(Random)
}

/**
 * Randomly shuffles elements in this array in-place.
 */
@SinceKotlin("1.4")
public fun ShortArray.shuffle(): Unit {
    shuffle(Random)
}

/**
 * Randomly shuffles elements in this array in-place.
 */
@SinceKotlin("1.4")
public fun IntArray.shuffle(): Unit {
    shuffle(Random)
}

/**
 * Randomly shuffles elements in this array in-place.
 */
@SinceKotlin("1.4")
public fun LongArray.shuffle(): Unit {
    shuffle(Random)
}

/**
 * Randomly shuffles elements in this array in-place.
 */
@SinceKotlin("1.4")
public fun FloatArray.shuffle(): Unit {
    shuffle(Random)
}

/**
 * Randomly shuffles elements in this array in-place.
 */
@SinceKotlin("1.4")
public fun DoubleArray.shuffle(): Unit {
    shuffle(Random)
}

/**
 * Randomly shuffles elements in this array in-place.
 */
@SinceKotlin("1.4")
public fun BooleanArray.shuffle(): Unit {
    shuffle(Random)
}

/**
 * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.
 */
@SinceKotlin("1.4")
public fun CharArray.shuffle(): Unit {
    shuffle(Random)
}

/**
 * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.
 */
@SinceKotlin("1.4")
public fun <T> Array<T>.shuffle(random: Random): Unit {
    for (i in lastIndexOf downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

/**
 * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.
 */
@SinceKotlin("1.4")
public fun ByteArray.shuffle(random: Random): Unit {
    for (i in lastIndexOf downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

/**
 * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.
 */
@SinceKotlin("1.4")
public fun ShortArray.shuffle(random: Random): Unit {
    for (i in lastIndexOf downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

/**
 * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.
 */
@SinceKotlin("1.4")
public fun IntArray.shuffle(random: Random): Unit {
    for (i in lastIndexOf downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

/**
 * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.
 */
@SinceKotlin("1.4")
public fun LongArray.shuffle(random: Random): Unit {
    for (i in lastIndexOf downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

/**
 * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.
 */
@SinceKotlin("1.4")
public fun FloatArray.shuffle(random: Random): Unit {
    for (i in lastIndexOf downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

```



```

sort order.\n */\npublic fun FloatArray.sorted(): List<Float> {\n    return toTypedArray().apply { sort()
} }
.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun
DoubleArray.sorted(): List<Double> {\n    return toTypedArray().apply { sort() } }
.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun CharArray.sorted(): List<Char> {\n
return toTypedArray().apply { sort() } }
.asList()\n}\n\n/**\n * Returns an array with all elements of this array sorted
according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Array<T>.sortedArray(): Array<T> {\n
if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted according to their natural sort order.\n */\npublic fun ByteArray.sortedArray(): ByteArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted according to their natural sort order.\n */\npublic fun ShortArray.sortedArray(): ShortArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted according to their natural sort order.\n */\npublic fun IntArray.sortedArray(): IntArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted according to their natural sort order.\n */\npublic fun LongArray.sortedArray(): LongArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted according to their natural sort order.\n */\npublic fun FloatArray.sortedArray(): FloatArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted according to their natural sort order.\n */\npublic fun DoubleArray.sortedArray(): DoubleArray {\n
if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements
of this array sorted according to their natural sort order.\n */\npublic fun CharArray.sortedArray(): CharArray {\n
if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>>
Array<T>.sortedArrayDescending(): Array<T> {\n    if (isEmpty()) return this\n    return this.copyOf().apply {
sortWith(reverseOrder()) }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending
according to their natural sort order.\n */\npublic fun ByteArray.sortedArrayDescending(): ByteArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted descending according to their natural sort order.\n */\npublic fun
ShortArray.sortedArrayDescending(): ShortArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to
their natural sort order.\n */\npublic fun IntArray.sortedArrayDescending(): IntArray {\n    if (isEmpty()) return
this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this
array sorted descending according to their natural sort order.\n */\npublic fun LongArray.sortedArrayDescending():
LongArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns
an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun
FloatArray.sortedArrayDescending(): FloatArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to
their natural sort order.\n */\npublic fun DoubleArray.sortedArrayDescending(): DoubleArray {\n    if (isEmpty())
return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted descending according to their natural sort order.\n */\npublic fun
CharArray.sortedArrayDescending(): CharArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according the specified
[comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n */\npublic fun <T> Array<out T>.sortedArrayWith(comparator: Comparator<in T>): Array<out T>
{\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortWith(comparator) }\n}\n\n/**\n * Returns a list
of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n *
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n *

```

```

@sample samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <T, R : Comparable<R>>
Array<out T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n  return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <R : Comparable<R>>
ByteArray.sortedBy(crossinline selector: (Byte) -> R?): List<Byte> {\n  return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <R : Comparable<R>>
ShortArray.sortedBy(crossinline selector: (Short) -> R?): List<Short> {\n  return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <R : Comparable<R>>
IntArray.sortedBy(crossinline selector: (Int) -> R?): List<Int> {\n  return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <R : Comparable<R>>
LongArray.sortedBy(crossinline selector: (Long) -> R?): List<Long> {\n  return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <R : Comparable<R>>
FloatArray.sortedBy(crossinline selector: (Float) -> R?): List<Float> {\n  return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <R : Comparable<R>>
DoubleArray.sortedBy(crossinline selector: (Double) -> R?): List<Double> {\n  return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <R : Comparable<R>>
BooleanArray.sortedBy(crossinline selector: (Boolean) -> R?): List<Boolean> {\n  return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <R : Comparable<R>>
CharArray.sortedBy(crossinline selector: (Char) -> R?): List<Char> {\n  return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural
sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n *\npublic inline fun <T, R : Comparable<R>>
Array<out T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n  return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to natural sort order of the value returned by specified [selector] function.\n *\npublic inline fun <R :
Comparable<R>> ByteArray.sortedByDescending(crossinline selector: (Byte) -> R?): List<Byte> {\n  return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to natural sort order of the value returned by specified [selector] function.\n *\npublic inline fun <R :
Comparable<R>> ShortArray.sortedByDescending(crossinline selector: (Short) -> R?): List<Short> {\n  return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to natural sort order of the value returned by specified [selector] function.\n *\npublic inline fun <R :
Comparable<R>> IntArray.sortedByDescending(crossinline selector: (Int) -> R?): List<Int> {\n  return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending

```

according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R : Comparable<R>> LongArray.sortedByDescending(crossinline selector: (Long) -> R?): List<Long> {
    return sortedWith(compareByDescending(selector))
}

```

* Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R : Comparable<R>> FloatArray.sortedByDescending(crossinline selector: (Float) -> R?): List<Float> {
    return sortedWith(compareByDescending(selector))
}

```

* Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R : Comparable<R>> DoubleArray.sortedByDescending(crossinline selector: (Double) -> R?): List<Double> {
    return sortedWith(compareByDescending(selector))
}

```

* Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R : Comparable<R>> BooleanArray.sortedByDescending(crossinline selector: (Boolean) -> R?): List<Boolean> {
    return sortedWith(compareByDescending(selector))
}

```

* Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R : Comparable<R>> CharArray.sortedByDescending(crossinline selector: (Char) -> R?): List<Char> {
    return sortedWith(compareByDescending(selector))
}

```

* Returns a list of all elements sorted descending according to their natural sort order.

* The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

public fun <T : Comparable<T>> Array<out T>.sortedDescending(): List<T> {
    return sortedWith(reverseOrder())
}

```

* Returns a list of all elements sorted descending according to their natural sort order.

```

public fun ByteArray.sortedDescending(): List<Byte> {
    return copyOf().apply { sort() }.reversed()
}

```

* Returns a list of all elements sorted descending according to their natural sort order.

```

public fun ShortArray.sortedDescending(): List<Short> {
    return copyOf().apply { sort() }.reversed()
}

```

* Returns a list of all elements sorted descending according to their natural sort order.

```

public fun IntArray.sortedDescending(): List<Int> {
    return copyOf().apply { sort() }.reversed()
}

```

* Returns a list of all elements sorted descending according to their natural sort order.

```

public fun LongArray.sortedDescending(): List<Long> {
    return copyOf().apply { sort() }.reversed()
}

```

* Returns a list of all elements sorted descending according to their natural sort order.

```

public fun FloatArray.sortedDescending(): List<Float> {
    return copyOf().apply { sort() }.reversed()
}

```

* Returns a list of all elements sorted descending according to their natural sort order.

```

public fun DoubleArray.sortedDescending(): List<Double> {
    return copyOf().apply { sort() }.reversed()
}

```

* Returns a list of all elements sorted descending according to their natural sort order.

```

public fun CharArray.sortedDescending(): List<Char> {
    return copyOf().apply { sort() }.reversed()
}

```

* Returns a list of all elements sorted according to the specified [comparator].

* The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

public fun <T> Array<out T>.sortedWith(comparator: Comparator<in T>): List<T> {
    return sortedArrayWith(comparator).asList()
}

```

* Returns a list of all elements sorted according to the specified [comparator].

```

public fun ByteArray.sortedWith(comparator: Comparator<in Byte>): List<Byte> {
    return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

* Returns a list of all elements sorted according to the specified [comparator].

```

public fun ShortArray.sortedWith(comparator: Comparator<in Short>): List<Short> {
    return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

* Returns a list of all elements sorted according to the specified [comparator].

```

public fun IntArray.sortedWith(comparator: Comparator<in Int>): List<Int> {
    return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

* Returns a list of all elements sorted according to the specified [comparator].

```

public fun LongArray.sortedWith(comparator: Comparator<in Long>): List<Long> {
    return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

* Returns a list of all elements sorted according to the specified [comparator].

```

public fun FloatArray.sortedWith(comparator: Comparator<in Float>): List<Float> {
    return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

* Returns a list of all elements sorted according to the specified [comparator].

```

public fun DoubleArray.sortedWith(comparator: Comparator<in Double>): List<Double> {
    return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

* Returns a list of all

elements sorted according to the specified [comparator].

```

public fun BooleanArray.sortedWith(comparator:
Comparator<in Boolean>): List<Boolean> {
    return toTypedArray().apply {
        sortWith(comparator)
    }.asList()
}

```

* Returns a list of all elements sorted according to the specified [comparator].

```

public fun
CharArray.sortedWith(comparator: Comparator<in Char>): List<Char> {
    return toTypedArray().apply {
        sortWith(comparator)
    }.asList()
}

```

* Returns a [List] that wraps the original array.

```

public expect fun
<T> Array<out T>.asList(): List<T>

```

* Returns a [List] that wraps the original array.

```

public expect fun
ByteArray.asList(): List<Byte>

```

* Returns a [List] that wraps the original array.

```

public expect fun
ShortArray.asList(): List<Short>

```

* Returns a [List] that wraps the original array.

```

public expect fun
IntArray.asList(): List<Int>

```

* Returns a [List] that wraps the original array.

```

public expect fun
LongArray.asList(): List<Long>

```

* Returns a [List] that wraps the original array.

```

public expect fun
FloatArray.asList(): List<Float>

```

* Returns a [List] that wraps the original array.

```

public expect fun
DoubleArray.asList(): List<Double>

```

* Returns a [List] that wraps the original array.

```

public expect fun
BooleanArray.asList(): List<Boolean>

```

* Returns a [List] that wraps the original array.

```

public expect fun
CharArray.asList(): List<Char>

```

* Returns `true` if the two specified arrays are *deeply* equal to one another, i.e. contain the same number of the same elements in the same order.

* If two corresponding elements are nested arrays, they are also compared deeply.

* If any of arrays contains itself on any nesting level the behavior is undefined.

* The elements of other types are compared for equality with the [equals][Any.equals] function.

* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

```

@SinceKotlin("1.1")
@kotlin.internal.LowPriorityInOverloadResolution
public expect
infix fun <T> Array<out T>.contentDeepEquals(other: Array<out T>): Boolean

```

* Returns `true` if the two specified arrays are *deeply* equal to one another, i.e. contain the same number of the same elements in the same order.

* The specified arrays are also considered deeply equal if both are `null`.

* If two corresponding elements are nested arrays, they are also compared deeply.

* If any of arrays contains itself on any nesting level the behavior is undefined.

* The elements of other types are compared for equality with the [equals][Any.equals] function.

* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

```

@SinceKotlin("1.4")
public expect infix fun <T> Array<out T>?.contentDeepEquals(other:
Array<out T>?): Boolean

```

* Returns a hash code based on the contents of this array as if it is [List].

* Nested arrays are treated as lists too.

* If any of arrays contains itself on any nesting level the behavior is undefined.

```

@SinceKotlin("1.1")
@kotlin.internal.LowPriorityInOverloadResolution
public expect fun
<T> Array<out T>.contentDeepHashCode(): Int

```

* Returns a hash code based on the contents of this array as if it is [List].

* Nested arrays are treated as lists too.

* If any of arrays contains itself on any nesting level the behavior is undefined.

```

@SinceKotlin("1.4")
public expect fun <T> Array<out
T>?.contentDeepHashCode(): Int

```

* Returns a string representation of the contents of this array as if it is a [List].

* Nested arrays are treated as lists too.

* If any of arrays contains itself on any nesting level that reference is rendered as `[...]` to prevent recursion.

* @sample samples.collections.Arrays.ContentOperations.contentDeepToString

```

@SinceKotlin("1.1")
@kotlin.internal.LowPriorityInOverloadResolution
public expect fun <T> Array<out
T>.contentDeepToString(): String

```

* Returns a string representation of the contents of this array as if it is a [List].

* Nested arrays are treated as lists too.

* If any of arrays contains itself on any nesting level that reference is rendered as `[...]` to prevent recursion.

* @sample samples.collections.Arrays.ContentOperations.contentDeepToString

```

@SinceKotlin("1.4")
public expect fun
<T> Array<out T>?.contentDeepToString(): String

```

* Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order.

* The elements are compared for equality with the [equals][Any.equals] function.

* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

```

@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")
@SinceKotlin("1.1")
@DeprecatedSinceKotlin(hiddenSince = "1.4")
public expect infix fun <T> Array<out T>.contentEquals(other: Array<out T>): Boolean

```

* Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements

in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")@SinceKotlin("1.1")@DeprecatedSinceKotlin(hiddenSince = "1.4")`public expect infix fun `ByteArray.contentEquals(other: ByteArray): Boolean`\n\n**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")@SinceKotlin("1.1")@DeprecatedSinceKotlin(hiddenSince = "1.4")`public expect infix fun `ShortArray.contentEquals(other: ShortArray): Boolean`\n\n**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")@SinceKotlin("1.1")@DeprecatedSinceKotlin(hiddenSince = "1.4")`public expect infix fun `IntArray.contentEquals(other: IntArray): Boolean`\n\n**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")@SinceKotlin("1.1")@DeprecatedSinceKotlin(hiddenSince = "1.4")`public expect infix fun `LongArray.contentEquals(other: LongArray): Boolean`\n\n**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")@SinceKotlin("1.1")@DeprecatedSinceKotlin(hiddenSince = "1.4")`public expect infix fun `FloatArray.contentEquals(other: FloatArray): Boolean`\n\n**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")@SinceKotlin("1.1")@DeprecatedSinceKotlin(hiddenSince = "1.4")`public expect infix fun `DoubleArray.contentEquals(other: DoubleArray): Boolean`\n\n**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")@SinceKotlin("1.1")@DeprecatedSinceKotlin(hiddenSince = "1.4")`public expect infix fun `BooleanArray.contentEquals(other: BooleanArray): Boolean`\n\n**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

`@SinceKotlin("1.4")`public expect infix fun `<T> Array<out T>?.contentEquals(other: Array<out T>?): Boolean`\n\n**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For

floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

`@SinceKotlin("1.4")` public expect infix fun `ByteArray?.contentEquals(other: ByteArray?): Boolean`

* Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order. The elements are compared for equality with the `[equals][Any.equals]` function.

For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

`@SinceKotlin("1.4")` public expect infix fun `ShortArray?.contentEquals(other: ShortArray?): Boolean`

* Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order. The elements are compared for equality with the `[equals][Any.equals]` function.

For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

`@SinceKotlin("1.4")` public expect infix fun `IntArray?.contentEquals(other: IntArray?): Boolean`

* Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order. The elements are compared for equality with the `[equals][Any.equals]` function.

For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

`@SinceKotlin("1.4")` public expect infix fun `LongArray?.contentEquals(other: LongArray?): Boolean`

* Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order. The elements are compared for equality with the `[equals][Any.equals]` function.

For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

`@SinceKotlin("1.4")` public expect infix fun `FloatArray?.contentEquals(other: FloatArray?): Boolean`

* Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order. The elements are compared for equality with the `[equals][Any.equals]` function.

For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

`@SinceKotlin("1.4")` public expect infix fun `DoubleArray?.contentEquals(other: DoubleArray?): Boolean`

* Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order. The elements are compared for equality with the `[equals][Any.equals]` function.

For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

`@SinceKotlin("1.4")` public expect infix fun `BooleanArray?.contentEquals(other: BooleanArray?): Boolean`

* Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order. The elements are compared for equality with the `[equals][Any.equals]` function.

For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

`@SinceKotlin("1.4")` public expect infix fun `CharArray?.contentEquals(other: CharArray?): Boolean`

* Returns a hash code based on the contents of this array as if it is `[List]`.

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")` `@SinceKotlin("1.1")` `@DeprecatedSinceKotlin(hiddenSince = "1.4")` public expect fun `<T> Array<out T>.contentHashCode(): Int`

* Returns a hash code based on the contents of this array as if it is `[List]`.

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")` `@SinceKotlin("1.1")` `@DeprecatedSinceKotlin(hiddenSince = "1.4")` public expect fun `ByteArray.contentHashCode(): Int`

* Returns a hash code based on the contents of this array as if it is `[List]`.

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")` `@SinceKotlin("1.1")` `@DeprecatedSinceKotlin(hiddenSince = "1.4")` public expect fun `ShortArray.contentHashCode(): Int`

* Returns a hash code based on the contents of this array as if it is `[List]`.

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")` `@SinceKotlin("1.1")` `@DeprecatedSinceKotlin(hiddenSince = "1.4")` public expect fun `IntArray.contentHashCode(): Int`

* Returns a hash code based on the contents of this array as if it is `[List]`.

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")` `@SinceKotlin("1.1")` `@DeprecatedSinceKotlin(hiddenSince = "1.4")` public expect fun `LongArray.contentHashCode(): Int`

* Returns a hash code based on the contents of this array as if it is `[List]`.

`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")` `@SinceKotlin("1.1")` `@DeprecatedSinceKotlin(hiddenSince = "1.4")` public expect fun


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*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun
DoubleArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun
BooleanArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun
CharArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\npublic expect fun <T> Array<out T>?.contentToString(): String\n\n/**\n * Returns a
string representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *\n@SinceKotlin("1.4")\npublic expect fun
ByteArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\npublic expect fun ShortArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *\n@SinceKotlin("1.4")\npublic expect fun
IntArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\npublic expect fun LongArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *\n@SinceKotlin("1.4")\npublic expect fun
FloatArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\npublic expect fun DoubleArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *\n@SinceKotlin("1.4")\npublic expect fun
BooleanArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\npublic expect fun CharArray?.contentToString(): String\n\n/**\n * Copies this array or
its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the
[destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param
destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by
default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param
endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this
array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange
doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the
[destination] array indices range.\n * \n * @return the [destination] array.\n *\n@SinceKotlin("1.3")\npublic
expect fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0,
endIndex: Int = size): Array<T>\n\n/**\n * Copies this array or its subrange into the [destination] array and returns
that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it
overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset
the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of
the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this

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array by default. \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n * \n * @since Kotlin("1.3")\npublic expect fun ByteArray.copyInto(destination: ByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ByteArray\n\n/** \n * Copies this array or its subrange into the [destination] array and returns that array. \n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range. \n * \n * @param destination the array to copy to. \n * @param destinationOffset the position in the [destination] array to copy to, 0 by default. \n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default. \n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default. \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n * \n * @since Kotlin("1.3")\npublic expect fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ShortArray\n\n/** \n * Copies this array or its subrange into the [destination] array and returns that array. \n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range. \n * \n * @param destination the array to copy to. \n * @param destinationOffset the position in the [destination] array to copy to, 0 by default. \n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default. \n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default. \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n * \n * @since Kotlin("1.3")\npublic expect fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): IntArray\n\n/** \n * Copies this array or its subrange into the [destination] array and returns that array. \n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range. \n * \n * @param destination the array to copy to. \n * @param destinationOffset the position in the [destination] array to copy to, 0 by default. \n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default. \n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default. \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n * \n * @since Kotlin("1.3")\npublic expect fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): LongArray\n\n/** \n * Copies this array or its subrange into the [destination] array and returns that array. \n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range. \n * \n * @param destination the array to copy to. \n * @param destinationOffset the position in the [destination] array to copy to, 0 by default. \n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default. \n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default. \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n * \n * @since Kotlin("1.3")\npublic expect fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): FloatArray\n\n/** \n * Copies this array or its subrange into the

BooleanArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
 samples.collections.Arrays.CopyOfOperations.copyOfOf\n * \npublic expect fun CharArray.copyOfOf():
 CharArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n *
 The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the
 size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of
 the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample
 samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n * \npublic expect fun
 ByteArray.copyOfOf(newSize: Int): ByteArray\n\n/**\n * Returns new array which is a copy of the original array,
 resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n
 * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If
 [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero
 values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n * \npublic
 expect fun ShortArray.copyOfOf(newSize: Int): ShortArray\n\n/**\n * Returns new array which is a copy of the
 original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values
 if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
 [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
 filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
 * \npublic expect fun IntArray.copyOfOf(newSize: Int): IntArray\n\n/**\n * Returns new array which is a copy of the
 original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values
 if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
 [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
 filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
 * \npublic expect fun LongArray.copyOfOf(newSize: Int): LongArray\n\n/**\n * Returns new array which is a copy of
 the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero
 values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
 [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
 filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
 * \npublic expect fun FloatArray.copyOfOf(newSize: Int): FloatArray\n\n/**\n * Returns new array which is a copy of
 the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero
 values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
 [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
 filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
 * \npublic expect fun DoubleArray.copyOfOf(newSize: Int): DoubleArray\n\n/**\n * Returns new array which is a
 copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with
 `false` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is
 truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the
 copy array are filled with `false` values.\n * \n * @sample
 samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n * \npublic expect fun
 BooleanArray.copyOfOf(newSize: Int): BooleanArray\n\n/**\n * Returns new array which is a copy of the original
 array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with null char (`\u0000`)
 values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
 [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
 filled with null char (`\u0000`) values.\n * \n * @sample
 samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n * \npublic expect fun
 CharArray.copyOfOf(newSize: Int): CharArray\n\n/**\n * Returns new array which is a copy of the original array,
 resized to the given [newSize].\n * The copy is either truncated or padded at the end with `null` values if
 necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
 [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are

filled with `null` values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizingCopyOf\n * \n * @Suppress(\"NO_ACTUAL_FOR_EXPECT\")\n * public expect fun <T> Array<T>.copyOf(newSize: Int): Array<T?>\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * \n * @param toIndex the end of the range (exclusive) to copy.\n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * \n * @Suppress(\"NO_ACTUAL_FOR_EXPECT\")\n * public expect fun <T> Array<T>.copyOfRange(fromIndex: Int, toIndex: Int): Array<T>\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * \n * @param toIndex the end of the range (exclusive) to copy.\n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * \n * public expect fun ByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * \n * @param toIndex the end of the range (exclusive) to copy.\n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * \n * public expect fun ShortArray.copyOfRange(fromIndex: Int, toIndex: Int): ShortArray\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * \n * @param toIndex the end of the range (exclusive) to copy.\n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * \n * public expect fun IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * \n * @param toIndex the end of the range (exclusive) to copy.\n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * \n * public expect fun LongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * \n * @param toIndex the end of the range (exclusive) to copy.\n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * \n * public expect fun FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * \n * @param toIndex the end of the range (exclusive) to copy.\n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * \n * public expect fun DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * \n * @param toIndex the end of the range (exclusive) to copy.\n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * \n * public expect fun BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * \n * @param toIndex the end of the range (exclusive) to copy.\n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * \n * public expect fun CharArray.copyOfRange(fromIndex: Int, toIndex: Int): CharArray\n * \n * \n * Fills this array or its subrange with the specified [element] value.\n * \n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * \n * \n * @param toIndex the end of the range (exclusive) to fill, this array size by default.

@param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws
 IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.3")\npublic
 expect fun <T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or
 its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill,
 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n *
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
 array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
 */\n@SinceKotlin("1.3")\npublic expect fun ByteArray.fill(element: Byte, fromIndex: Int = 0, toIndex: Int = size):
 Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the
 start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of
 this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is
 greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
 */\n@SinceKotlin("1.3")\npublic expect fun ShortArray.fill(element: Short, fromIndex: Int = 0, toIndex: Int =
 size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex
 the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size
 of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
 is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
 [toIndex].\n */\n@SinceKotlin("1.3")\npublic expect fun IntArray.fill(element: Int, fromIndex: Int = 0, toIndex: Int
 = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
 fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive)
 to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero
 or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater
 than [toIndex].\n */\n@SinceKotlin("1.3")\npublic expect fun LongArray.fill(element: Long, fromIndex: Int = 0,
 toIndex: Int = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n *
 @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range
 (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less
 than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is
 greater than [toIndex].\n */\n@SinceKotlin("1.3")\npublic expect fun FloatArray.fill(element: Float, fromIndex: Int
 = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n *
 @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range
 (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less
 than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is
 greater than [toIndex].\n */\n@SinceKotlin("1.3")\npublic expect fun DoubleArray.fill(element: Double,
 fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element]
 value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end
 of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if
 [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.3")\npublic expect fun
 BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or its
 subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0
 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n *
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
 array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
 */\n@SinceKotlin("1.3")\npublic expect fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size):
 Unit\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val <T> Array<out T>.indices:
 IntRange\n get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic
 val ByteArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for

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the array.\n */\npublic val ShortArray.indices: IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val IntArray.indices: IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val LongArray.indices: IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val FloatArray.indices: IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val DoubleArray.indices: IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val BooleanArray.indices: IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val CharArray.indices: IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns the last valid index for the array.\n */\npublic val <T> Array<out T>.lastIndex: Int\n    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val ByteArray.lastIndex: Int\n    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val ShortArray.lastIndex: Int\n    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val IntArray.lastIndex: Int\n    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val LongArray.lastIndex: Int\n    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val FloatArray.lastIndex: Int\n    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val DoubleArray.lastIndex: Int\n    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val BooleanArray.lastIndex: Int\n    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val CharArray.lastIndex: Int\n    get() = size - 1\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect operator fun <T> Array<T>.plus(element: T): Array<T>\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */

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`*\npublic expect operator fun ByteArray.plus(element: Byte): ByteArray\n\n**\n` * Returns an array containing all elements of the original array and then the given [element].\n `*\npublic expect operator fun`
`ShortArray.plus(element: Short): ShortArray\n\n**\n` * Returns an array containing all elements of the original array and then the given [element].\n `*\npublic expect operator fun`
`IntArray.plus(element: Int): IntArray\n\n**\n` * Returns an array containing all elements of the original array and then the given [element].\n `*\npublic expect`
`operator fun`
`LongArray.plus(element: Long): LongArray\n\n**\n` * Returns an array containing all elements of the original array and then the given [element].\n `*\npublic expect operator fun`
`FloatArray.plus(element: Float):`
`FloatArray\n\n**\n` * Returns an array containing all elements of the original array and then the given [element].\n `*\npublic expect operator fun`
`DoubleArray.plus(element: Double): DoubleArray\n\n**\n` * Returns an array containing all elements of the original array and then the given [element].\n `*\npublic expect operator fun`
`BooleanArray.plus(element: Boolean): BooleanArray\n\n**\n` * Returns an array containing all elements of the original array and then the given [element].\n `*\npublic expect operator fun`
`CharArray.plus(element: Char):`
`CharArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n `*\n@Suppress(\`
`"NO_ACTUAL_FOR_EXPECT")\npublic expect operator fun`
`<T>`
`Array<T>.plus(elements: Collection<T>): Array<T>\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n `*\npublic expect operator fun`
`ByteArray.plus(elements: Collection<Byte>): ByteArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n `*\npublic expect operator fun`
`ShortArray.plus(elements: Collection<Short>): ShortArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n `*\npublic expect operator fun`
`IntArray.plus(elements: Collection<Int>): IntArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n `*\npublic expect operator fun`
`LongArray.plus(elements: Collection<Long>): LongArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n `*\npublic expect operator fun`
`FloatArray.plus(elements: Collection<Float>): FloatArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n `*\npublic expect operator fun`
`DoubleArray.plus(elements: Collection<Double>): DoubleArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n `*\npublic expect operator fun`
`BooleanArray.plus(elements: Collection<Boolean>): BooleanArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n `*\npublic expect operator`
`fun`
`CharArray.plus(elements: Collection<Char>): CharArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n `*\n@Suppress(\`
`"NO_ACTUAL_FOR_EXPECT")\npublic expect operator fun`
`<T>`
`Array<T>.plus(elements:`
`Array<out T>): Array<T>\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n `*\npublic expect operator fun`
`ByteArray.plus(elements: ByteArray):`
`ByteArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n `*\npublic expect operator fun`
`ShortArray.plus(elements: ShortArray):`
`ShortArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n `*\npublic expect operator fun`
`IntArray.plus(elements: IntArray): IntArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n `*\npublic expect operator fun`
`LongArray.plus(elements: LongArray): LongArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n `*\npublic expect operator fun`
`FloatArray.plus(elements: FloatArray): FloatArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n `*\npublic expect operator fun`
`DoubleArray.plus(elements: DoubleArray): DoubleArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n `*\npublic expect operator fun`
`BooleanArray.plus(elements: BooleanArray): BooleanArray\n\n**\n` * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n `*\npublic expect operator fun`

@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
 samples.collections.Arrays.Sorting.sortRangeOfArray\n * \n * @SinceKotlin("1.4")\n public expect fun
 FloatArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n * \n * \n * Sorts a range in the array in-place.\n * \n *
 @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range
 (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is
 less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
 [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n * \n *
 @SinceKotlin("1.4")\n public expect fun DoubleArray.sort(fromIndex: Int = 0, toIndex: Int = size):
 Unit\n * \n * \n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to
 sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n *
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
 array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
 samples.collections.Arrays.Sorting.sortRangeOfArray\n * \n * @SinceKotlin("1.4")\n public expect fun
 CharArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n * \n * \n * Sorts elements of the array in the specified
 range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * The sort is
 stable. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @param
 fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n *
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of
 this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
 @SinceKotlin("1.4")\n public fun <T : Comparable<T>> Array<out T>.sortDescending(fromIndex: Int,
 toIndex: Int): Unit {\n * \n * \n * sortWith(reverseOrder(), fromIndex, toIndex)\n * \n * \n * \n * Sorts elements of the array in
 the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * \n *
 @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to
 sort.\n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the
 size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
 @SinceKotlin("1.4")\n public fun ByteArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n * \n * \n *
 sort(fromIndex, toIndex)\n * \n * \n * reverse(fromIndex, toIndex)\n * \n * \n * \n * Sorts elements of the array in the specified
 range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * \n * @param
 fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n *
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of
 this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
 @SinceKotlin("1.4")\n public fun ShortArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n * \n * \n *
 sort(fromIndex, toIndex)\n * \n * \n * reverse(fromIndex, toIndex)\n * \n * \n * \n * Sorts elements of the array in the specified
 range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * \n * @param
 fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n *
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of
 this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
 @SinceKotlin("1.4")\n public fun IntArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n * \n * \n *
 sort(fromIndex, toIndex)\n * \n * \n * reverse(fromIndex, toIndex)\n * \n * \n * \n * Sorts elements of the array in the specified
 range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * \n * @param
 fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n *
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of
 this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
 @SinceKotlin("1.4")\n public fun LongArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n * \n * \n *
 sort(fromIndex, toIndex)\n * \n * \n * reverse(fromIndex, toIndex)\n * \n * \n * \n * Sorts elements of the array in the specified
 range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * \n * @param
 fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n *
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of

this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n

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*\n@SinceKotlin("1.4")\npublic fun FloatArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n
sort(fromIndex, toIndex)\n  reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified
range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param
fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n *
\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of
this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\npublic fun DoubleArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n
sort(fromIndex, toIndex)\n  reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified
range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param
fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n *
\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of
this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\npublic fun CharArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n
sort(fromIndex, toIndex)\n  reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts the array in-place according to the
order specified by the given [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their
order relative to each other after sorting.\n */\npublic expect fun <T> Array<out T>.sortWith(comparator:
Comparator<in T>): Unit\n\n/**\n * Sorts a range in the array in-place with the given [comparator].\n * \n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n *
@param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range
(exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is
less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n */\npublic expect fun <T> Array<out T>.sortWith(comparator:
Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Returns an array of Boolean containing
all of the elements of this generic array.\n */\npublic fun Array<out Boolean>.toBooleanArray(): BooleanArray {\n
return BooleanArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Byte containing all of the
elements of this generic array.\n */\npublic fun Array<out Byte>.toByteArray(): ByteArray {\n  return
ByteArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Char containing all of the elements of this
generic array.\n */\npublic fun Array<out Char>.toCharArray(): CharArray {\n  return CharArray(size) { index ->
this[index] }\n}\n\n/**\n * Returns an array of Double containing all of the elements of this generic array.\n
*\npublic fun Array<out Double>.toDoubleArray(): DoubleArray {\n  return DoubleArray(size) { index ->
this[index] }\n}\n\n/**\n * Returns an array of Float containing all of the elements of this generic array.\n
*\npublic fun Array<out Float>.toFloatArray(): FloatArray {\n  return FloatArray(size) { index -> this[index] }\n}\n\n/**\n *
Returns an array of Int containing all of the elements of this generic array.\n */\npublic fun Array<out
Int>.toIntArray(): IntArray {\n  return IntArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of
Long containing all of the elements of this generic array.\n */\npublic fun Array<out Long>.toLongArray():
LongArray {\n  return LongArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Short containing
all of the elements of this generic array.\n */\npublic fun Array<out Short>.toShortArray(): ShortArray {\n
return ShortArray(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array containing all of the elements
of this primitive array.\n */\npublic expect fun ByteArray.toTypedArray(): Array<Byte>\n\n/**\n * Returns a
*typed* object array containing all of the elements of this primitive array.\n */\npublic expect fun
ShortArray.toTypedArray(): Array<Short>\n\n/**\n * Returns a *typed* object array containing all of the elements
of this primitive array.\n */\npublic expect fun IntArray.toTypedArray(): Array<Int>\n\n/**\n * Returns a *typed*
object array containing all of the elements of this primitive array.\n */\npublic expect fun
LongArray.toTypedArray(): Array<Long>\n\n/**\n * Returns a *typed* object array containing all of the elements
of this primitive array.\n */\npublic expect fun FloatArray.toTypedArray(): Array<Float>\n\n/**\n * Returns a
*typed* object array containing all of the elements of this primitive array.\n */\npublic expect fun
DoubleArray.toTypedArray(): Array<Double>\n\n/**\n * Returns a *typed* object array containing all of the

```

elements of this primitive array.

```

public expect fun BooleanArray.toTypedArray(): Array<Boolean>
Returns a *typed* object array containing all of the elements of this primitive array.

public expect fun CharArray.toTypedArray(): Array<Char>
Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.
If any of two pairs would have the same key the last one gets added to the map.
The returned map preserves the entry iteration order of the original array.
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives

public inline fun <T, K, V> Array<out T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> List<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> CharArray.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> ShortArray.associate(transform: (Short) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> IntArray.associate(transform: (Int) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> LongArray.associate(transform: (Long) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> FloatArray.associate(transform: (Float) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> DoubleArray.associate(transform: (Double) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.
If any of two pairs would have the same key the last one gets added to the map.
The returned map preserves the entry iteration order of the original array.
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives

public inline fun <T, K, V> BooleanArray.associate(transform: (Boolean) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> CharArray.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> ShortArray.associate(transform: (Short) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> IntArray.associate(transform: (Int) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> LongArray.associate(transform: (Long) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> FloatArray.associate(transform: (Float) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

public inline fun <T, K, V> DoubleArray.associate(transform: (Double) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

BooleanArray.associate(transform: (Boolean) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.
If any of two pairs would have the same key the last one gets added to the map.
The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives

public inline fun <K, V> CharArray.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

public inline fun <T, K> Array<out T>.associateBy(keySelector: (T) -> K): Map<K, T> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, T>(capacity), keySelector)
}

Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

public inline fun <K> ByteArray.associateBy(keySelector: (Byte) -> K): Map<K, Byte> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, Byte>(capacity), keySelector)
}

Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

public inline fun <K> ShortArray.associateBy(keySelector: (Short) -> K): Map<K, Short> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, Short>(capacity), keySelector)
}

Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

public inline fun <K> IntArray.associateBy(keySelector: (Int) -> K): Map<K, Int> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, Int>(capacity), keySelector)
}

Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

public inline fun <K> LongArray.associateBy(keySelector: (Long) -> K): Map<K, Long> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, Long>(capacity), keySelector)
}

Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

public inline fun <K>

```



```

FloatArray.associateBy(keySelector: (Float) -> K): Map<K, Float> {\n  val capacity =
mapCapacity(size).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, Float>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
DoubleArray.associateBy(keySelector: (Double) -> K): Map<K, Double> {\n  val capacity =
mapCapacity(size).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, Double>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
BooleanArray.associateBy(keySelector: (Boolean) -> K): Map<K, Boolean> {\n  val capacity =
mapCapacity(size).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, Boolean>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
CharArray.associateBy(keySelector: (Char) -> K): Map<K, Char> {\n  val capacity =
mapCapacity(size).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, Char>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by
[keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline
fun <T, K, V> Array<out T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n  val
capacity = mapCapacity(size).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline
fun <K, V> ByteArray.associateBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, V> {\n  val
capacity = mapCapacity(size).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline
fun <K, V> ShortArray.associateBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, V> {\n  val
capacity = mapCapacity(size).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample

```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline fun <K, V> IntArray.associateBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline fun <K, V> LongArray.associateBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline fun <K, V> FloatArray.associateBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline fun <K, V> DoubleArray.associateBy(keySelector: (Double) -> K, valueTransform: (Double) -> V): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline fun <K, V> BooleanArray.associateBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline fun <K, V> CharArray.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <T, K, M : MutableMap<in K, in T>> Array<out T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n    for (element in this) {\n        destination.put(keySelector(element), element)\n    }\n    return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```

@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Byte>> ByteArray.associateByTo(destination: M, keySelector: (Byte) -> K): M {\n for
(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Short>> ShortArray.associateByTo(destination: M, keySelector: (Short) -> K): M {\n
for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Int>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K): M {\n for
(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Long>> LongArray.associateByTo(destination: M, keySelector: (Long) -> K): M {\n
for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Float>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K): M {\n
for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Double>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K): M
{\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is
provided by the [keySelector] function applied to each element of the given array\n * and value is the element
itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the
map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic
inline fun <K, M : MutableMap<in K, in Boolean>> BooleanArray.associateByTo(destination: M, keySelector:
(Boolean) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n
return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where
key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element
itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the
map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic
inline fun <K, M : MutableMap<in K, in Char>> CharArray.associateByTo(destination: M, keySelector: (Char) ->
K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is
provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to
elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last

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one gets added to the map.\n * \n * @sample

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n *^\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
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```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n *^\npublic inline fun <K, V, M : MutableMap<in K, in V>> ByteArray.associateByTo(destination: M, keySelector: (Byte) -> K, valueTransform: (Byte) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n *^\npublic inline fun <K, V, M : MutableMap<in K, in V>> ShortArray.associateByTo(destination: M, keySelector: (Short) -> K, valueTransform: (Short) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n *^\npublic inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K, valueTransform: (Int) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n *^\npublic inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateByTo(destination: M, keySelector: (Long) -> K, valueTransform: (Long) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
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```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n *^\npublic inline fun <K, V, M : MutableMap<in K, in V>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K, valueTransform: (Float) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n *^\npublic inline fun <K, V, M : MutableMap<in K, in V>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K, valueTransform: (Double) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector]
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function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n *
\n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n *
\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n *
\n * public inline fun <K, V, M : MutableMap<in K, in V>> BooleanArray.associateByTo(destination: M, keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n *
\n * public inline fun <K, V, M : MutableMap<in K, in V>> CharArray.associateByTo(destination: M, keySelector: (Char) -> K, valueTransform: (Char) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n * If any of two pairs would have the same key the last one gets added to the map.\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n *
\n * public inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n * If any of two pairs would have the same key the last one gets added to the map.\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n *
\n * public inline fun <K, V, M : MutableMap<in K, in V>> ByteArray.associateTo(destination: M, transform: (Byte) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n * If any of two pairs would have the same key the last one gets added to the map.\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n *
\n * public inline fun <K, V, M : MutableMap<in K, in V>> ShortArray.associateTo(destination: M, transform: (Short) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n * If any of two pairs would have the same key the last one gets added to the map.\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n *
\n * public inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateTo(destination: M, transform: (Int) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n * If any of two pairs would have the same key the last one gets added to the map.\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n *
\n * public inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateTo(destination: M, transform: (Long) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n * If any of two pairs would have the same key the last one gets added to the map.\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n *
\n * public inline fun <K, V, M : MutableMap<in K, in V>> FloatArray.associateTo(destination: M, transform: (Float) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n * If any of two pairs would have the same key the last one gets added to the

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map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n * \npublic
inline fun <K, V, M : MutableMap<in K, in V>> DoubleArray.associateTo(destination: M, transform: (Double) ->
Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return
destination}\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by
[transform] function applied to each element of the given array.\n * \n * If any of two pairs would have the same key
the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n * \npublic inline fun <K, V, M :
MutableMap<in K, in V>> BooleanArray.associateTo(destination: M, transform: (Boolean) -> Pair<K, V>): M {\n
for (element in this) {\n destination += transform(element)\n }\n return destination}\n}\n\n/**\n * Populates
and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each
element of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n * \npublic
inline fun <K, V, M : MutableMap<in K, in V>> CharArray.associateTo(destination: M, transform: (Char) ->
Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return
destination}\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced
by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets
added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *
@sample samples.collections.Collections.Transformations.associateWith\n * \n@SinceKotlin("1.4")\npublic inline
fun <K, V> Array<out K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n val result =
LinkedHashMap<K, V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *
produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one
gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *
@sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
ByteArray.associateWith(valueSelector: (Byte) -> V): Map<Byte, V> {\n val result = LinkedHashMap<Byte,
V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
ShortArray.associateWith(valueSelector: (Short) -> V): Map<Short, V> {\n val result = LinkedHashMap<Short,
V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
IntArray.associateWith(valueSelector: (Int) -> V): Map<Int, V> {\n val result = LinkedHashMap<Int,
V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
LongArray.associateWith(valueSelector: (Long) -> V): Map<Long, V> {\n val result = LinkedHashMap<Long,
V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a

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[Map] where keys are elements from the given array and values are produced by the [valueSelector] function applied to each element. If any two elements are equal, the last one gets added to the map. The returned map preserves the entry iteration order of the original array. @sample

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samples.collections.Collections.Transformations.associateWith
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <V>
FloatArray.associateWith(valueSelector: (Float) -> V): Map<Float, V> {n val result = LinkedHashMap<Float,
V>(mapCapacity(size).coerceAtLeast(16))n return associateWithTo(result, valueSelector)n}n/n/**n * Returns a
[Map] where keys are elements from the given array and values are produced by the [valueSelector] function
applied to each element.n * If any two elements are equal, the last one gets added to the map.n * The
returned map preserves the entry iteration order of the original array.n * @sample
samples.collections.Collections.Transformations.associateWith
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <V>
DoubleArray.associateWith(valueSelector: (Double) -> V): Map<Double, V> {n val result =
LinkedHashMap<Double, V>(mapCapacity(size).coerceAtLeast(16))n return associateWithTo(result,
valueSelector)n}n/n/**n * Returns a [Map] where keys are elements from the given array and values are
produced by the [valueSelector] function applied to each element.n * If any two elements are equal, the last one
gets added to the map.n * The returned map preserves the entry iteration order of the original array.n *
@sample samples.collections.Collections.Transformations.associateWith
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <V>
BooleanArray.associateWith(valueSelector: (Boolean) -> V): Map<Boolean, V> {n val result =
LinkedHashMap<Boolean, V>(mapCapacity(size).coerceAtLeast(16))n return associateWithTo(result,
valueSelector)n}n/n/**n * Returns a [Map] where keys are elements from the given array and values are
produced by the [valueSelector] function applied to each element.n * If any two elements are equal, the last one
gets added to the map.n * The returned map preserves the entry iteration order of the original array.n *
@sample samples.collections.Collections.Transformations.associateWith
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <V>
CharArray.associateWith(valueSelector: (Char) -> V): Map<Char, V> {n val result = LinkedHashMap<Char,
V>(mapCapacity(size).coerceAtMost(128)).coerceAtLeast(16))n return associateWithTo(result,
valueSelector)n}n/n/**n * Populates and returns the [destination] mutable map with key-value pairs for each
element of the given array,n * where key is the element itself and value is provided by the [valueSelector] function
applied to that key.n * If any two elements are equal, the last one overwrites the former value in the map.n *
@sample samples.collections.Collections.Transformations.associateWithTo
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic
inline fun <K, V, M : MutableMap<in K, in V>> Array<out K>.associateWithTo(destination: M, valueSelector: (K)
-> V): M {n for (element in this) {n destination.put(element, valueSelector(element))n }n return
destinationn}n/n/**n * Populates and returns the [destination] mutable map with key-value pairs for each element
of the given array,n * where key is the element itself and value is provided by the [valueSelector] function applied
to that key.n * If any two elements are equal, the last one overwrites the former value in the map.n *
@sample samples.collections.Collections.Transformations.associateWithTo
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <V, M : MutableMap<in Byte, in V>>
ByteArray.associateWithTo(destination: M, valueSelector: (Byte) -> V): M {n for (element in this) {n
destination.put(element, valueSelector(element))n }n return destinationn}n/n/**n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.n * If any two elements are
equal, the last one overwrites the former value in the map.n * @sample
samples.collections.Collections.Transformations.associateWithTo
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <V, M : MutableMap<in Short, in V>>
ShortArray.associateWithTo(destination: M, valueSelector: (Short) -> V): M {n for (element in this) {n
destination.put(element, valueSelector(element))n }n return destinationn}n/n/**n * Populates and returns the

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[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo

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*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Int, in V>>
IntArray.associateWithTo(destination: M, valueSelector: (Int) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Long, in V>>
LongArray.associateWithTo(destination: M, valueSelector: (Long) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Float, in V>>
FloatArray.associateWithTo(destination: M, valueSelector: (Float) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Double, in V>>
DoubleArray.associateWithTo(destination: M, valueSelector: (Double) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Boolean, in
V>> BooleanArray.associateWithTo(destination: M, valueSelector: (Boolean) -> V): M {\n  for (element in this)
{\n  destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n**\n * Populates and
returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the
element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements
are equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Char, in V>>
CharArray.associateWithTo(destination: M, valueSelector: (Char) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n**\n * Appends all elements to
the given [destination] collection.\n * \n * @public fun <T, C : MutableCollection<in T>> Array<out
T>.toCollection(destination: C): C {\n  for (item in this) {\n  destination.add(item)\n  }\n  return
destination\n}\n\n**\n * Appends all elements to the given [destination] collection.\n * \n * @public fun <C :
MutableCollection<in Byte>> ByteArray.toCollection(destination: C): C {\n  for (item in this) {\n
destination.add(item)\n  }\n  return destination\n}\n\n**\n * Appends all elements to the given [destination]
collection.\n * \n * @public fun <C : MutableCollection<in Short>> ShortArray.toCollection(destination: C): C {\n  for

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(item in this) {\n    destination.add(item)\n } \n return destination\n}\n\n/**\n * Appends all elements to the
given [destination] collection.\n */\npublic fun <C : MutableCollection<in Int>> IntArray.toCollection(destination:
C): C {\n for (item in this) {\n    destination.add(item)\n } \n return destination\n}\n\n/**\n * Appends all
elements to the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Long>>
LongArray.toCollection(destination: C): C {\n for (item in this) {\n    destination.add(item)\n } \n return
destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C :
MutableCollection<in Float>> FloatArray.toCollection(destination: C): C {\n for (item in this) {\n
destination.add(item)\n } \n return destination\n}\n\n/**\n * Appends all elements to the given [destination]
collection.\n */\npublic fun <C : MutableCollection<in Double>> DoubleArray.toCollection(destination: C): C {\n
for (item in this) {\n    destination.add(item)\n } \n return destination\n}\n\n/**\n * Appends all elements to the
given [destination] collection.\n */\npublic fun <C : MutableCollection<in Boolean>>
BooleanArray.toCollection(destination: C): C {\n for (item in this) {\n    destination.add(item)\n } \n return
destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C :
MutableCollection<in Char>> CharArray.toCollection(destination: C): C {\n for (item in this) {\n
destination.add(item)\n } \n return destination\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n
*/\npublic fun <T> Array<out T>.toHashSet(): HashSet<T> {\n return
toCollection(HashSet<T>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n
*/\npublic fun ByteArray.toHashSet(): HashSet<Byte> {\n return
toCollection(HashSet<Byte>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n
*/\npublic fun ShortArray.toHashSet(): HashSet<Short> {\n return
toCollection(HashSet<Short>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n
*/\npublic fun IntArray.toHashSet(): HashSet<Int> {\n return
toCollection(HashSet<Int>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n
*/\npublic fun LongArray.toHashSet(): HashSet<Long> {\n return
toCollection(HashSet<Long>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n
*/\npublic fun FloatArray.toHashSet(): HashSet<Float> {\n return
toCollection(HashSet<Float>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n
*/\npublic fun DoubleArray.toHashSet(): HashSet<Double> {\n return
toCollection(HashSet<Double>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n
*/\npublic fun BooleanArray.toHashSet(): HashSet<Boolean> {\n return
toCollection(HashSet<Boolean>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n
*/\npublic fun CharArray.toHashSet(): HashSet<Char> {\n return
toCollection(HashSet<Char>(mapCapacity(size.coerceAtMost(128))))\n}\n\n/**\n * Returns a [List] containing all
elements.\n */\npublic fun <T> Array<out T>.toList(): List<T> {\n return when (size) {\n    0 -> emptyList()\n
1 -> listOf(this[0])\n    else -> this.toMutableList()\n } \n}\n\n/**\n * Returns a [List] containing all
elements.\n */\npublic fun ByteArray.toList(): List<Byte> {\n return when (size) {\n    0 -> emptyList()\n
1 -> listOf(this[0])\n    else -> this.toMutableList()\n } \n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun ShortArray.toList(): List<Short> {\n return when (size) {\n    0 -> emptyList()\n
1 -> listOf(this[0])\n    else -> this.toMutableList()\n } \n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun IntArray.toList(): List<Int> {\n return when (size) {\n    0 -> emptyList()\n
1 -> listOf(this[0])\n    else -> this.toMutableList()\n } \n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun LongArray.toList(): List<Long> {\n return when (size) {\n    0 -> emptyList()\n
1 -> listOf(this[0])\n    else -> this.toMutableList()\n } \n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun FloatArray.toList(): List<Float> {\n return when (size) {\n    0 -> emptyList()\n
1 -> listOf(this[0])\n    else -> this.toMutableList()\n } \n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun DoubleArray.toList(): List<Double> {\n return when (size) {\n    0 -> emptyList()\n
1 -> listOf(this[0])\n    else -> this.toMutableList()\n } \n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun BooleanArray.toList(): List<Boolean> {\n return when (size) {\n    0 -> emptyList()\n
1 ->

```



```

ByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterable\\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ByteArray.flatMapIndexed(transform: (index: Int, Byte) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterable\\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ShortArray.flatMapIndexed(transform: (index: Int, Short) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterable\\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> IntArray.flatMapIndexed(transform: (index: Int, Int) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterable\\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> LongArray.flatMapIndexed(transform: (index: Int, Long) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterable\\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> FloatArray.flatMapIndexed(transform: (index: Int, Float) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterable\\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> DoubleArray.flatMapIndexed(transform: (index: Int, Double) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterable\\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> BooleanArray.flatMapIndexed(transform: (index: Int, Boolean) -> Iterable<R>): List<R> {\n
return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded
from results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterable\\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> CharArray.flatMapIndexed(transform: (index: Int, Char) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

```

ByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedSequence")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): List<R> {\n return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapIndexedTo(destination: C, transform: (index: Int, T) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ByteArray.flatMapIndexedTo(destination: C, transform: (index: Int, Byte) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ShortArray.flatMapIndexedTo(destination: C, transform: (index: Int, Short) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> IntArray.flatMapIndexedTo(destination: C, transform: (index: Int, Int) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> LongArray.flatMapIndexedTo(destination: C, transform: (index: Int, Long) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> FloatArray.flatMapIndexedTo(destination: C, transform: (index: Int, Float) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

```
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterableTo\\")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> DoubleArray.flatMapIndexedTo(destination: C, transform: (index: Int, Double) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterableTo\\")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> BooleanArray.flatMapIndexedTo(destination: C, transform: (index: Int, Boolean) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedIterableTo\\")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> CharArray.flatMapIndexedTo(destination: C, transform: (index: Int, Char) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("\\flatMapIndexedSequenceTo\\")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapIndexedTo(destination: C, transform: (index: Int, T) -> Sequence<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\n\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\n\npublic inline fun <R, C : MutableCollection<in R>> ByteArray.flatMapTo(destination: C, transform: (Byte) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\n\npublic inline fun <R, C : MutableCollection<in R>> ShortArray.flatMapTo(destination: C, transform: (Short) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\n\npublic inline fun <R, C : MutableCollection<in R>> IntArray.flatMapTo(destination: C, transform: (Int) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\n\npublic inline fun <R, C : MutableCollection<in R>> LongArray.flatMapTo(destination: C, transform: (Long) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\n\npublic inline fun <R, C : MutableCollection<in R>> FloatArray.flatMapTo(destination: C, transform: (Float) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */
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[destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> DoubleArray.flatMapTo(destination: C,
transform: (Double) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n
destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline
fun <R, C : MutableCollection<in R>> BooleanArray.flatMapTo(destination: C, transform: (Boolean) ->
Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n
}\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being
invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C :
MutableCollection<in R>> CharArray.flatMapTo(destination: C, transform: (Char) -> Iterable<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n @kotlin.jvm.JvmName("flatMapSequenceTo")\n public inline fun <T, R, C :
MutableCollection<in R>> Array<out T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun
<T, K> Array<out T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n return
groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups elements of the original
array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where
each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry
iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
ByteArray.groupBy(keySelector: (Byte) -> K): Map<K, List<Byte>> {\n return groupByTo(LinkedHashMap<K,
MutableList<Byte>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic
inline fun <K> ShortArray.groupBy(keySelector: (Short) -> K): Map<K, List<Short>> {\n return
groupByTo(LinkedHashMap<K, MutableList<Short>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
IntArray.groupBy(keySelector: (Int) -> K): Map<K, List<Int>> {\n return groupByTo(LinkedHashMap<K,
MutableList<Int>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic
inline fun <K> LongArray.groupBy(keySelector: (Long) -> K): Map<K, List<Long>> {\n return
groupByTo(LinkedHashMap<K, MutableList<Long>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>

```

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FloatArray.groupBy(keySelector: (Float) -> K): Map<K, List<Float>> {\n  return groupByTo(LinkedHashMap<K,
MutableList<Float>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic
inline fun <K> DoubleArray.groupBy(keySelector: (Double) -> K): Map<K, List<Double>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<Double>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
BooleanArray.groupBy(keySelector: (Boolean) -> K): Map<K, List<Boolean>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<Boolean>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
CharArray.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {\n  return groupByTo(LinkedHashMap<K,
MutableList<Char>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied
to each element of the original array\n * by the key returned by the given [keySelector] function applied to the
element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The
returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V>
Array<out T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V>
ByteArray.groupBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V>
ShortArray.groupBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V>
IntArray.groupBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated

```


with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample

```

samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic inline fun <K, V>
LongArray.groupBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic inline fun <K, V>
FloatArray.groupBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic inline fun <K, V>
DoubleArray.groupBy(keySelector: (Double) -> K, valueTransform: (Double) -> V): Map<K, List<V>> {\n
return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
values returned by the [valueTransform] function applied to each element of the original array\n * by the key
returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is
associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the
keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic inline fun <K, V>
BooleanArray.groupBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): Map<K, List<V>> {\n
return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
values returned by the [valueTransform] function applied to each element of the original array\n * by the key
returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is
associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the
keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic inline fun <K, V>
CharArray.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to
the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *^\npublic inline
fun <T, K, M : MutableMap<in K, MutableList<T>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -
> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key)
{ ArrayList<T>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *^\npublic inline
fun <K, M : MutableMap<in K, MutableList<Byte>>> ByteArray.groupByTo(destination: M, keySelector: (Byte) -
> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key)
{ ArrayList<Byte>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *^\npublic inline

```

```

fun <K, M : MutableMap<in K, MutableList<Short>>> ShortArray.groupByTo(destination: M, keySelector: (Short)
-> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Short>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Int>>>> IntArray.groupByTo(destination: M,
keySelector: (Int) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Int>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Long>>>> LongArray.groupByTo(destination: M,
keySelector: (Long) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Long>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Float>>>> FloatArray.groupByTo(destination: M,
keySelector: (Float) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Float>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Double>>>> DoubleArray.groupByTo(destination: M,
keySelector: (Double) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Double>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Boolean>>>> BooleanArray.groupByTo(destination:
M, keySelector: (Boolean) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Boolean>() }\n    list.add(element)\n  }\n  return
destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector]
function\n * applied to each element and puts to the [destination] map each group key associated with a list of
corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Char>>>> CharArray.groupByTo(destination: M, keySelector: (Char) -> K): M {\n  for (element in
this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key) { ArrayList<Char>() }\n
list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups values returned by the [valueTransform] function
applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to
the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n *
\n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*/\npublic inline fun <T, K, V, M :
MutableMap<in K, MutableList<V>>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return
destination\n}\n\n/**\n *
Groups values returned by the [valueTransform] function applied to each element of the

```

```

original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> ByteArray.groupByTo(destination: M, keySelector:
(Byte) -> K, valueTransform: (Byte) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n
val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination}\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> ShortArray.groupByTo(destination: M, keySelector:
(Short) -> K, valueTransform: (Short) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n
val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination}\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> IntArray.groupByTo(destination: M, keySelector:
(Int) -> K, valueTransform: (Int) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n
val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination}\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> LongArray.groupByTo(destination: M, keySelector:
(Long) -> K, valueTransform: (Long) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n
val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination}\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> FloatArray.groupByTo(destination: M, keySelector:
(Float) -> K, valueTransform: (Float) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n
val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination}\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> DoubleArray.groupByTo(destination: M, keySelector:
(Double) -> K, valueTransform: (Double) -> V): M {\n for (element in this) {\n val key =
keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n
list.add(valueTransform(element))\n }\n return destination}\n}\n\n/**\n * Groups values returned by the
[valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic inline fun <K, V, M :
MutableMap<in K, MutableList<V>>> BooleanArray.groupByTo(destination: M, keySelector: (Boolean) -> K,
valueTransform: (Boolean) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list

```



```

ByteArray.mapIndexed(transform: (index: Int, Byte) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function
that takes the index of an element and the element itself\n * and returns the result of the transform applied to the
element.\n */\npublic inline fun <R> ShortArray.mapIndexed(transform: (index: Int, Short) -> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying
the given [transform] function\n * to each element and its index in the original array.\n * @param [transform]
function that takes the index of an element and the element itself\n * and returns the result of the transform applied
to the element.\n */\npublic inline fun <R> IntArray.mapIndexed(transform: (index: Int, Int) -> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying
the given [transform] function\n * to each element and its index in the original array.\n * @param [transform]
function that takes the index of an element and the element itself\n * and returns the result of the transform applied
to the element.\n */\npublic inline fun <R> LongArray.mapIndexed(transform: (index: Int, Long) -> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of
applying the given [transform] function\n * to each element and its index in the original array.\n * @param
[transform] function that takes the index of an element and the element itself\n * and returns the result of the
transform applied to the element.\n */\npublic inline fun <R> FloatArray.mapIndexed(transform: (index: Int, Float) -
> R): List<R> {\n  return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing
the results of applying the given [transform] function\n * to each element and its index in the original array.\n *
@param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n */\npublic inline fun <R> DoubleArray.mapIndexed(transform: (index: Int,
Double) -> R): List<R> {\n  return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list
containing the results of applying the given [transform] function\n * to each element and its index in the original
array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the
result of the transform applied to the element.\n */\npublic inline fun <R> BooleanArray.mapIndexed(transform:
(index: Int, Boolean) -> R): List<R> {\n  return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n *
Returns a list containing the results of applying the given [transform] function\n * to each element and its index in
the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and
returns the result of the transform applied to the element.\n */\npublic inline fun <R>
CharArray.mapIndexed(transform: (index: Int, Char) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing only the non-null results of
applying the given [transform] function\n * to each element and its index in the original array.\n * @param
[transform] function that takes the index of an element and the element itself\n * and returns the result of the
transform applied to the element.\n */\npublic inline fun <T, R : Any> Array<out
T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {\n  return
mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each
element and its index in the original array\n * and appends only the non-null results to the given [destination].\n *
@param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Array<out
T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {\n  forEachIndexed { index,
element -> transform(index, element)?.let { destination.add(it) } }\n  return destination\n}\n\n/**\n * Applies the
given [transform] function to each element and its index in the original array\n * and appends the results to the given
[destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and
returns the result of the transform applied to the element.\n */\npublic inline fun <T, R, C : MutableCollection<in
R>> Array<out T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {\n  var index = 0\n  for
(item in this)\n    destination.add(transform(index++, item))\n  return destination\n}\n\n/**\n * Applies the given
[transform] function to each element and its index in the original array\n * and appends the results to the given
[destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and

```

returns the result of the transform applied to the element.

```

public inline fun <R, C : MutableCollection<in R>>
ByteArray.mapIndexedTo(destination: C, transform: (index: Int, Byte) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R, C : MutableCollection<in R>>
ShortArray.mapIndexedTo(destination: C, transform: (index: Int, Short) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R, C : MutableCollection<in R>>
IntArray.mapIndexedTo(destination: C, transform: (index: Int, Int) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R, C : MutableCollection<in R>>
LongArray.mapIndexedTo(destination: C, transform: (index: Int, Long) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R, C : MutableCollection<in R>>
FloatArray.mapIndexedTo(destination: C, transform: (index: Int, Float) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R, C : MutableCollection<in R>>
DoubleArray.mapIndexedTo(destination: C, transform: (index: Int, Double) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R, C : MutableCollection<in R>>
BooleanArray.mapIndexedTo(destination: C, transform: (index: Int, Boolean) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R, C : MutableCollection<in R>>
CharArray.mapIndexedTo(destination: C, transform: (index: Int, Char) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}

```

Returns a list containing only the non-null results of applying the given [transform] function to each element in the original array.

```

sample.samples.collections.Collections.Transformations.mapNotNull
Array<out T>.mapNotNull(transform: (T) -> R?): List<R> {
    return mapNotNullTo(ArrayList<R>(), transform)
}

```

Applies the given [transform] function to each element in the original array and appends only the non-null results to the given [destination].

```

public inline fun <T, R : Any, C :
MutableCollection<in R>> Array<out T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {
    for (element in this)
        destination.add(transform(element)?.let { destination.add(it) })
    return destination
}

```

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

public inline fun <T, R, C : MutableCollection<in R>> Array<out T>.mapTo(destination: C, transform: (T) ->
R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

Applies the

given [transform] function to each element of the original array and appends the results to the given [destination].

```

public inline fun <R, C : MutableCollection<in R>> ByteArray.mapTo(destination: C,
transform: (Byte) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

public inline fun <R, C : MutableCollection<in R>> ShortArray.mapTo(destination: C, transform: (Short) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

public inline fun <R, C : MutableCollection<in R>> IntArray.mapTo(destination: C, transform: (Int) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

public inline fun <R, C : MutableCollection<in R>> LongArray.mapTo(destination: C, transform: (Long) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

public inline fun <R, C : MutableCollection<in R>> FloatArray.mapTo(destination: C, transform: (Float) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

public inline fun <R, C : MutableCollection<in R>> DoubleArray.mapTo(destination: C, transform: (Double) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

public inline fun <R, C : MutableCollection<in R>> BooleanArray.mapTo(destination: C, transform: (Boolean) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

public inline fun <R, C : MutableCollection<in R>> CharArray.mapTo(destination: C, transform: (Char) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

```

public fun <T> Array<out T>.withIndex(): Iterable<IndexedValue<T>> {
    return IndexingIterable { iterator() }
}

```

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

```

public fun ByteArray.withIndex(): Iterable<IndexedValue<Byte>> {
    return IndexingIterable { iterator() }
}

```

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

```

public fun ShortArray.withIndex(): Iterable<IndexedValue<Short>> {
    return IndexingIterable { iterator() }
}

```

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

```

public fun IntArray.withIndex(): Iterable<IndexedValue<Int>> {
    return IndexingIterable { iterator() }
}

```

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

```

public fun LongArray.withIndex(): Iterable<IndexedValue<Long>> {
    return IndexingIterable { iterator() }
}

```

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

```

public fun FloatArray.withIndex(): Iterable<IndexedValue<Float>> {
    return IndexingIterable { iterator() }
}

```

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

```

public fun DoubleArray.withIndex(): Iterable<IndexedValue<Double>> {
    return IndexingIterable { iterator() }
}

```

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

```

public fun BooleanArray.withIndex(): Iterable<IndexedValue<Boolean>> {
    return IndexingIterable { iterator() }
}

```

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

```

public fun CharArray.withIndex():

```

```

Iterable<IndexedValue<Char>> {\n  return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a list containing
only distinct elements from the given array.\n * \n * Among equal elements of the given array, only the first one will
be present in the resulting list.\n * The elements in the resulting list are in the same order as they were in the source
array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun
<T> Array<out T>.distinct(): List<T> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list
containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same
order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun ByteArray.distinct():
List<Byte> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements
from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source
array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun
ShortArray.distinct(): List<Short> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing
only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun IntArray.distinct():
List<Int> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from
the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n *
\n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun
LongArray.distinct(): List<Long> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing
only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun FloatArray.distinct():
List<Float> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements
from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source
array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun
DoubleArray.distinct(): List<Double> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list
containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same
order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun BooleanArray.distinct():
List<Boolean> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct
elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the
source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic
fun CharArray.distinct(): List<Char> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing
only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n *
Among elements of the given array with equal keys, only the first one will be present in the resulting list.\n * The
elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <T, K> Array<out
T>.distinctBy(selector: (T) -> K): List<T> {\n  val set = HashSet<K>()\n  val list = ArrayList<T>()\n  for (e in
this) {\n    val key = selector(e)\n    if (set.add(key))\n      list.add(e)\n  }\n  return list\n}\n\n/**\n *
Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector]
function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n *
@sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
ByteArray.distinctBy(selector: (Byte) -> K): List<Byte> {\n  val set = HashSet<K>()\n  val list =
ArrayList<Byte>()\n  for (e in this) {\n    val key = selector(e)\n    if (set.add(key))\n      list.add(e)\n  }\n
return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>

```



```

ShortArray.distinctBy(selector: (Short) -> K): List<Short> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Short>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
IntArray.distinctBy(selector: (Int) -> K): List<Int> {\n    val set = HashSet<K>()\n    val list = ArrayList<Int>()\n
for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given
[selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source
array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline
fun <K> LongArray.distinctBy(selector: (Long) -> K): List<Long> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Long>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
FloatArray.distinctBy(selector: (Float) -> K): List<Float> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Float>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
DoubleArray.distinctBy(selector: (Double) -> K): List<Double> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Double>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
BooleanArray.distinctBy(selector: (Boolean) -> K): List<Boolean> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Boolean>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
CharArray.distinctBy(selector: (Char) -> K): List<Char> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Char>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified
collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set
containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun <T>
Array<out T>.intersect(other: Iterable<T>): Set<T> {\n    val set = this.toMutableSet()\n    set.retainAll(other)\n    return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified
collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set
containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun
ByteArray.intersect(other: Iterable<Byte>): Set<Byte> {\n    val set = this.toMutableSet()\n    set.retainAll(other)\n    return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified
collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set
containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun

```

```

ShortArray.intersect(other: Iterable<Short>): Set<Short> {\n    val set = this.toMutableSet()\n
set.retainAll(other)\n    return set}\n\n/**\n * Returns a set containing all elements that are contained by both this
array and the specified collection.\n * \n * The returned set preserves the element iteration order of the original
array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use
[union].\n */\npublic infix fun IntArray.intersect(other: Iterable<Int>): Set<Int> {\n    val set = this.toMutableSet()\n
set.retainAll(other)\n    return set}\n\n/**\n * Returns a set containing all elements that are contained by both this
array and the specified collection.\n * \n * The returned set preserves the element iteration order of the original
array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use
[union].\n */\npublic infix fun LongArray.intersect(other: Iterable<Long>): Set<Long> {\n    val set =
this.toMutableSet()\n    set.retainAll(other)\n    return set}\n\n/**\n * Returns a set containing all elements that are
contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration
order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these
collections use [union].\n */\npublic infix fun FloatArray.intersect(other: Iterable<Float>): Set<Float> {\n    val set
= this.toMutableSet()\n    set.retainAll(other)\n    return set}\n\n/**\n * Returns a set containing all elements that
are contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration
order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these
collections use [union].\n */\npublic infix fun DoubleArray.intersect(other: Iterable<Double>): Set<Double> {\n
val set = this.toMutableSet()\n    set.retainAll(other)\n    return set}\n\n/**\n * Returns a set containing all
elements that are contained by both this array and the specified collection.\n * \n * The returned set preserves the
element iteration order of the original array.\n * \n * To get a set containing all elements that are contained at least
in one of these collections use [union].\n */\npublic infix fun BooleanArray.intersect(other: Iterable<Boolean>):
Set<Boolean> {\n    val set = this.toMutableSet()\n    set.retainAll(other)\n    return set}\n\n/**\n * Returns a set
containing all elements that are contained by both this array and the specified collection.\n * \n * The returned set
preserves the element iteration order of the original array.\n * \n * To get a set containing all elements that are
contained at least in one of these collections use [union].\n */\npublic infix fun CharArray.intersect(other:
Iterable<Char>): Set<Char> {\n    val set = this.toMutableSet()\n    set.retainAll(other)\n    return set}\n\n/**\n
* Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n
* \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun <T>
Array<out T>.subtract(other: Iterable<T>): Set<T> {\n    val set = this.toMutableSet()\n    set.removeAll(other)\n
return set}\n\n/**\n * Returns a set containing all elements that are contained by this array and not contained by
the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n
*/\npublic infix fun ByteArray.subtract(other: Iterable<Byte>): Set<Byte> {\n    val set = this.toMutableSet()\n
set.removeAll(other)\n    return set}\n\n/**\n * Returns a set containing all elements that are contained by this
array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of
the original array.\n */\npublic infix fun ShortArray.subtract(other: Iterable<Short>): Set<Short> {\n    val set =
this.toMutableSet()\n    set.removeAll(other)\n    return set}\n\n/**\n * Returns a set containing all elements that
are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the
element iteration order of the original array.\n */\npublic infix fun IntArray.subtract(other: Iterable<Int>): Set<Int>
{\n    val set = this.toMutableSet()\n    set.removeAll(other)\n    return set}\n\n/**\n * Returns a set containing all
elements that are contained by this array and not contained by the specified collection.\n * \n * The returned set
preserves the element iteration order of the original array.\n */\npublic infix fun LongArray.subtract(other:
Iterable<Long>): Set<Long> {\n    val set = this.toMutableSet()\n    set.removeAll(other)\n    return set}\n\n/**\n
* Returns a set containing all elements that are contained by this array and not contained by the specified
collection.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun
FloatArray.subtract(other: Iterable<Float>): Set<Float> {\n    val set = this.toMutableSet()\n
set.removeAll(other)\n    return set}\n\n/**\n * Returns a set containing all elements that are contained by this
array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of
the original array.\n */\npublic infix fun DoubleArray.subtract(other: Iterable<Double>): Set<Double> {\n    val set

```

```

= this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that
are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the
element iteration order of the original array.\n */\npublic infix fun BooleanArray.subtract(other: Iterable<Boolean>):
Set<Boolean> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set
containing all elements that are contained by this array and not contained by the specified collection.\n * \n * The
returned set preserves the element iteration order of the original array.\n */\npublic infix fun
CharArray.subtract(other: Iterable<Char>): Set<Char> {\n val set = this.toMutableSet()\n set.removeAll(other)\n
return set\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given array.\n * \n *
The returned set preserves the element iteration order of the original array.\n */\npublic fun <T> Array<out
T>.toMutableSet(): MutableSet<T> {\n return toCollection(LinkedHashSet<T>(mapCapacity(size)))\n}\n\n/**\n *
Returns a new [MutableSet] containing all distinct elements from the given array.\n * \n * The returned set
preserves the element iteration order of the original array.\n */\npublic fun ByteArray.toMutableSet():
MutableSet<Byte> {\n return toCollection(LinkedHashSet<Byte>(mapCapacity(size)))\n}\n\n/**\n * Returns a
new [MutableSet] containing all distinct elements from the given array.\n * \n * The returned set preserves the
element iteration order of the original array.\n */\npublic fun ShortArray.toMutableSet(): MutableSet<Short> {\n
return toCollection(LinkedHashSet<Short>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet]
containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration
order of the original array.\n */\npublic fun IntArray.toMutableSet(): MutableSet<Int> {\n return
toCollection(LinkedHashSet<Int>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all
distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the
original array.\n */\npublic fun LongArray.toMutableSet(): MutableSet<Long> {\n return
toCollection(LinkedHashSet<Long>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all
distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the
original array.\n */\npublic fun FloatArray.toMutableSet(): MutableSet<Float> {\n return
toCollection(LinkedHashSet<Float>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all
distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the
original array.\n */\npublic fun DoubleArray.toMutableSet(): MutableSet<Double> {\n return
toCollection(LinkedHashSet<Double>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing
all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the
original array.\n */\npublic fun BooleanArray.toMutableSet(): MutableSet<Boolean> {\n return
toCollection(LinkedHashSet<Boolean>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing
all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the
original array.\n */\npublic fun CharArray.toMutableSet(): MutableSet<Char> {\n return
toCollection(LinkedHashSet<Char>(mapCapacity(size.coerceAtMost(128))))\n}\n\n/**\n * Returns a set containing
all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the
original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the
order of the [other] collection.\n * To get a set containing all elements that are contained in both collections use
[intersect].\n */\npublic infix fun <T> Array<out T>.union(other: Iterable<T>): Set<T> {\n val set =
this.toMutableSet()\n set.addAll(other)\n return set\n}\n\n/**\n * Returns a set containing all distinct elements
from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n *
Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other]
collection.\n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun
ByteArray.union(other: Iterable<Byte>): Set<Byte> {\n val set = this.toMutableSet()\n set.addAll(other)\n
return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned
set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that
are unique are iterated in the end\n * in the order of the [other] collection.\n * To get a set containing all
elements that are contained in both collections use [intersect].\n */\npublic infix fun ShortArray.union(other:
Iterable<Short>): Set<Short> {\n val set = this.toMutableSet()\n set.addAll(other)\n return set\n}\n\n/**\n *

```

Returns a set containing all distinct elements from both collections.

The returned set preserves the element iteration order of the original array.

Those elements of the [other] collection that are unique are iterated in the order of the [other] collection.

To get a set containing all elements that are contained in both collections use [intersect].

```

public infix fun IntArray.union(other: Iterable<Int>): Set<Int> {
    val set = this.toMutableSet()
    set.addAll(other)
    return set
}

```

Returns a set containing all distinct elements from both collections.

The returned set preserves the element iteration order of the original array.

Those elements of the [other] collection that are unique are iterated in the order of the [other] collection.

To get a set containing all elements that are contained in both collections use [intersect].

```

public infix fun LongArray.union(other: Iterable<Long>): Set<Long> {
    val set = this.toMutableSet()
    set.addAll(other)
    return set
}

```

Returns a set containing all distinct elements from both collections.

The returned set preserves the element iteration order of the original array.

Those elements of the [other] collection that are unique are iterated in the order of the [other] collection.

To get a set containing all elements that are contained in both collections use [intersect].

```

public infix fun FloatArray.union(other: Iterable<Float>): Set<Float> {
    val set = this.toMutableSet()
    set.addAll(other)
    return set
}

```

Returns a set containing all distinct elements from both collections.

The returned set preserves the element iteration order of the original array.

Those elements of the [other] collection that are unique are iterated in the order of the [other] collection.

To get a set containing all elements that are contained in both collections use [intersect].

```

public infix fun DoubleArray.union(other: Iterable<Double>): Set<Double> {
    val set = this.toMutableSet()
    set.addAll(other)
    return set
}

```

Returns a set containing all distinct elements from both collections.

The returned set preserves the element iteration order of the original array.

Those elements of the [other] collection that are unique are iterated in the order of the [other] collection.

To get a set containing all elements that are contained in both collections use [intersect].

```

public infix fun BooleanArray.union(other: Iterable<Boolean>): Set<Boolean> {
    val set = this.toMutableSet()
    set.addAll(other)
    return set
}

```

Returns a set containing all distinct elements from both collections.

The returned set preserves the element iteration order of the original array.

Those elements of the [other] collection that are unique are iterated in the order of the [other] collection.

To get a set containing all elements that are contained in both collections use [intersect].

```

public infix fun CharArray.union(other: Iterable<Char>): Set<Char> {
    val set = this.toMutableSet()
    set.addAll(other)
    return set
}

```

Returns `true` if all elements match the given [predicate].

@sample

```

samples.collections.Collections.Aggregates.all<T> Array<out T>.all(predicate: (T) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

Returns `true` if all elements match the given [predicate].

@sample

```

samples.collections.Collections.Aggregates.all ByteArray.all(predicate: (Byte) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

Returns `true` if all elements match the given [predicate].

@sample

```

samples.collections.Collections.Aggregates.all ShortArray.all(predicate: (Short) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

Returns `true` if all elements match the given [predicate].

@sample

```

samples.collections.Collections.Aggregates.all IntArray.all(predicate: (Int) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

Returns `true` if all elements match the given [predicate].

@sample

```

samples.collections.Collections.Aggregates.all LongArray.all(predicate: (Long) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

Returns `true` if all elements match the given [predicate].

@sample

```

samples.collections.Collections.Aggregates.all FloatArray.all(predicate: (Float) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

Returns `true` if all elements match the given [predicate].

@sample

```

samples.collections.Collections.Aggregates.all DoubleArray.all(predicate: (Double) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

Returns `true` if all elements match the given [predicate].

@sample

```

samples.collections.Collections.Aggregates.all\n *\npublic inline fun BooleanArray.all(predicate: (Boolean) -> Boolean): Boolean {\n  for (element in this) if (!predicate(element)) return false\n  return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *\npublic inline fun CharArray.all(predicate: (Char) -> Boolean): Boolean {\n  for (element in this) if (!predicate(element)) return false\n  return true\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun <T> Array<out T>.any(): Boolean {\n  return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun ByteArray.any(): Boolean {\n  return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun ShortArray.any(): Boolean {\n  return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun IntArray.any(): Boolean {\n  return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun LongArray.any(): Boolean {\n  return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun FloatArray.any(): Boolean {\n  return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun DoubleArray.any(): Boolean {\n  return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun BooleanArray.any(): Boolean {\n  return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun CharArray.any(): Boolean {\n  return !isEmpty()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *\npublic inline fun <T> Array<out T>.any(predicate: (T) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *\npublic inline fun ByteArray.any(predicate: (Byte) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *\npublic inline fun ShortArray.any(predicate: (Short) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *\npublic inline fun IntArray.any(predicate: (Int) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *\npublic inline fun LongArray.any(predicate: (Long) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *\npublic inline fun FloatArray.any(predicate: (Float) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *\npublic inline fun DoubleArray.any(predicate: (Double) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *\npublic inline fun BooleanArray.any(predicate: (Boolean) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *\npublic inline fun CharArray.any(predicate:

```

(Char) -> Boolean): Boolean { \n for (element in this) if (predicate(element)) return true \n return false \n } \n \n /** \n * Returns the number of elements in this array. \n */ \n @kotlin.internal.InlineOnly \n public inline fun <T> Array<out T>.count(): Int { \n return size \n } \n \n /** \n * Returns the number of elements in this array. \n */ \n @kotlin.internal.InlineOnly \n public inline fun ByteArray.count(): Int { \n return size \n } \n \n /** \n * Returns the number of elements in this array. \n */ \n @kotlin.internal.InlineOnly \n public inline fun ShortArray.count(): Int { \n return size \n } \n \n /** \n * Returns the number of elements in this array. \n */ \n @kotlin.internal.InlineOnly \n public inline fun IntArray.count(): Int { \n return size \n } \n \n /** \n * Returns the number of elements in this array. \n */ \n @kotlin.internal.InlineOnly \n public inline fun LongArray.count(): Int { \n return size \n } \n \n /** \n * Returns the number of elements in this array. \n */ \n @kotlin.internal.InlineOnly \n public inline fun FloatArray.count(): Int { \n return size \n } \n \n /** \n * Returns the number of elements in this array. \n */ \n @kotlin.internal.InlineOnly \n public inline fun DoubleArray.count(): Int { \n return size \n } \n \n /** \n * Returns the number of elements in this array. \n */ \n @kotlin.internal.InlineOnly \n public inline fun BooleanArray.count(): Int { \n return size \n } \n \n /** \n * Returns the number of elements in this array. \n */ \n @kotlin.internal.InlineOnly \n public inline fun CharArray.count(): Int { \n return size \n } \n \n /** \n * Returns the number of elements matching the given [predicate]. \n */ \n public inline fun <T> Array<out T>.count(predicate: (T) -> Boolean): Int { \n var count = 0 \n for (element in this) if (predicate(element)) ++count \n return count \n } \n \n /** \n * Returns the number of elements matching the given [predicate]. \n */ \n public inline fun ByteArray.count(predicate: (Byte) -> Boolean): Int { \n var count = 0 \n for (element in this) if (predicate(element)) ++count \n return count \n } \n \n /** \n * Returns the number of elements matching the given [predicate]. \n */ \n public inline fun ShortArray.count(predicate: (Short) -> Boolean): Int { \n var count = 0 \n for (element in this) if (predicate(element)) ++count \n return count \n } \n \n /** \n * Returns the number of elements matching the given [predicate]. \n */ \n public inline fun IntArray.count(predicate: (Int) -> Boolean): Int { \n var count = 0 \n for (element in this) if (predicate(element)) ++count \n return count \n } \n \n /** \n * Returns the number of elements matching the given [predicate]. \n */ \n public inline fun LongArray.count(predicate: (Long) -> Boolean): Int { \n var count = 0 \n for (element in this) if (predicate(element)) ++count \n return count \n } \n \n /** \n * Returns the number of elements matching the given [predicate]. \n */ \n public inline fun FloatArray.count(predicate: (Float) -> Boolean): Int { \n var count = 0 \n for (element in this) if (predicate(element)) ++count \n return count \n } \n \n /** \n * Returns the number of elements matching the given [predicate]. \n */ \n public inline fun DoubleArray.count(predicate: (Double) -> Boolean): Int { \n var count = 0 \n for (element in this) if (predicate(element)) ++count \n return count \n } \n \n /** \n * Returns the number of elements matching the given [predicate]. \n */ \n public inline fun BooleanArray.count(predicate: (Boolean) -> Boolean): Int { \n var count = 0 \n for (element in this) if (predicate(element)) ++count \n return count \n } \n \n /** \n * Returns the number of elements matching the given [predicate]. \n */ \n public inline fun CharArray.count(predicate: (Char) -> Boolean): Int { \n var count = 0 \n for (element in this) if (predicate(element)) ++count \n return count \n } \n \n /** \n * Accumulates value starting with [initial] value and applying [operation] from left to right \n * to current accumulator value and each element. \n * \n * Returns the specified [initial] value if the array is empty. \n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value. \n */ \n public inline fun <T, R> Array<out T>.fold(initial: R, operation: (acc: R, T) -> R): R { \n var accumulator = initial \n for (element in this) accumulator = operation(accumulator, element) \n return accumulator \n } \n \n /** \n * Accumulates value starting with [initial] value and applying [operation] from left to right \n * to current accumulator value and each element. \n * \n * Returns the specified [initial] value if the array is empty. \n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value. \n */ \n public inline fun <R> ByteArray.fold(initial: R, operation: (acc: R, Byte) -> R): R { \n var accumulator = initial \n for (element in this) accumulator = operation(accumulator, element) \n return accumulator \n } \n \n /** \n * Accumulates value starting with [initial] value and applying [operation] from left to right \n * to current accumulator value and each element. \n * \n * Returns the specified [initial] value if the array is empty. \n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value. \n */ \n public inline fun <R> ShortArray.fold(initial: R, operation: (acc: R, Short) -> R): R { \n var accumulator = initial \n for (element in this)

```

accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
IntArray.fold(initial: R, operation: (acc: R, Int) -> R): R {\n    var accumulator = initial\n    for (element in this)
accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
LongArray.fold(initial: R, operation: (acc: R, Long) -> R): R {\n    var accumulator = initial\n    for (element in this)
accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
FloatArray.fold(initial: R, operation: (acc: R, Float) -> R): R {\n    var accumulator = initial\n    for (element in this)
accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
DoubleArray.fold(initial: R, operation: (acc: R, Double) -> R): R {\n    var accumulator = initial\n    for (element in
this) accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun
<R> BooleanArray.fold(initial: R, operation: (acc: R, Boolean) -> R): R {\n    var accumulator = initial\n    for
(element in this) accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and
each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation]
function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\n
public inline fun <R> CharArray.fold(initial: R, operation: (acc: R, Char) -> R): R {\n    var accumulator =
initial\n    for (element in this) accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator
value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and
the element itself, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out
T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {\n    var index = 0\n    var accumulator =
initial\n    for (element in this) accumulator = operation(index++, accumulator, element)\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\n
public inline fun <R> ByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): R {\n    var
index = 0\n    var accumulator = initial\n    for (element in this) accumulator = operation(index++, accumulator,
element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n */\npublic inline fun <R> ShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): R

```

```

{\n  var index = 0\n  var accumulator = initial\n  for (element in this) accumulator = operation(index++,
accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and
applying [operation] from left to right\n * to current accumulator value and each element with its index in the
original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n */\npublic inline fun <R> IntArray.foldIndexed(initial: R, operation: (index: Int, acc: R,
Int) -> R): R {\n  var index = 0\n  var accumulator = initial\n  for (element in this) accumulator =
operation(index++, accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its
index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param
[operation] function that takes the index of an element, current accumulator value\n * and the element itself, and
calculates the next accumulator value.\n */\npublic inline fun <R> LongArray.foldIndexed(initial: R, operation:
(index: Int, acc: R, Long) -> R): R {\n  var index = 0\n  var accumulator = initial\n  for (element in this)
accumulator = operation(index++, accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n *
\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n */\npublic inline fun <R> FloatArray.foldIndexed(initial: R,
operation: (index: Int, acc: R, Float) -> R): R {\n  var index = 0\n  var accumulator = initial\n  for (element in
this) accumulator = operation(index++, accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and
each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n *
\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the
element itself, and calculates the next accumulator value.\n */\npublic inline fun <R>
DoubleArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): R {\n  var index = 0\n  var
accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> BooleanArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): R {\n  var
index = 0\n  var accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator,
element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n */\npublic inline fun <R> CharArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R
{\n  var index = 0\n  var accumulator = initial\n  for (element in this) accumulator = operation(index++,
accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and
applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out
T>.foldRight(initial: R, operation: (T, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator = initial\n
while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n */\npublic inline fun <R> ByteArray.foldRight(initial: R, operation: (Byte, acc: R) -> R):

```



```

R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator =
operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.

Returns the specified [initial] value if the array is empty.

@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R>
ShortArray.foldRight(initial: R, operation: (Short, acc: R) -> R): R {
    var index = lastIndex
    var accumulator =
initial
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return
accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.

Returns the specified [initial] value if the array is empty.

@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R>
IntArray.foldRight(initial: R, operation: (Int, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator =
operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.

Returns the specified [initial] value if the array is empty.

@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R>
LongArray.foldRight(initial: R, operation: (Long, acc: R) -> R): R {
    var index = lastIndex
    var accumulator =
initial
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return
accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.

Returns the specified [initial] value if the array is empty.

@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R>
FloatArray.foldRight(initial: R, operation: (Float, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator =
operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.

Returns the specified [initial] value if the array is empty.

@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R>
DoubleArray.foldRight(initial: R, operation: (Double, acc: R) -> R): R {
    var index = lastIndex
    var
accumulator = initial
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.

Returns the specified [initial] value if the array is empty.

@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R>
BooleanArray.foldRight(initial: R, operation: (Boolean, acc: R)
-> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator =
operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.

Returns the specified [initial] value if the array is empty.

@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R>
CharArray.foldRight(initial: R, operation: (Char, acc: R) -> R): R {
    var index = lastIndex
    var accumulator =
initial
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return
accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value.

Returns the specified [initial] value if the array is empty.

@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

```

public inline fun <T, R>
Array<out T>.foldRightIndexed(initial: R, operation: (index: Int, T, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator =
operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the

original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> ByteArray.foldRightIndexed(initial: R, operation: (index: Int, Byte, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> ShortArray.foldRightIndexed(initial: R, operation: (index: Int, Short, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> IntArray.foldRightIndexed(initial: R, operation: (index: Int, Int, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> LongArray.foldRightIndexed(initial: R, operation: (index: Int, Long, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> FloatArray.foldRightIndexed(initial: R, operation: (index: Int, Float, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> DoubleArray.foldRightIndexed(initial: R, operation: (index: Int, Double, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> BooleanArray.foldRightIndexed(initial: R, operation: (index: Int, Boolean, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> CharArray.foldRightIndexed(initial: R,

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operation: (index: Int, Char, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator = initial\n  while
(index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return
accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun <T> Array<out
T>.forEach(action: (T) -> Unit): Unit {\n  for (element in this) action(element)\n}\n\n/**\n * Performs the given
[action] on each element.\n */\npublic inline fun ByteArray.forEach(action: (Byte) -> Unit): Unit {\n  for (element
in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun
ShortArray.forEach(action: (Short) -> Unit): Unit {\n  for (element in this) action(element)\n}\n\n/**\n * Performs
the given [action] on each element.\n */\npublic inline fun IntArray.forEach(action: (Int) -> Unit): Unit {\n  for
(element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun
LongArray.forEach(action: (Long) -> Unit): Unit {\n  for (element in this) action(element)\n}\n\n/**\n * Performs
the given [action] on each element.\n */\npublic inline fun FloatArray.forEach(action: (Float) -> Unit): Unit {\n
for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline
fun DoubleArray.forEach(action: (Double) -> Unit): Unit {\n  for (element in this) action(element)\n}\n\n/**\n *
Performs the given [action] on each element.\n */\npublic inline fun BooleanArray.forEach(action: (Boolean) ->
Unit): Unit {\n  for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
*/\npublic inline fun CharArray.forEach(action: (Char) -> Unit): Unit {\n  for (element in this)
action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the
element.\n */\n @param [action] function that takes the index of an element and the element itself\n * and performs the
action on the element.\n */\npublic inline fun <T> Array<out T>.forEachIndexed(action: (index: Int, T) -> Unit):
Unit {\n  var index = 0\n  for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on
each element, providing sequential index with the element.\n */\n @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n */\npublic inline fun
ByteArray.forEachIndexed(action: (index: Int, Byte) -> Unit): Unit {\n  var index = 0\n  for (item in this)
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n */\n @param [action] function that takes the index of an element and the element itself\n * and performs
the action on the element.\n */\npublic inline fun ShortArray.forEachIndexed(action: (index: Int, Short) -> Unit):
Unit {\n  var index = 0\n  for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on
each element, providing sequential index with the element.\n */\n @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n */\npublic inline fun
IntArray.forEachIndexed(action: (index: Int, Int) -> Unit): Unit {\n  var index = 0\n  for (item in this)
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n */\n @param [action] function that takes the index of an element and the element itself\n * and performs
the action on the element.\n */\npublic inline fun LongArray.forEachIndexed(action: (index: Int, Long) -> Unit):
Unit {\n  var index = 0\n  for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on
each element, providing sequential index with the element.\n */\n @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n */\npublic inline fun
FloatArray.forEachIndexed(action: (index: Int, Float) -> Unit): Unit {\n  var index = 0\n  for (item in this)
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n */\n @param [action] function that takes the index of an element and the element itself\n * and performs
the action on the element.\n */\npublic inline fun DoubleArray.forEachIndexed(action: (index: Int, Double) -> Unit):
Unit {\n  var index = 0\n  for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on
each element, providing sequential index with the element.\n */\n @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n */\npublic inline fun
BooleanArray.forEachIndexed(action: (index: Int, Boolean) -> Unit): Unit {\n  var index = 0\n  for (item in this)
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n */\n @param [action] function that takes the index of an element and the element itself\n * and performs
the action on the element.\n */\npublic inline fun CharArray.forEachIndexed(action: (index: Int, Char) -> Unit): Unit
{\n  var index = 0\n  for (item in this) action(index++, item)\n}\n\n@Deprecated("Use maxOrNull instead.")

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ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Array<out Double>.max(): Double? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead."),
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Array<out Float>.max(): Float? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead."),
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun <T : Comparable<T>> Array<out T>.max(): T? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead."),
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun ByteArray.max(): Byte? {\n    return maxOrNull()\n}\n\n@Deprecated("Use
maxOrNull instead.", ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun ShortArray.max(): Short? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead."),
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun IntArray.max(): Int? {\n    return maxOrNull()\n}\n\n@Deprecated("Use
maxOrNull instead.", ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun LongArray.max(): Long? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead."),
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun FloatArray.max(): Float? {\n    return maxOrNull()\n}\n\n@Deprecated("Use
maxOrNull instead.", ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun DoubleArray.max(): Double? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead."),
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun CharArray.max(): Char? {\n    return maxOrNull()\n}\n\n@Deprecated("Use
maxByOrNull instead.", ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince =
"1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic inline fun <T, R : Comparable<R>> Array<out
T>.maxBy(selector: (T) -> R): T? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull
instead.", ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> ByteArray.maxBy(selector:
(Byte) -> R): Byte? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> ShortArray.maxBy(selector: (Short) -> R):
Short? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> IntArray.maxBy(selector: (Int) -> R): Int?
{\n    return maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> LongArray.maxBy(selector: (Long) -> R):
Long? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> FloatArray.maxBy(selector: (Float) -> R):
Float? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> DoubleArray.maxBy(selector: (Double) ->
R): Double? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =

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\1.5\, hiddenSince = \1.6\)\npublic inline fun <R : Comparable<R>> BooleanArray.maxBy(selector: (Boolean) -
> R): Boolean? {\n  return maxByOrNull(selector)\n}\n\n@Deprecated(\\"Use maxByOrNull instead.\",
ReplaceWith(\\"this.maxByOrNull(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = \1.4\, errorSince =
\1.5\, hiddenSince = \1.6\)\npublic inline fun <R : Comparable<R>> CharArray.maxBy(selector: (Char) -> R):
Char? {\n  return maxByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the largest value of the
given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n *\n@SinceKotlin(\1.4\)\npublic inline fun <T, R :
Comparable<R>> Array<out T>.maxByOrNull(selector: (T) -> R): T? {\n  if (isEmpty()) return null\n  var
maxElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return maxElem\n  var maxValue =
selector(maxElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (maxValue < v)
{\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n *\n@SinceKotlin(\1.4\)\npublic inline fun <R :
Comparable<R>> ByteArray.maxByOrNull(selector: (Byte) -> R): Byte? {\n  if (isEmpty()) return null\n  var
maxElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return maxElem\n  var maxValue =
selector(maxElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (maxValue < v)
{\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n *\n@SinceKotlin(\1.4\)\npublic inline fun <R :
Comparable<R>> ShortArray.maxByOrNull(selector: (Short) -> R): Short? {\n  if (isEmpty()) return null\n  var
maxElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return maxElem\n  var maxValue =
selector(maxElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (maxValue < v)
{\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n *\n@SinceKotlin(\1.4\)\npublic inline fun <R :
Comparable<R>> IntArray.maxByOrNull(selector: (Int) -> R): Int? {\n  if (isEmpty()) return null\n  var maxElem
= this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return maxElem\n  var maxValue =
selector(maxElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (maxValue < v)
{\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n *\n@SinceKotlin(\1.4\)\npublic inline fun <R :
Comparable<R>> LongArray.maxByOrNull(selector: (Long) -> R): Long? {\n  if (isEmpty()) return null\n  var
maxElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return maxElem\n  var maxValue =
selector(maxElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (maxValue < v)
{\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n *\n@SinceKotlin(\1.4\)\npublic inline fun <R :
Comparable<R>> FloatArray.maxByOrNull(selector: (Float) -> R): Float? {\n  if (isEmpty()) return null\n  var
maxElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return maxElem\n  var maxValue =
selector(maxElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (maxValue < v)
{\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n *\n@SinceKotlin(\1.4\)\npublic inline fun <R :
Comparable<R>> DoubleArray.maxByOrNull(selector: (Double) -> R): Double? {\n  if (isEmpty()) return null\n
var maxElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return maxElem\n  var maxValue =
selector(maxElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (maxValue < v)
{\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample

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samples.collections.Collections.Aggregates.maxByOrNull\n *\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> BooleanArray.maxByOrNull(selector: (Boolean) -> R): Boolean? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n *\n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n *\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> CharArray.maxByOrNull(selector: (Char) -> R): Char? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n *\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * @throws NoSuchElementException if the array is empty.\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOf(selector: (T) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n *\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * @throws NoSuchElementException if the array is empty.\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOf(selector: (Byte) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n *\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * @throws NoSuchElementException if the array is empty.\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOf(selector: (Short) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n *\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * @throws NoSuchElementException if the array is empty.\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOf(selector: (Int) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n *\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * @throws NoSuchElementException if the array is empty.\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOf(selector: (Long) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n *\n * If any of values produced by [selector] function is `NaN`, the returned result is

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`NaN`.n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOf(selector: (Float) ->
Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for
(i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOf(selector: (Double) ->
Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for
(i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOf(selector: (Boolean) ->
Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for
(i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOf(selector: (Char) ->
Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for
(i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOf(selector: (T) ->
Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i
in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOf(selector: (Byte) -> Float):
Float {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOf(selector: (Short) ->
Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i
in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to

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each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOf(selector: (Int) -> Float):
Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOf(selector: (Long) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOf(selector: (Float) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOf(selector: (Double) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOf(selector: (Boolean) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOf(selector: (Char) -> Float):
Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out
T>.maxOf(selector: (T) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced

```


by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
```

```
ByteArray.maxOf(selector: (Byte) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var\n    maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values\n * produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
```

NoSuchElementException if the array is empty.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
```

```
ShortArray.maxOf(selector: (Short) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var\n    maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values\n * produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
```

NoSuchElementException if the array is empty.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
```

```
IntArray.maxOf(selector: (Int) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the\n * array is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
```

```
LongArray.maxOf(selector: (Long) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var\n    maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values\n * produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
```

NoSuchElementException if the array is empty.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
```

```
FloatArray.maxOf(selector: (Float) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var\n    maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values\n * produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
```

NoSuchElementException if the array is empty.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
```

```
DoubleArray.maxOf(selector: (Double) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var\n    maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values\n * produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
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NoSuchElementException if the array is empty.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
```

```
BooleanArray.maxOf(selector: (Boolean) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var\n    maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
```

```

    maxValue = v\n    }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharArray.maxOf(selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOfOrNull(selector:
(T) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOfOrNull(selector: (Byte) ->
Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array or `null`
if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOfOrNull(selector: (Short) -
> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex)
{\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array
or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOfOrNull(selector: (Int) ->
Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array or `null`
if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOfOrNull(selector: (Long) -
> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex)
{\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array
or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOfOrNull(selector: (Float) -
> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex)

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```
{\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned\n result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOfOrNull(selector:\n(Double) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return\nmaxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function\n is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOfOrNull(selector:\n(Boolean) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return\nmaxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function\n is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOfOrNull(selector: (Char) ->\nDouble): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null`\n if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is\n `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOfOrNull(selector:\n(T) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex)\n {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array\n or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned\n result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOfOrNull(selector: (Byte) ->\nFloat): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null`\n if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is\n `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOfOrNull(selector: (Short) -\n> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null`\n if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is\n `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOfOrNull(selector: (Int) ->
```

```
Float): Float? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOrNull(selector: (Long) -> Float): Float? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOrNull(selector: (Float) -> Float): Float? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOrNull(selector: (Double) -> Float): Float? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return\n  maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOrNull(selector: (Boolean) -> Float): Float? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return\n  maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOrNull(selector: (Char) -> Float): Float? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return\n  maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out T>.maxOrNull(selector: (T) -> R): R? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (maxValue < v) {\n      maxValue = v\n    }\n  }\n  return\n  maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ByteArray.maxOrNull(selector: (Byte) -> R): R? {\n  if (isEmpty()) return null\n  var maxValue =
```

```

selector(this[0])\n for (i in 1..lastIndex) {\n     val v = selector(this[i])\n     if (maxValue < v) {\n
maxValue = v\n     }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ShortArray.maxOrNull(selector: (Short) -> R): R? {\n if (isEmpty()) return null\n var maxValue =
selector(this[0])\n for (i in 1..lastIndex) {\n     val v = selector(this[i])\n     if (maxValue < v) {\n
maxValue = v\n     }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
IntArray.maxOrNull(selector: (Int) -> R): R? {\n if (isEmpty()) return null\n var maxValue =
selector(this[0])\n for (i in 1..lastIndex) {\n     val v = selector(this[i])\n     if (maxValue < v) {\n
maxValue = v\n     }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
LongArray.maxOrNull(selector: (Long) -> R): R? {\n if (isEmpty()) return null\n var maxValue =
selector(this[0])\n for (i in 1..lastIndex) {\n     val v = selector(this[i])\n     if (maxValue < v) {\n
maxValue = v\n     }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
FloatArray.maxOrNull(selector: (Float) -> R): R? {\n if (isEmpty()) return null\n var maxValue =
selector(this[0])\n for (i in 1..lastIndex) {\n     val v = selector(this[i])\n     if (maxValue < v) {\n
maxValue = v\n     }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
DoubleArray.maxOrNull(selector: (Double) -> R): R? {\n if (isEmpty()) return null\n var maxValue =
selector(this[0])\n for (i in 1..lastIndex) {\n     val v = selector(this[i])\n     if (maxValue < v) {\n
maxValue = v\n     }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
BooleanArray.maxOrNull(selector: (Boolean) -> R): R? {\n if (isEmpty()) return null\n var maxValue =
selector(this[0])\n for (i in 1..lastIndex) {\n     val v = selector(this[i])\n     if (maxValue < v) {\n
maxValue = v\n     }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharArray.maxOrNull(selector: (Char) -> R): R? {\n if (isEmpty()) return null\n var maxValue =
selector(this[0])\n for (i in 1..lastIndex) {\n     val v = selector(this[i])\n     if (maxValue < v) {\n
maxValue = v\n     }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n *
@throws NoSuchElementException if the array is empty.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out

```

```

T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxValue, v) < 0) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <R> ByteArray.maxOfWith(comparator: Comparator<in R>, selector: (Byte) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxValue, v) < 0) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <R> ShortArray.maxOfWith(comparator: Comparator<in R>, selector: (Short) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxValue, v) < 0) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <R> IntArray.maxOfWith(comparator: Comparator<in R>, selector: (Int) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxValue, v) < 0) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <R> LongArray.maxOfWith(comparator: Comparator<in R>, selector: (Long) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxValue, v) < 0) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <R> FloatArray.maxOfWith(comparator: Comparator<in R>, selector: (Float) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxValue, v) < 0) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <R> DoubleArray.maxOfWith(comparator: Comparator<in R>, selector: (Double) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxValue, v) < 0) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array.
@throws NoSuchElementException if the array is empty.

```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.maxOfWith(comparator:
Comparator<in R>, selector: (Boolean) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.maxOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out
T>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n    if (isEmpty()) return null\n
var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ByteArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Byte) -> R): R? {\n    if (isEmpty()) return
null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ShortArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Short) -> R): R? {\n    if (isEmpty())
return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
IntArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Int) -> R): R? {\n    if (isEmpty()) return
null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
LongArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Long) -> R): R? {\n    if (isEmpty())
return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]

```

function applied to each element in the array or `null` if there are no elements.

```

*^@SinceKotlin("1.4")^@OptIn(kotlin.experimental.ExperimentalTypeInference::class)^@OverloadResolution
ByLambdaReturnType^@kotlin.internal.InlineOnly^public inline fun <R>
FloatArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Float) -> R): R? {^ if (isEmpty())
return null^ var maxValue = selector(this[0])^ for (i in 1..lastIndex) {^ val v = selector(this[i])^ if
(comparator.compare(maxValue, v) < 0) {^ maxValue = v^ }^ }^ return maxValue^}\n/**
Returns the largest value according to the provided [comparator]^ * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.
*^@SinceKotlin("1.4")^@OptIn(kotlin.experimental.ExperimentalTypeInference::class)^@OverloadResolution
ByLambdaReturnType^@kotlin.internal.InlineOnly^public inline fun <R>
DoubleArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Double) -> R): R? {^ if (isEmpty())
return null^ var maxValue = selector(this[0])^ for (i in 1..lastIndex) {^ val v = selector(this[i])^ if
(comparator.compare(maxValue, v) < 0) {^ maxValue = v^ }^ }^ return maxValue^}\n/**
Returns the largest value according to the provided [comparator]^ * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.
*^@SinceKotlin("1.4")^@OptIn(kotlin.experimental.ExperimentalTypeInference::class)^@OverloadResolution
ByLambdaReturnType^@kotlin.internal.InlineOnly^public inline fun <R>
BooleanArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Boolean) -> R): R? {^ if (isEmpty())
return null^ var maxValue = selector(this[0])^ for (i in 1..lastIndex) {^ val v = selector(this[i])^ if
(comparator.compare(maxValue, v) < 0) {^ maxValue = v^ }^ }^ return maxValue^}\n/**
Returns the largest value according to the provided [comparator]^ * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.
*^@SinceKotlin("1.4")^@OptIn(kotlin.experimental.ExperimentalTypeInference::class)^@OverloadResolution
ByLambdaReturnType^@kotlin.internal.InlineOnly^public inline fun <R>
CharArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {^ if (isEmpty()) return
null^ var maxValue = selector(this[0])^ for (i in 1..lastIndex) {^ val v = selector(this[i])^ if
(comparator.compare(maxValue, v) < 0) {^ maxValue = v^ }^ }^ return maxValue^}\n/**
Returns the largest element or `null` if there are no elements.^ * ^ * If any of elements is `NaN` returns `NaN`.^
*^@SinceKotlin("1.4")^public fun Array<out Double>.maxOrNull(): Double? {^ if (isEmpty()) return null^
var max = this[0]^ for (i in 1..lastIndex) {^ val e = this[i]^ max = maxOf(max, e)^ }^ return
max^}\n/**
Returns the largest element or `null` if there are no elements.^ * ^ * If any of elements is `NaN`
returns `NaN`.^
*^@SinceKotlin("1.4")^public fun Array<out Float>.maxOrNull(): Float? {^ if (isEmpty())
return null^ var max = this[0]^ for (i in 1..lastIndex) {^ val e = this[i]^ max = maxOf(max, e)^ }^
return max^}\n/**
Returns the largest element or `null` if there are no elements.
*^@SinceKotlin("1.4")^public fun <T : Comparable<T>> Array<out T>.maxOrNull(): T? {^ if (isEmpty())
return null^ var max = this[0]^ for (i in 1..lastIndex) {^ val e = this[i]^ if (max < e) max = e^ }^
return max^}\n/**
Returns the largest element or `null` if there are no elements.
*^@SinceKotlin("1.4")^public fun ByteArray.maxOrNull(): Byte? {^ if (isEmpty()) return null^ var max =
this[0]^ for (i in 1..lastIndex) {^ val e = this[i]^ if (max < e) max = e^ }^ return max^}\n/**
Returns the largest element or `null` if there are no elements.^
*^@SinceKotlin("1.4")^public fun ShortArray.maxOrNull(): Short? {^ if (isEmpty()) return null^ var max = this[0]^ for (i in 1..lastIndex) {^
val e = this[i]^ if (max < e) max = e^ }^ return max^}\n/**
Returns the largest element or `null` if there are no elements.^
*^@SinceKotlin("1.4")^public fun IntArray.maxOrNull(): Int? {^ if (isEmpty())
return null^ var max = this[0]^ for (i in 1..lastIndex) {^ val e = this[i]^ if (max < e) max = e^ }^
return max^}\n/**
Returns the largest element or `null` if there are no elements.
*^@SinceKotlin("1.4")^public fun LongArray.maxOrNull(): Long? {^ if (isEmpty()) return null^ var max
= this[0]^ for (i in 1..lastIndex) {^ val e = this[i]^ if (max < e) max = e^ }^ return max^}\n/**
Returns the largest element or `null` if there are no elements.^ * ^ * If any of elements is `NaN` returns `NaN`.^

```



```

*^@SinceKotlin("1.4")\npublic fun FloatArray.maxOrNull(): Float? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    max = maxOf(max, e)\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n^@SinceKotlin("1.4")\npublic fun DoubleArray.maxOrNull(): Double? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    max = maxOf(max, e)\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n^@SinceKotlin("1.4")\npublic fun CharArray.maxOrNull(): Char? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (max < e) max = e\n  }\n  return max\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n^@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun <T> Array<out T>.maxWith(comparator: Comparator<in T>): T? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n^@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun ByteArray.maxWith(comparator: Comparator<in Byte>): Byte? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n^@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun ShortArray.maxWith(comparator: Comparator<in Short>): Short? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n^@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun IntArray.maxWith(comparator: Comparator<in Int>): Int? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n^@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun LongArray.maxWith(comparator: Comparator<in Long>): Long? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n^@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun FloatArray.maxWith(comparator: Comparator<in Float>): Float? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n^@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun DoubleArray.maxWith(comparator: Comparator<in Double>): Double? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n^@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun BooleanArray.maxWith(comparator: Comparator<in Boolean>): Boolean? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n^@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun CharArray.maxWith(comparator: Comparator<in Char>): Char? {\n  return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n^@SinceKotlin("1.4")\npublic fun <T> Array<out T>.maxWithOrNull(comparator: Comparator<in T>): T? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n^@SinceKotlin("1.4")\npublic fun ByteArray.maxWithOrNull(comparator: Comparator<in Byte>): Byte? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n^@SinceKotlin("1.4")\npublic fun ShortArray.maxWithOrNull(comparator: Comparator<in Short>): Short? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */

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*\n@SinceKotlin("1.4")\npublic fun IntArray.maxWithOrNull(comparator: Comparator<in Int>): Int? {\n  if
(isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun LongArray.maxWithOrNull(comparator: Comparator<in Long>): Long? {\n
if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun FloatArray.maxWithOrNull(comparator: Comparator<in Float>): Float? {\n
if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun DoubleArray.maxWithOrNull(comparator: Comparator<in Double>):
Double? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n
if (comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun BooleanArray.maxWithOrNull(comparator: Comparator<in Boolean>):
Boolean? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n
if (comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun CharArray.maxWithOrNull(comparator: Comparator<in Char>): Char? {\n
if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Array<out Double>.min(): Double? {\n  return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Array<out Float>.min(): Float? {\n  return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun <T : Comparable<T>> Array<out T>.min(): T? {\n  return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun ByteArray.min(): Byte? {\n  return minOrNull()\n}\n\n@Deprecated("Use
minOrNull instead.", ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun ShortArray.min(): Short? {\n  return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun IntArray.min(): Int? {\n  return minOrNull()\n}\n\n@Deprecated("Use
minOrNull instead.", ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun LongArray.min(): Long? {\n  return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun FloatArray.min(): Float? {\n  return minOrNull()\n}\n\n@Deprecated("Use
minOrNull instead.", ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun DoubleArray.min(): Double? {\n  return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",

```

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hiddenSince = `1.6`)npublic fun CharArray.min(): Char? {n  return minOrNull()\n}\n\n@Deprecated(`Use minByOrNull instead.`)n  ReplaceWith(`this.minByOrNull(selector)`)\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)npublic inline fun <T, R : Comparable<R>> Array<out T>.minBy(selector: (T) -> R): T? {n  return minByOrNull(selector)\n}\n\n@Deprecated(`Use minByOrNull instead.`)n  ReplaceWith(`this.minByOrNull(selector)`)\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)npublic inline fun <R : Comparable<R>> ByteArray.minBy(selector: (Byte) -> R): Byte? {n  return minByOrNull(selector)\n}\n\n@Deprecated(`Use minByOrNull instead.`)n  ReplaceWith(`this.minByOrNull(selector)`)\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)npublic inline fun <R : Comparable<R>> ShortArray.minBy(selector: (Short) -> R): Short? {n  return minByOrNull(selector)\n}\n\n@Deprecated(`Use minByOrNull instead.`)n  ReplaceWith(`this.minByOrNull(selector)`)\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)npublic inline fun <R : Comparable<R>> IntArray.minBy(selector: (Int) -> R): Int? {n  return minByOrNull(selector)\n}\n\n@Deprecated(`Use minByOrNull instead.`)n  ReplaceWith(`this.minByOrNull(selector)`)\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)npublic inline fun <R : Comparable<R>> LongArray.minBy(selector: (Long) -> R): Long? {n  return minByOrNull(selector)\n}\n\n@Deprecated(`Use minByOrNull instead.`)n  ReplaceWith(`this.minByOrNull(selector)`)\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)npublic inline fun <R : Comparable<R>> FloatArray.minBy(selector: (Float) -> R): Float? {n  return minByOrNull(selector)\n}\n\n@Deprecated(`Use minByOrNull instead.`)n  ReplaceWith(`this.minByOrNull(selector)`)\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)npublic inline fun <R : Comparable<R>> DoubleArray.minBy(selector: (Double) -> R): Double? {n  return minByOrNull(selector)\n}\n\n@Deprecated(`Use minByOrNull instead.`)n  ReplaceWith(`this.minByOrNull(selector)`)\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)npublic inline fun <R : Comparable<R>> BooleanArray.minBy(selector: (Boolean) -> R): Boolean? {n  return minByOrNull(selector)\n}\n\n@Deprecated(`Use minByOrNull instead.`)n  ReplaceWith(`this.minByOrNull(selector)`)\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)npublic inline fun <R : Comparable<R>> CharArray.minBy(selector: (Char) -> R): Char? {n  return minByOrNull(selector)\n}\n\n/**n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.n * \n * @sample\n * samples.collections.Collections.Aggregates.minByOrNull\n * ^\n * @SinceKotlin(`1.4`)npublic inline fun <T, R : Comparable<R>> Array<out T>.minByOrNull(selector: (T) -> R): T? {n  if (isEmpty()) return null\n  var minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)\n      minElem = e\n      minValue = v\n  }\n  return minElem\n}\n\n/**n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.n * \n * @sample\n * samples.collections.Collections.Aggregates.minByOrNull\n * ^\n * @SinceKotlin(`1.4`)npublic inline fun <R : Comparable<R>> ByteArray.minByOrNull(selector: (Byte) -> R): Byte? {n  if (isEmpty()) return null\n  var minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)\n      minElem = e\n      minValue = v\n  }\n  return minElem\n}\n\n/**n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.n * \n * @sample\n * samples.collections.Collections.Aggregates.minByOrNull\n * ^\n * @SinceKotlin(`1.4`)npublic inline fun <R : Comparable<R>> ShortArray.minByOrNull(selector: (Short) -> R): Short? {n  if (isEmpty()) return null\n  var minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)\n      minElem = e\n      minValue = v\n  }\n  return minElem\n}\n\n/**n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.n * \n * @sample\n * samples.collections.Collections.Aggregates.minByOrNull\n * ^\n * @SinceKotlin(`1.4`)
```

```

Comparable<R>> IntArray.minByOrNull(selector: (Int) -> R): Int? {
    if (isEmpty()) return null
    var minElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return minElem
    var minValue = selector(minElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (minValue > v) {
            minElem = e
            minValue = v
        }
    }
    return minElem
}

Returns the first element yielding the smallest value of the given function or `null` if there are no elements.

@sample
samples.collections.Collections.Aggregates.minByOrNull

*^@SinceKotlin("1.4")
public inline fun <R : Comparable<R>> LongArray.minByOrNull(selector: (Long) -> R): Long? {
    if (isEmpty()) return null
    var minElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return minElem
    var minValue = selector(minElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (minValue > v) {
            minElem = e
            minValue = v
        }
    }
    return minElem
}

Returns the first element yielding the smallest value of the given function or `null` if there are no elements.

@sample
samples.collections.Collections.Aggregates.minByOrNull

*^@SinceKotlin("1.4")
public inline fun <R : Comparable<R>> FloatArray.minByOrNull(selector: (Float) -> R): Float? {
    if (isEmpty()) return null
    var minElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return minElem
    var minValue = selector(minElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (minValue > v) {
            minElem = e
            minValue = v
        }
    }
    return minElem
}

Returns the first element yielding the smallest value of the given function or `null` if there are no elements.

@sample
samples.collections.Collections.Aggregates.minByOrNull

*^@SinceKotlin("1.4")
public inline fun <R : Comparable<R>> DoubleArray.minByOrNull(selector: (Double) -> R): Double? {
    if (isEmpty()) return null
    var minElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return minElem
    var minValue = selector(minElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (minValue > v) {
            minElem = e
            minValue = v
        }
    }
    return minElem
}

Returns the first element yielding the smallest value of the given function or `null` if there are no elements.

@sample
samples.collections.Collections.Aggregates.minByOrNull

*^@SinceKotlin("1.4")
public inline fun <R : Comparable<R>> BooleanArray.minByOrNull(selector: (Boolean) -> R): Boolean? {
    if (isEmpty()) return null
    var minElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return minElem
    var minValue = selector(minElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (minValue > v) {
            minElem = e
            minValue = v
        }
    }
    return minElem
}

Returns the first element yielding the smallest value of the given function or `null` if there are no elements.

@sample
samples.collections.Collections.Aggregates.minByOrNull

*^@SinceKotlin("1.4")
public inline fun <R : Comparable<R>> CharArray.minByOrNull(selector: (Char) -> R): Char? {
    if (isEmpty()) return null
    var minElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return minElem
    var minValue = selector(minElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (minValue > v) {
            minElem = e
            minValue = v
        }
    }
    return minElem
}

Returns the smallest value among all values produced by [selector] function applied to each element in the array.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@throws
NoSuchElementException if the array is empty.

*^@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Array<out T>.minOf(selector: (T) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

Returns the smallest value among all values produced by [selector] function applied to each element in the array.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@throws
NoSuchElementException if the array is empty.

*^@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun ByteArray.minOf(selector: (Byte) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return
}

```

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minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOf(selector: (Short) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOf(selector: (Int) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOf(selector: (Long) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOf(selector: (Float) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOf(selector: (Double) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOf(selector: (Boolean) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOf(selector: (Char) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for

```

```

(i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n } return
minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOf(selector: (T) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOf(selector: (Byte) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOf(selector: (Short) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOf(selector: (Int) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOf(selector: (Long) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOf(selector: (Float) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOf(selector: (Double) ->

```

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Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

/**
 * Returns the smallest value among all values produced by [selector] function
 * applied to each element in the array.
 * If any of values produced by [selector] function is `NaN`, the returned result is
 * `NaN`.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun BooleanArray.minOf(selector: (Boolean) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

/**
 * Returns the smallest value among all values produced by [selector] function
 * applied to each element in the array.
 * If any of values produced by [selector] function is `NaN`, the returned result is
 * `NaN`.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun CharArray.minOf(selector: (Char) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

/**
 * Returns the smallest value among all values produced by [selector] function
 * applied to each element in the array.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R : Comparable<R>> Array<out T>.minOf(selector: (T) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

/**
 * Returns the smallest value among all values produced
 * by [selector] function
 * applied to each element in the array.
 * @throws NoSuchElementException if the
 * array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>
ByteArray.minOf(selector: (Byte) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

/**
 * Returns the smallest value among all values produced
 * by [selector] function
 * applied to each element in the array.
 * @throws
 * NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>
ShortArray.minOf(selector: (Short) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

/**
 * Returns the smallest value among all values
 * produced by [selector] function
 * applied to each element in the array.
 * @throws
 * NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>
IntArray.minOf(selector: (Int) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

/**
 * Returns the smallest value among all values produced
 * by [selector] function
 * applied to each element in the array.
 * @throws NoSuchElementException if the
 * array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>

```

```

LongArray.minOf(selector: (Long) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}
/** Returns the smallest value among all values produced by [selector] function applied to each element in the array.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>
FloatArray.minOf(selector: (Float) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}
/** Returns the smallest value among all values produced by [selector] function applied to each element in the array.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>
DoubleArray.minOf(selector: (Double) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}
/** Returns the smallest value among all values produced by [selector] function applied to each element in the array.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>
BooleanArray.minOf(selector: (Boolean) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}
/** Returns the smallest value among all values produced by [selector] function applied to each element in the array.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>
CharArray.minOf(selector: (Char) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}
/** Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Array<out T>.minOfOrNull(selector: (T) -> Double): Double? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}
/** Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun ByteArray.minOfOrNull(selector: (Byte) -> Double): Double? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}
/** Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution

```


ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOrNull(selector: (Short) -> Double): Double? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOrNull(selector: (Int) -> Double): Double? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOrNull(selector: (Long) -> Double): Double? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOrNull(selector: (Float) -> Double): Double? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOrNull(selector: (Double) -> Double): Double? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOrNull(selector: (Boolean) -> Double): Double? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOrNull(selector: (Char) -> Double): Double? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOrNull(selector:\n(T) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex)\n    {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned\n result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOrNull(selector: (Byte) ->\nFloat): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is\n `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOrNull(selector: (Short) -\n> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is\n `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOrNull(selector: (Int) ->\nFloat): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is\n `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOrNull(selector: (Long) -\n> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is\n `NaN`.\n
```

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOrNull(selector: (Float) ->\nFloat): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is\n `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOrNull(selector:\n(Double) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in\n1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\nminValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function
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is `NaN`, the returned result is `NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOfOrNull(selector:\n(Boolean) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in\n1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\nminValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to\n each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function\n is `NaN`, the returned result is `NaN`.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOfOrNull(selector: (Char) ->\nFloat): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the\n smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if\n there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out\nT>.minOfOrNull(selector: (T) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for\n(i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return\nminValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * \n * applied to each element in the array or `null` if there are no elements.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nByteArray.minOfOrNull(selector: (Byte) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =\nselector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return\nminValue\n}\n\n/**\n * Returns the smallest value among all values produced\n by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nShortArray.minOfOrNull(selector: (Short) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =\nselector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return\nminValue\n}\n\n/**\n * Returns the smallest value among all values produced\n by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nLongArray.minOfOrNull(selector: (Long) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =\nselector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return\nminValue\n}\n\n/**\n * Returns the smallest value among all values produced\n by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nFloatArray.minOfOrNull(selector: (Float) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =\nselector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
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minValue = v\n    }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
DoubleArray.minOrNull(selector: (Double) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n    }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
BooleanArray.minOrNull(selector: (Boolean) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n    }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharArray.minOrNull(selector: (Char) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n    }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n *
@throws NoSuchElementException if the array is empty.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out
T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.minOfWith(comparator:
Comparator<in R>, selector: (Byte) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.minOfWith(comparator:
Comparator<in R>, selector: (Short) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.minOfWith(comparator:
Comparator<in R>, selector: (Int) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue
= selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue,
v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value

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according to the provided [comparator] among all values produced by [selector] function applied to each element in the array. @throws NoSuchElementException if the array is empty.

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*\/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun <R> LongArray.minOfWith(comparator:
Comparator<in R>, selector: (Long) -> R): R {n if (isEmpty()) throw NoSuchElementException()n var
minValue = selector(this[0])n for (i in 1..lastIndex) {n val v = selector(this[i])n if
(comparator.compare(minValue, v) > 0) {n minValue = v\n }n }n return minValue\n}n/n/**n
Returns the smallest value according to the provided [comparator] among all values produced by [selector]
function applied to each element in the array. @throws NoSuchElementException if the array is empty.
*\/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun <R> FloatArray.minOfWith(comparator:
Comparator<in R>, selector: (Float) -> R): R {n if (isEmpty()) throw NoSuchElementException()n var
minValue = selector(this[0])n for (i in 1..lastIndex) {n val v = selector(this[i])n if
(comparator.compare(minValue, v) > 0) {n minValue = v\n }n }n return minValue\n}n/n/**n
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Comparator<in R>, selector: (Double) -> R): R {n if (isEmpty()) throw NoSuchElementException()n var
minValue = selector(this[0])n for (i in 1..lastIndex) {n val v = selector(this[i])n if
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Comparator<in R>, selector: (Boolean) -> R): R {n if (isEmpty()) throw NoSuchElementException()n var
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Comparator<in R>, selector: (Char) -> R): R {n if (isEmpty()) throw NoSuchElementException()n var
minValue = selector(this[0])n for (i in 1..lastIndex) {n val v = selector(this[i])n if
(comparator.compare(minValue, v) > 0) {n minValue = v\n }n }n return minValue\n}n/n/**n
Returns the smallest value according to the provided [comparator] among all values produced by [selector]
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ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun <T, R> Array<out
T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {n if (isEmpty()) return null\n
var minValue = selector(this[0])n for (i in 1..lastIndex) {n val v = selector(this[i])n if
(comparator.compare(minValue, v) > 0) {n minValue = v\n }n }n return minValue\n}n/n/**n
Returns the smallest value according to the provided [comparator] among all values produced by [selector]
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*\/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun <R>
ByteArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Byte) -> R): R? {n if (isEmpty()) return
null\n var minValue = selector(this[0])n for (i in 1..lastIndex) {n val v = selector(this[i])n if

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(comparator.compare(minValue, v) > 0) {\n        minValue = v\n    }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]\n function applied to each element in the array or `null` if there are no elements.\n\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nShortArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Short) -> R): R? {\n    if (isEmpty())\n    return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]\n function applied to each element in the array or `null` if there are no elements.\n\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nIntArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Int) -> R): R? {\n    if (isEmpty()) return\n    null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]\n function applied to each element in the array or `null` if there are no elements.\n\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nLongArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Long) -> R): R? {\n    if (isEmpty()) return\n    null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]\n function applied to each element in the array or `null` if there are no elements.\n\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nFloatArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Float) -> R): R? {\n    if (isEmpty()) return\n    null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]\n function applied to each element in the array or `null` if there are no elements.\n\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nDoubleArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Double) -> R): R? {\n    if (isEmpty())\n    return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]\n function applied to each element in the array or `null` if there are no elements.\n\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nBooleanArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Boolean) -> R): R? {\n    if (isEmpty())\n    return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]\n function applied to each element in the array or `null` if there are no elements.\n\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nCharArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n    if (isEmpty()) return

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null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*/\n@SinceKotlin("1.4")\npublic fun Array<out Double>.minOrNull(): Double? {\n  if (isEmpty()) return null\n
var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    min = minOf(min, e)\n  }\n  return
min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is
`NaN` returns `NaN`.\n */\n@SinceKotlin("1.4")\npublic fun Array<out Float>.minOrNull(): Float? {\n  if
(isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    min = minOf(min,
e)\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\npublic fun <T : Comparable<T>> Array<out T>.minOrNull(): T? {\n  if (isEmpty())
return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n
return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\npublic fun ByteArray.minOrNull(): Byte? {\n  if (isEmpty()) return null\n  var min =
this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n
* Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun
ShortArray.minOrNull(): Short? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null`
if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun IntArray.minOrNull(): Int? {\n  if (isEmpty())
return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n
return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\npublic fun LongArray.minOrNull(): Long? {\n  if (isEmpty()) return null\n  var min =
this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n
* Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*/\n@SinceKotlin("1.4")\npublic fun FloatArray.minOrNull(): Float? {\n  if (isEmpty()) return null\n  var min =
this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    min = minOf(min, e)\n  }\n  return min\n}\n\n/**\n
* Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*/\n@SinceKotlin("1.4")\npublic fun DoubleArray.minOrNull(): Double? {\n  if (isEmpty()) return null\n  var
min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    min = minOf(min, e)\n  }\n  return
min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\npublic fun CharArray.minOrNull(): Char? {\n  if (isEmpty()) return null\n  var min =
this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n  return
min\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun <T> Array<out T>.minWith(comparator: Comparator<in T>): T? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun ByteArray.minWith(comparator: Comparator<in Byte>): Byte? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun ShortArray.minWith(comparator: Comparator<in Short>): Short? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun IntArray.minWith(comparator: Comparator<in Int>): Int? {\n  return
minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun LongArray.minWith(comparator: Comparator<in Long>): Long? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince

```

```

= \"1.5\", hiddenSince = \"1.6\")\npublic fun FloatArray.minWith(comparator: Comparator<in Float>): Float? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\",
ReplaceWith(\"this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince
= \"1.5\", hiddenSince = \"1.6\")\npublic fun DoubleArray.minWith(comparator: Comparator<in Double>): Double?
{\n
return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\",
ReplaceWith(\"this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince
= \"1.5\", hiddenSince = \"1.6\")\npublic fun BooleanArray.minWith(comparator: Comparator<in Boolean>):
Boolean? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\",
ReplaceWith(\"this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince
= \"1.5\", hiddenSince = \"1.6\")\npublic fun CharArray.minWith(comparator: Comparator<in Char>): Char? {\n
return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to
the provided [comparator] or `null` if there are no elements.\n * \n *\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Array<out
T>.minWithOrNull(comparator: Comparator<in T>): T? {\n
if (isEmpty()) return null\n
var min = this[0]\n
for (i in 1..lastIndex) {\n
val e = this[i]\n
if (comparator.compare(min, e) > 0) min = e\n
}\n
return
min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or
`null` if there are no elements.\n * \n *\n */\n@SinceKotlin(\"1.4\")\npublic fun ByteArray.minWithOrNull(comparator:
Comparator<in Byte>): Byte? {\n
if (isEmpty()) return null\n
var min = this[0]\n
for (i in 1..lastIndex) {\n
val e = this[i]\n
if (comparator.compare(min, e) > 0) min = e\n
}\n
return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
\n *\n */\n@SinceKotlin(\"1.4\")\npublic fun ShortArray.minWithOrNull(comparator: Comparator<in Short>): Short? {\n
if (isEmpty()) return null\n
var min = this[0]\n
for (i in 1..lastIndex) {\n
val e = this[i]\n
if
(comparator.compare(min, e) > 0) min = e\n
}\n
return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
\n *\n */\n@SinceKotlin(\"1.4\")\npublic fun IntArray.minWithOrNull(comparator: Comparator<in Int>): Int? {\n
if (isEmpty()) return null\n
var min = this[0]\n
for (i in 1..lastIndex) {\n
val e = this[i]\n
if
(comparator.compare(min, e) > 0) min = e\n
}\n
return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
\n *\n */\n@SinceKotlin(\"1.4\")\npublic fun LongArray.minWithOrNull(comparator: Comparator<in Long>): Long? {\n
if (isEmpty()) return null\n
var min = this[0]\n
for (i in 1..lastIndex) {\n
val e = this[i]\n
if
(comparator.compare(min, e) > 0) min = e\n
}\n
return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
\n *\n */\n@SinceKotlin(\"1.4\")\npublic fun FloatArray.minWithOrNull(comparator: Comparator<in Float>): Float? {\n
if (isEmpty()) return null\n
var min = this[0]\n
for (i in 1..lastIndex) {\n
val e = this[i]\n
if
(comparator.compare(min, e) > 0) min = e\n
}\n
return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
\n *\n */\n@SinceKotlin(\"1.4\")\npublic fun DoubleArray.minWithOrNull(comparator: Comparator<in Double>):
Double? {\n
if (isEmpty()) return null\n
var min = this[0]\n
for (i in 1..lastIndex) {\n
val e = this[i]\n
if
(comparator.compare(min, e) > 0) min = e\n
}\n
return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
\n *\n */\n@SinceKotlin(\"1.4\")\npublic fun BooleanArray.minWithOrNull(comparator: Comparator<in Boolean>):
Boolean? {\n
if (isEmpty()) return null\n
var min = this[0]\n
for (i in 1..lastIndex) {\n
val e = this[i]\n
if
(comparator.compare(min, e) > 0) min = e\n
}\n
return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
\n *\n */\n@SinceKotlin(\"1.4\")\npublic fun CharArray.minWithOrNull(comparator: Comparator<in Char>): Char? {\n
if (isEmpty()) return null\n
var min = this[0]\n
for (i in 1..lastIndex) {\n
val e = this[i]\n
if
(comparator.compare(min, e) > 0) min = e\n
}\n
return min\n}\n\n/**\n * Returns `true` if the array has no
elements.\n * \n *\n */\n * @sample samples.collections.Collections.Aggregates.none\n *\n */\npublic fun <T> Array<out
T>.none(): Boolean {\n
return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *\n */

```


[action] on each element and returns the array itself afterwards.\n

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.onEach(action: (Short) -> Unit): ShortArray {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.onEach(action: (Int) -> Unit): IntArray {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.onEach(action: (Long) -> Unit): LongArray {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.onEach(action: (Float) -> Unit): FloatArray {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.onEach(action: (Double) -> Unit): DoubleArray {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.onEach(action: (Boolean) -> Unit): BooleanArray {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.onEach(action: (Char) -> Unit): CharArray {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.onEachIndexed(action: (index: Int, T) -> Unit): Array<out T> {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.onEachIndexed(action: (index: Int, Byte) -> Unit): ByteArray {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.onEachIndexed(action: (index: Int, Short) -> Unit): ShortArray {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.onEachIndexed(action: (index: Int, Int) -> Unit): IntArray {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.onEachIndexed(action: (index: Int, Long) -> Unit): LongArray {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.onEachIndexed(action: (index: Int, Float) -> Unit): FloatArray {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself
```

afterwards.

```

@SinceKotlin("1.4")@kotlin.internal.InlineOnly
public inline fun DoubleArray.onEachIndexed(action: (index: Int, Double) -> Unit): DoubleArray {
    return apply {
        forEachIndexed(action)
    }
}

```

* Performs the given [action] on each element, providing sequential index with the element, and returns the array itself afterwards.

```

@SinceKotlin("1.4")@kotlin.internal.InlineOnly
public inline fun BooleanArray.onEachIndexed(action: (index: Int, Boolean) -> Unit): BooleanArray {
    return apply {
        forEachIndexed(action)
    }
}

```

* Performs the given [action] on each element, providing sequential index with the element, and returns the array itself afterwards.

```

@SinceKotlin("1.4")@kotlin.internal.InlineOnly
public inline fun CharArray.onEachIndexed(action: (index: Int, Char) -> Unit): CharArray {
    return apply {
        forEachIndexed(action)
    }
}

```

* Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

```

@sample samples.collections.Collections.Aggregates.reduce
public inline fun <S, T : S> Array<out T>.reduce(operation: (acc: S, T) -> S): S {
    if (isEmpty()) throw
        UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator: S = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

* Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

```

@sample samples.collections.Collections.Aggregates.reduce
public inline fun ByteArray.reduce(operation: (acc: Byte, Byte) -> Byte): Byte {
    if (isEmpty()) throw
        UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
}

```

* Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

```

@sample samples.collections.Collections.Aggregates.reduce
public inline fun ShortArray.reduce(operation: (acc: Short, Short) -> Short): Short {
    if (isEmpty()) throw
        UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
}

```

* Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

```

@sample samples.collections.Collections.Aggregates.reduce
public inline fun IntArray.reduce(operation: (acc: Int, Int) -> Int): Int {
    if (isEmpty()) throw
        UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
}

```

* Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

```

accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n * \n\npublic inline fun
LongArray.reduce(operation: (acc: Long, Long) -> Long): Long {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n * \n\npublic inline fun
FloatArray.reduce(operation: (acc: Float, Float) -> Float): Float {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n * \n\npublic inline fun
DoubleArray.reduce(operation: (acc: Double, Double) -> Double): Double {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n * \n\npublic inline fun
BooleanArray.reduce(operation: (acc: Boolean, Boolean) -> Boolean): Boolean {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n * \n\npublic inline fun
CharArray.reduce(operation: (acc: Char, Char) -> Char): Char {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null`
when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduce\n * \n\npublic inline fun <S, T : S> Array<out
T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator: S = this[0]\n for (index
in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull]

```

instead. It returns `null` when its receiver is empty.

```

    @param [operation] function that takes the index of an
    element, current accumulator value and the element itself,
    and calculates the next accumulator value.
    @sample samples.collections.Collections.Aggregates.reduce
    ^\npublic inline fun
    ByteArray.reduceIndexed(operation: (index: Int, acc: Byte, Byte) -> Byte): Byte {
        if (isEmpty())
            throw
            UnsupportedOperationException("Empty array can't be reduced.")
        var accumulator = this[0]
        for (index in
            1..lastIndex) {
            accumulator = operation(index, accumulator, this[index])
        }
        return
        accumulator
    }
    /**
     * Accumulates value starting with the first element and applying [operation] from left to
     * right
     * to current accumulator value and each element with its index in the original array.
     * Throws an
     * exception if this array is empty. If the array can be empty in an expected way,
     * please use [reduceIndexedOrNull]
     * instead. It returns `null` when its receiver is empty.
     * @param [operation] function that takes the index of an
     * element, current accumulator value and the element itself,
     * and calculates the next accumulator value.
     * @sample samples.collections.Collections.Aggregates.reduce
     * ^\npublic inline fun
     * ShortArray.reduceIndexed(operation: (index: Int, acc: Short, Short) -> Short): Short {
     *     if (isEmpty())
     *         throw
     *         UnsupportedOperationException("Empty array can't be reduced.")
     *     var accumulator = this[0]
     *     for (index in
     *         1..lastIndex) {
     *         accumulator = operation(index, accumulator, this[index])
     *     }
     *     return
     *     accumulator
     * }
     * /**
     * Accumulates value starting with the first element and applying [operation] from left to
     * right
     * to current accumulator value and each element with its index in the original array.
     * Throws an
     * exception if this array is empty. If the array can be empty in an expected way,
     * please use [reduceIndexedOrNull]
     * instead. It returns `null` when its receiver is empty.
     * @param [operation] function that takes the index of an
     * element, current accumulator value and the element itself,
     * and calculates the next accumulator value.
     * @sample samples.collections.Collections.Aggregates.reduce
     * ^\npublic inline fun
     * IntArray.reduceIndexed(operation: (index: Int, acc: Int, Int) -> Int): Int {
     *     if (isEmpty())
     *         throw
     *         UnsupportedOperationException("Empty array can't be reduced.")
     *     var accumulator = this[0]
     *     for (index in
     *         1..lastIndex) {
     *         accumulator = operation(index, accumulator, this[index])
     *     }
     *     return
     *     accumulator
     * }
     * /**
     * Accumulates value starting with the first element and applying [operation] from left to
     * right
     * to current accumulator value and each element with its index in the original array.
     * Throws an
     * exception if this array is empty. If the array can be empty in an expected way,
     * please use [reduceIndexedOrNull]
     * instead. It returns `null` when its receiver is empty.
     * @param [operation] function that takes the index of an
     * element, current accumulator value and the element itself,
     * and calculates the next accumulator value.
     * @sample samples.collections.Collections.Aggregates.reduce
     * ^\npublic inline fun
     * LongArray.reduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): Long {
     *     if (isEmpty())
     *         throw
     *         UnsupportedOperationException("Empty array can't be reduced.")
     *     var accumulator = this[0]
     *     for (index in
     *         1..lastIndex) {
     *         accumulator = operation(index, accumulator, this[index])
     *     }
     *     return
     *     accumulator
     * }
     * /**
     * Accumulates value starting with the first element and applying [operation] from left to
     * right
     * to current accumulator value and each element with its index in the original array.
     * Throws an
     * exception if this array is empty. If the array can be empty in an expected way,
     * please use [reduceIndexedOrNull]
     * instead. It returns `null` when its receiver is empty.
     * @param [operation] function that takes the index of an
     * element, current accumulator value and the element itself,
     * and calculates the next accumulator value.
     * @sample samples.collections.Collections.Aggregates.reduce
     * ^\npublic inline fun
     * FloatArray.reduceIndexed(operation: (index: Int, acc: Float, Float) -> Float): Float {
     *     if (isEmpty())
     *         throw
     *         UnsupportedOperationException("Empty array can't be reduced.")
     *     var accumulator = this[0]
     *     for (index in
     *         1..lastIndex) {
     *         accumulator = operation(index, accumulator, this[index])
     *     }
     *     return
     *     accumulator
     * }
     * /**
     * Accumulates value starting with the first element and applying [operation] from left to
     * right
     * to current accumulator value and each element with its index in the original array.
     * Throws an
     * exception if this array is empty. If the array can be empty in an expected way,
     * please use [reduceIndexedOrNull]
     * instead. It returns `null` when its receiver is empty.
     * @param [operation] function that takes the index of an
     * element, current accumulator value and the element itself,
     * and calculates the next accumulator value.
     * @sample samples.collections.Collections.Aggregates.reduce
     * ^\npublic inline fun

```

```

DoubleArray.reduceIndexed(operation: (index: Int, acc: Double, Double) -> Double): Double {
    if (isEmpty())
        throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}
/** Accumulates value starting with the first element and applying [operation] from left to right
 * to current accumulator value and each element with its index in the original array.
 * Throws an exception if this array is empty. If the array can be empty in an expected way,
 * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.
 * @param [operation] function that takes the index of an element, current accumulator value and the element itself,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduce
 */
public inline fun

BooleanArray.reduceIndexed(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): Boolean {
    if (isEmpty())
        throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}
/** Accumulates value starting with the first element and applying [operation] from left to right
 * to current accumulator value and each element with its index in the original array.
 * Throws an exception if this array is empty. If the array can be empty in an expected way,
 * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.
 * @param [operation] function that takes the index of an element, current accumulator value and the element itself,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduce
 */
public inline fun

CharArray.reduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): Char {
    if (isEmpty())
        throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}
/** Accumulates value starting with the first element and applying [operation] from left to right
 * to current accumulator value and each element with its index in the original array.
 * Returns `null` if the array is empty.
 * @param [operation] function that takes the index of an element, current accumulator value and the element itself,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduceOrNull
 */
@SinceKotlin("1.4")
public inline fun <S, T : S>
Array<out T>.reduceIndexedOrNull(operation: (index: Int, acc: S, T) -> S): S? {
    if (isEmpty())
        return null
    var accumulator: S = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}
/** Accumulates value starting with the first element and applying [operation] from left to right
 * to current accumulator value and each element with its index in the original array.
 * Returns `null` if the array is empty.
 * @param [operation] function that takes the index of an element, current accumulator value and the element itself,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduceOrNull
 */
@SinceKotlin("1.4")
public inline fun
ByteArray.reduceIndexedOrNull(operation: (index: Int, acc: Byte, Byte) -> Byte): Byte? {
    if (isEmpty())
        return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}
/** Accumulates value starting with the first element and applying [operation] from left to right
 * to current accumulator value and each element with its index in the original array.
 * Returns `null` if the array is empty.
 * @param [operation] function that takes the index of an element, current accumulator value and the element itself,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduceOrNull
 */
@SinceKotlin("1.4")
public inline fun
ShortArray.reduceIndexedOrNull(operation: (index: Int, acc: Short, Short) -> Short): Short? {
    if (isEmpty())
        return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}
/** Accumulates value starting with the first element and applying [operation] from left to right
 * to current accumulator value and each element with its index in the original array.
 * Returns `null` if the array is empty.
 * @param [operation] function that takes the index of an element, current accumulator value and the element itself,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduceOrNull
 */

```

```

*\n@SinceKotlin("1.4")\npublic inline fun IntArray.reduceIndexedOrNull(operation: (index: Int, acc: Int, Int) -> Int): Int? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * Returns `null` if the array is empty.\n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\npublic inline fun LongArray.reduceIndexedOrNull(operation: (index: Int, acc: Long, Long) -> Long): Long? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * Returns `null` if the array is empty.\n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\npublic inline fun FloatArray.reduceIndexedOrNull(operation: (index: Int, acc: Float, Float) -> Float): Float? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * Returns `null` if the array is empty.\n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\npublic inline fun DoubleArray.reduceIndexedOrNull(operation: (index: Int, acc: Double, Double) -> Double): Double? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * Returns `null` if the array is empty.\n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\npublic inline fun BooleanArray.reduceIndexedOrNull(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): Boolean? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * Returns `null` if the array is empty.\n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\npublic inline fun CharArray.reduceIndexedOrNull(operation: (index: Int, acc: Char, Char) -> Char): Char? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * Returns `null` if the array is empty.\n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S> Array<out T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n if (isEmpty())\n return null\n var accumulator: S = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]

```

```

from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n *
\n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
ByteArray.reduceOrNull(operation: (acc: Byte, Byte) -> Byte): Byte? {\n if (isEmpty())\n return null\n var
accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n
}\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]
from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n *
\n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
ShortArray.reduceOrNull(operation: (acc: Short, Short) -> Short): Short? {\n if (isEmpty())\n return null\n
var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n
}\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]
from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n *
\n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
IntArray.reduceOrNull(operation: (acc: Int, Int) -> Int): Int? {\n if (isEmpty())\n return null\n var
accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n
}\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]
from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n *
\n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
LongArray.reduceOrNull(operation: (acc: Long, Long) -> Long): Long? {\n if (isEmpty())\n return null\n
var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n
}\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]
from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n *
\n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
FloatArray.reduceOrNull(operation: (acc: Float, Float) -> Float): Float? {\n if (isEmpty())\n return null\n var
accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n
}\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]
from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n *
\n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
DoubleArray.reduceOrNull(operation: (acc: Double, Double) -> Double): Double? {\n if (isEmpty())\n return
null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator,
this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and
applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if
the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
BooleanArray.reduceOrNull(operation: (acc: Boolean, Boolean) -> Boolean): Boolean? {\n if (isEmpty())\n

```



```

return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator =
operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the
first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and
an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public inline fun
CharArray.reduceOrNull(operation: (acc: Char, Char) -> Char): Char? {\n    if (isEmpty())\n        return null\n    var
accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n
    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation]
from right to left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null`
when its receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n public inline fun <S, T : S> Array<out
T>.reduceRight(operation: (T, acc: S) -> S): S {\n    var index = lastIndex\n    if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator: S = get(index--)\n    while
(index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes an element and current accumulator value,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\n public inline
fun ByteArray.reduceRight(operation: (Byte, acc: Byte) -> Byte): Byte {\n    var index = lastIndex\n    if (index < 0)
throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = get(index--)\n    while
(index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n public inline fun ShortArray.reduceRight(operation:
(Short, acc: Short) -> Short): Short {\n    var index = lastIndex\n    if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = get(index--)\n    while
(index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes an element and current accumulator value,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\n public inline
fun IntArray.reduceRight(operation: (Int, acc: Int) -> Int): Int {\n    var index = lastIndex\n    if (index < 0)
throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = get(index--)\n    while
(index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes an element and current accumulator value,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\n public inline

```

```

fun LongArray.reduceRight(operation: (Long, acc: Long) -> Long): Long {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty. @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

public inline fun FloatArray.reduceRight(operation: (Float, acc: Float) -> Float): Float {
    var index = lastIndex
    if (index < 0) throw
    UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty. @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

public inline fun DoubleArray.reduceRight(operation: (Double, acc: Double) -> Double): Double {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator =
    get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return
    accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty. @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

public inline fun BooleanArray.reduceRight(operation: (Boolean, acc: Boolean) -> Boolean): Boolean {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator =
    get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return
    accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty. @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

public inline fun CharArray.reduceRight(operation: (Char, acc: Char) -> Char): Char {
    var index = lastIndex
    if (index < 0) throw
    UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

public inline fun <S, T : S> Array<out T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {
    var index = lastIndex
    if (index < 0) throw
    UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator: S = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return
    accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to

```

left\n * to each element with its index in the original array and current accumulator value.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use
[reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation]
function that takes the index of an element, the element itself and current accumulator value,\n * and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n */\npublic
inline fun ByteArray.reduceRightIndexed(operation: (index: Int, Byte, acc: Byte) -> Byte): Byte {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n
* @param [operation] function that takes the index of an element, the element itself and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun
ShortArray.reduceRightIndexed(operation: (index: Int, Short, acc: Short) -> Short): Short {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n
* @param [operation] function that takes the index of an element, the element itself and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun
IntArray.reduceRightIndexed(operation: (index: Int, Int, acc: Int) -> Int): Int {\n    var index = lastIndex\n    if (index
< 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = get(index--)\n
while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use
[reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation]
function that takes the index of an element, the element itself and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun
LongArray.reduceRightIndexed(operation: (index: Int, Long, acc: Long) -> Long): Long {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n
* @param [operation] function that takes the index of an element, the element itself and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun
FloatArray.reduceRightIndexed(operation: (index: Int, Float, acc: Float) -> Float): Float {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last

```

element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

`samples.collections.Collections.Aggregates.reduceRight` public inline fun

```
DoubleArray.reduceRightIndexed(operation: (index: Int, Double, acc: Double) -> Double): Double {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

`samples.collections.Collections.Aggregates.reduceRight` public inline fun

```
BooleanArray.reduceRightIndexed(operation: (index: Int, Boolean, acc: Boolean) -> Boolean): Boolean {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

`samples.collections.Collections.Aggregates.reduceRight` public inline fun

```
CharArray.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

`samples.collections.Collections.Aggregates.reduceRightOrNull` @SinceKotlin("1.4") public inline fun <S,

```
T : S> Array<out T>.reduceRightIndexedOrNull(operation: (index: Int, T, acc: S) -> S): S? {
    var index = lastIndex
    if (index < 0) return null
    var accumulator: S = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

`samples.collections.Collections.Aggregates.reduceRightOrNull` @SinceKotlin("1.4") public inline fun

```
ByteArray.reduceRightIndexedOrNull(operation: (index: Int, Byte, acc: Byte) -> Byte): Byte? {
    var index = lastIndex
    if (index < 0) return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

* and calculates the next accumulator value.\n * \n * @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull\n *^\n@SinceKotlin(\\"1.4\\")\npublic inline fun
ShortArray.reduceRightIndexedOrNull(operation: (index: Int, Short, acc: Short) -> Short): Short? {\n  var index =
lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/>\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n *
@param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
* and calculates the next accumulator value.\n * \n * @sample

```

* and calculates the next accumulator value.\n * \n * @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull\n *^\n@SinceKotlin(\\"1.4\\")\npublic inline fun
IntArray.reduceRightIndexedOrNull(operation: (index: Int, Int, acc: Int) -> Int): Int? {\n  var index = lastIndex\n
if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator =
operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/>\n * Accumulates
value starting with the last element and applying [operation] from right to left\n * to each element with its index in
the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param
[operation] function that takes the index of an element, the element itself and current accumulator value,\n * and
calculates the next accumulator value.\n * \n * @sample

```

* and calculates the next accumulator value.\n * \n * @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull\n *^\n@SinceKotlin(\\"1.4\\")\npublic inline fun
LongArray.reduceRightIndexedOrNull(operation: (index: Int, Long, acc: Long) -> Long): Long? {\n  var index =
lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/>\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n *
@param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
* and calculates the next accumulator value.\n * \n * @sample

```

* and calculates the next accumulator value.\n * \n * @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull\n *^\n@SinceKotlin(\\"1.4\\")\npublic inline fun
FloatArray.reduceRightIndexedOrNull(operation: (index: Int, Float, acc: Float) -> Float): Float? {\n  var index =
lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/>\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n *
@param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
* and calculates the next accumulator value.\n * \n * @sample

```

* and calculates the next accumulator value.\n * \n * @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull\n *^\n@SinceKotlin(\\"1.4\\")\npublic inline fun
DoubleArray.reduceRightIndexedOrNull(operation: (index: Int, Double, acc: Double) -> Double): Double? {\n  var
index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/>\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n *
@param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
* and calculates the next accumulator value.\n * \n * @sample

```

* and calculates the next accumulator value.\n * \n * @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull\n *^\n@SinceKotlin(\\"1.4\\")\npublic inline fun
BooleanArray.reduceRightIndexedOrNull(operation: (index: Int, Boolean, acc: Boolean) -> Boolean): Boolean? {\n
var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/>\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n *
@param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
* and calculates the next accumulator value.\n * \n * @sample

```

```

* and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n * \n * @SinceKotlin("1.4")\npublic inline fun
CharArray.reduceRightIndexedOrNull(operation: (index: Int, Char, acc: Char) -> Char): Char? {\n  var index =
lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n  --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that
takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
Array<out T>.reduceRightOrNull(operation: (T, acc: S) -> S): S? {\n  var index = lastIndex\n  if (index < 0)
return null\n  var accumulator: S = get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--),
accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and
applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if
the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
ByteArray.reduceRightOrNull(operation: (Byte, acc: Byte) -> Byte): Byte? {\n  var index = lastIndex\n  if (index
< 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator =
operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the
last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
ShortArray.reduceRightOrNull(operation: (Short, acc: Short) -> Short): Short? {\n  var index = lastIndex\n  if
(index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator =
operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the
last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
IntArray.reduceRightOrNull(operation: (Int, acc: Int) -> Int): Int? {\n  var index = lastIndex\n  if (index < 0)
return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--),
accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and
applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if
the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
LongArray.reduceRightOrNull(operation: (Long, acc: Long) -> Long): Long? {\n  var index = lastIndex\n  if
(index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator =
operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the
last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample

```

```

samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
FloatArray.reduceRightOrNull(operation: (Float, acc: Float) -> Float): Float? {\n  var index = lastIndex\n  if
(index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator =
operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the
last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
DoubleArray.reduceRightOrNull(operation: (Double, acc: Double) -> Double): Double? {\n  var index =
lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with the last element and applying [operation] from right to left\n * to each element and current accumulator
value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and
current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
BooleanArray.reduceRightOrNull(operation: (Boolean, acc: Boolean) -> Boolean): Boolean? {\n  var index =
lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with the last element and applying [operation] from right to left\n * to each element and current accumulator
value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and
current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
CharArray.reduceRightOrNull(operation: (Char, acc: Char) -> Char): Char? {\n  var index = lastIndex\n  if (index
< 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator =
operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Returns a list containing successive
accumulation values generated by applying [operation] from left to right\n * to each element and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\npublic inline fun
<T, R> Array<out T>.runningFold(initial: R, operation: (acc: R, T) -> R): List<R> {\n  if (isEmpty()) return
listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for
(element in this) {\n    accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n
* Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an
element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.runningFold(initial: R,
operation: (acc: R, Byte) -> R): List<R> {\n  if (isEmpty()) return listOf(initial)\n  val result = ArrayList<R>(size
+ 1).apply { add(initial) }\n  var accumulator = initial\n  for (element in this) {\n    accumulator =
operation(accumulator, element)\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element

```

and current accumulator value that starts with [initial] value. \n * \n * Note that `acc` value passed to [operation] function should not be mutated; \n * otherwise it would affect the previous value in resulting list. \n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value. \n * \n * @sample samples.collections.Collections.Aggregates.runningFold

```

*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.runningFold(initial: R,
operation: (acc: R, Short) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size
+ 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator =
operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.runningFold(initial: R,
operation: (acc: R, Int) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size +
1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator =
operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.runningFold(initial: R,
operation: (acc: R, Long) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size
+ 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator =
operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.runningFold(initial: R,
operation: (acc: R, Float) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size
+ 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator =
operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.runningFold(initial: R,
operation: (acc: R, Double) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result =
ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n
accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to
each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n *
\n * @param [operation] function that takes current accumulator value and an element, and calculates the next

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accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.runningFold(initial:
R, operation: (acc: R, Boolean) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result =
ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n
accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n *
to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.runningFold(initial: R,
operation: (acc: R, Char) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size
+ 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator =
operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element,
its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc`
value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in
resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n *
and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>
Array<out T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n if (isEmpty())
return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n
for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ByteArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): List<R> {\n if (isEmpty())
return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n
for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ShortArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): List<R> {\n if (isEmpty())
return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n
for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the

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next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
IntArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): List<R> {\n  if (isEmpty()) return
listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for
(index in indices) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n
  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
LongArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): List<R> {\n  if (isEmpty())
return listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n
for (index in indices) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n
  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
FloatArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): List<R> {\n  if (isEmpty())
return listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n
for (index in indices) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n
  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
DoubleArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): List<R> {\n  if
(isEmpty()) return listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator =
initial\n  for (index in indices) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n
  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
BooleanArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): List<R> {\n  if
(isEmpty()) return listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator =
initial\n  for (index in indices) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n
  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function

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should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n

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*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
```

```
CharArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n    if (isEmpty())\n        return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and the element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
```

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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
```

```
Array<out T>.runningReduce(operation: (acc: S, T) -> S): List<S> {\n    if (isEmpty()) return emptyList()\n    var accumulator: S = this[0]\n    val result = ArrayList<S>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.runningReduce(operation: (acc: Byte, Byte) -> Byte): List<Byte> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Byte>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.runningReduce(operation: (acc: Short, Short) -> Short): List<Short> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Short>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
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```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.runningReduce(operation: (acc: Int, Int) -> Int): List<Int> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Int>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
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*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.runningReduce(operation: (acc: Long, Long) -> Long): List<Long> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Long>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator =
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operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n

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*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.runningReduce(operation: (acc: Float, Float) -> Float): List<Float> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Float>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.runningReduce(operation: (acc: Double, Double) -> Double): List<Double> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Double>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.runningReduce(operation: (acc: Boolean, Boolean) -> Boolean): List<Boolean> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Boolean>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
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```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.runningReduce(operation: (acc: Char, Char) -> Char): List<Char> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Char>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
```

```
*\n@SinceKotlin("1.4")\npublic inline fun <S, T : S> Array<out T>.runningReduceIndexed(operation: (index: Int, acc: S, T) -> S): List<S> {\n    if (isEmpty()) return emptyList()\n    var accumulator: S = this[0]\n    val result = ArrayList<S>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
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ByteArray.runningReduceIndexed(operation: (index: Int, acc: Byte, Byte) -> Byte): List<Byte> {\n  if (isEmpty())\n  return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Byte>(size).apply { add(accumulator)\n  }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation\n values generated by applying [operation] from left to right\n * to each element, its index in the original array and\n current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that\n takes the index of an element, current accumulator value\n * and the element itself, and calculates the next\n accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.runningReduceIndexed(operation: (index: Int, acc: Short, Short) -> Short): List<Short> {\n  if\n (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Short>(size).apply {\n  add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation\n values generated by applying [operation] from left to right\n * to each element, its index in the original array and\n current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that\n takes the index of an element, current accumulator value\n * and the element itself, and calculates the next\n accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.runningReduceIndexed(operation: (index: Int, acc: Int, Int) -> Int): List<Int> {\n  if (isEmpty()) return\n emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Int>(size).apply { add(accumulator) }\n  for\n (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation\n values generated by applying [operation] from left to right\n * to each element, its index in the original array and\n current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that\n takes the index of an element, current accumulator value\n * and the element itself, and calculates the next\n accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.runningReduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): List<Long> {\n  if\n (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Long>(size).apply {\n  add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation\n values generated by applying [operation] from left to right\n * to each element, its index in the original array and\n current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that\n takes the index of an element, current accumulator value\n * and the element itself, and calculates the next\n accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.runningReduceIndexed(operation: (index: Int, acc: Float, Float) -> Float): List<Float> {\n  if\n (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Float>(size).apply {\n  add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation\n values generated by applying [operation] from left to right\n * to each element, its index in the original array and\n current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that\n takes the index of an element, current accumulator value\n * and the element itself, and calculates the next\n accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.runningReduceIndexed(operation: (index: Int, acc: Double, Double) -> Double): List<Double> {\n  if\n (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Double>(size).apply {\n  add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n}

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    result.add(accumulator)\n } \n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.runningReduceIndexed(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): List<Boolean>
{\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result =
ArrayList<Boolean>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator =
operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n *
to each element, its index in the original array and current accumulator value that starts with the first element of
this
array.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and
the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.runningReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char> {\n if (isEmpty())
return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Char>(size).apply { add(accumulator)
}\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes
current
accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R>
Array<out T>.scan(initial: R, operation: (acc: R, T) -> R): List<R> {\n return runningFold(initial,
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n *
Note that
`acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value
in
resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and
calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <R> ByteArray.scan(initial: R, operation: (acc: R, Byte) -> R): List<R> {\n return
runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated
by applying [operation]
from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n *
Note that
`acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value
in
resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and
calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <R> ShortArray.scan(initial: R, operation: (acc: R, Short) -> R): List<R> {\n return
runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated
by applying [operation]
from left to right\n * to each element and current accumulator value that starts with [initial]
value.\n * \n * Note that
`acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value
in
resulting list.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli

```

```

c inline fun <R> IntArray.scan(initial: R, operation: (acc: R, Int) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by applying [operation]
 * from left to right to each element and current accumulator value that starts with [initial]
 * value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value and an element, and
 * calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <R> LongArray.scan(initial: R, operation: (acc: R, Long) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by
 * applying [operation] from left to right to each element and current accumulator value that
 * starts with [initial] value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value
 * and an element, and calculates the next accumulator value.
 * @sample
 * samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <R> FloatArray.scan(initial: R, operation: (acc: R, Float) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by
 * applying [operation] from left to right to each element and current accumulator value that
 * starts with [initial] value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value
 * and an element, and calculates the next accumulator value.
 * @sample
 * samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <R> DoubleArray.scan(initial: R, operation: (acc: R, Double) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by
 * applying [operation] from left to right to each element and current accumulator value that
 * starts with [initial] value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value
 * and an element, and calculates the next accumulator value.
 * @sample
 * samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <R> BooleanArray.scan(initial: R, operation: (acc: R, Boolean) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by
 * applying [operation] from left to right to each element and current accumulator value that
 * starts with [initial] value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value
 * and an element, and calculates the next accumulator value.
 * @sample
 * samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <R> CharArray.scan(initial: R, operation: (acc: R, Char) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by applying [operation]
 * from left to right to each element, its index in the original array and current accumulator
 * value that starts with [initial] value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes the index of an element, current accumulator value
 * and the element itself, and calculates the next accumulator value.
 * @sample
 * samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public inline fun <T, R> Array<out T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {
    return

```

```

runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): List<R> {\n return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): List<R> {\n return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): List<R> {\n return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): List<R> {\n return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): List<R> {\n return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): List<R> {\n

```



```

return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <R> BooleanArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): List<R> {\n
return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <R> CharArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n
return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>
Array<out T>.sumBy(selector: (T) -> Int): Int {\n
var sum: Int = 0\n
for (element in this) {\n
sum +=
selector(element)\n
}\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
ByteArray.sumBy(selector: (Byte) -> Int): Int {\n
var sum: Int = 0\n
for (element in this) {\n
sum +=
selector(element)\n
}\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
ShortArray.sumBy(selector: (Short) -> Int): Int {\n
var sum: Int = 0\n
for (element in this) {\n
sum +=
selector(element)\n
}\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
IntArray.sumBy(selector: (Int) -> Int): Int {\n
var sum: Int = 0\n
for (element in this) {\n
sum +=
selector(element)\n
}\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
LongArray.sumBy(selector: (Long) -> Int): Int {\n
var sum: Int = 0\n
for (element in this) {\n
sum +=
selector(element)\n
}\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
FloatArray.sumBy(selector: (Float) -> Int): Int {\n
var sum: Int = 0\n
for (element in this) {\n
sum +=
selector(element)\n
}\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
DoubleArray.sumBy(selector: (Double) -> Int): Int {\n
var sum: Int = 0\n
for (element in this) {\n
sum +=
selector(element)\n
}\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
BooleanArray.sumBy(selector: (Boolean) -> Int): Int {\n
var sum: Int = 0\n
for (element in this) {\n
sum +=

```



```

ByLambdaReturnType\n@kotlin.jvm.JvmName("\\sumOfDouble\\")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.sumOf(selector: (Byte) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\sumOfDouble\\")\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.sumOf(selector: (Short) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\sumOfDouble\\")\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.sumOf(selector: (Int) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in this)
{\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\sumOfDouble\\")\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.sumOf(selector: (Long) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\sumOfDouble\\")\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sumOf(selector: (Float) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\sumOfDouble\\")\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.sumOf(selector: (Double) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element
in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\sumOfDouble\\")\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.sumOf(selector: (Boolean) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for
(element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\sumOfDouble\\")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sumOf(selector: (Char) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\sumOfInt\\")\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Array<out T>.sumOf(selector: (T) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\\sumOfInt\\")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.sumOf(selector: (Byte) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function

```

applied to each element in the array.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun\nShortArray.sumOf(selector: (Short) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun\nIntArray.sumOf(selector: (Int) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun\nLongArray.sumOf(selector: (Long) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun\nFloatArray.sumOf(selector: (Float) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun\nDoubleArray.sumOf(selector: (Double) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]\n    function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun\nBooleanArray.sumOf(selector: (Boolean) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]\n    function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun\nCharArray.sumOf(selector: (Char) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun\n<T> Array<out T>.sumOf(selector: (T) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this)\n    {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by\n    [selector] function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun\nByteArray.sumOf(selector: (Byte) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]\n    function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
```

```

ShortArray.sumOf(selector: (Short) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
 * Returns the sum of all values produced by [selector]
function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfLong")
@kotlin.internal.InlineOnly
public inline fun
IntArray.sumOf(selector: (Int) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
 * Returns the sum of all values produced by [selector]
function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfLong")
@kotlin.internal.InlineOnly
public inline fun
LongArray.sumOf(selector: (Long) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
 * Returns the sum of all values produced by [selector]
function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfLong")
@kotlin.internal.InlineOnly
public inline fun
FloatArray.sumOf(selector: (Float) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
 * Returns the sum of all values produced by [selector]
function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfLong")
@kotlin.internal.InlineOnly
public inline fun
DoubleArray.sumOf(selector: (Double) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
 * Returns the sum of all values produced by
[selector] function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfLong")
@kotlin.internal.InlineOnly
public inline fun
BooleanArray.sumOf(selector: (Boolean) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
 * Returns the sum of all values produced by
[selector] function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfLong")
@kotlin.internal.InlineOnly
public inline fun
CharArray.sumOf(selector: (Char) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
 * Returns the sum of all values produced by [selector]
function applied to each element in the array.

* Since Kotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfUInt")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
public inline fun <T> Array<out T>.sumOf(selector: (T) -> UInt): UInt {
    var sum: UInt = 0.toUInt()
    for (element in this) {
        sum += selector(element)
    }
    return
sum
}
 * Returns the sum of all values produced by [selector] function applied to each element in the
array.

* Since Kotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfUInt")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
public inline fun ByteArray.sumOf(selector: (Byte) -> UInt): UInt {
    var
sum: UInt = 0.toUInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
 * Returns the sum of all values produced by [selector] function applied to each element in the array.

* Since Kotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfUInt")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
public inline fun ShortArray.sumOf(selector: (Short) -> UInt): UInt {
    var
sum: UInt = 0.toUInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
 * Returns the sum of all values produced by [selector] function applied to each element in the array.

```

Returns the sum of all values produced by [selector] function applied to each element in the array.\n

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> UInt): UInt {\n var
sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n *
```

Returns the sum of all values produced by [selector] function applied to each element in the array.\n

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sumOf(selector: (Long) -> UInt): UInt {\n var
sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n *
```

Returns the sum of all values produced by [selector] function applied to each element in the array.\n

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> UInt): UInt {\n var
sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n *
```

Returns the sum of all values produced by [selector] function applied to each element in the array.\n

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sumOf(selector: (Double) -> UInt): UInt {\n
var sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return
sum\n}\n\n/**\n *
```

Returns the sum of all values produced by [selector] function applied to each element in the array.\n

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> UInt): UInt
{\n var sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return
sum\n}\n\n/**\n *
```

Returns the sum of all values produced by [selector] function applied to each element in the array.\n

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sumOf(selector: (Char) -> UInt): UInt {\n var
sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n *
```

Returns the sum of all values produced by [selector] function applied to each element in the array.\n

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> ULong):
ULong {\n var sum: ULong = 0.toULong()\n for (element in this) {\n sum += selector(element)\n }\n
return sum\n}\n\n/**\n *
```

Returns the sum of all values produced by [selector] function applied to each element in the array.\n

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> ULong): ULong
{\n var sum: ULong = 0.toULong()\n for (element in this) {\n sum += selector(element)\n }\n return
sum\n}\n\n/**\n *
```

Returns the sum of all values produced by [selector] function applied to each element in the array.\n

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sumOf(selector: (Short) -> ULong): ULong
```

```

{\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> ULong): ULong {\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sumOf(selector: (Long) -> ULong): ULong {\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> ULong): ULong {\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sumOf(selector: (Double) -> ULong): ULong {\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> ULong): ULong {\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sumOf(selector: (Char) -> ULong): ULong {\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.\n */\n\npublic fun <T : Any> Array<T?>.requireNotNulls(): Array<T> {\n  for (element in this) {\n    if (element == null) {\n      throw IllegalArgumentException("null element found in $this.")\n    }\n  }\n  @Suppress("UNCHECKED_CAST")\n  return this as Array<T>\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n */\n\n@sample\nsamples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n\npublic inline fun <T> Array<out T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n  val first = ArrayList<T>()\n  val second = ArrayList<T>()\n  for (element in this) {\n    if (predicate(element)) {\n      first.add(element)\n    } else {\n      second.add(element)\n    }\n  }\n  return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair

```

of lists, \n * where *first* list contains elements for which [predicate] yielded `true`, \n * while *second* list contains elements for which [predicate] yielded `false`. \n * \n * @sample

```

samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n *\npublic inline fun
ByteArray.partition(predicate: (Byte) -> Boolean): Pair<List<Byte>, List<Byte>> {\n  val first =
ArrayList<Byte>()\n  val second = ArrayList<Byte>()\n  for (element in this) {\n    if (predicate(element)) {\n
first.add(element)\n    } else {\n      second.add(element)\n    }\n  }\n  return Pair(first,
second)\n}\n\n/**\n * Splits the original array into pair of lists, \n * where *first* list contains elements for which
[predicate] yielded `true`, \n * while *second* list contains elements for which [predicate] yielded `false`. \n * \n *
@sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n *\npublic inline fun
ShortArray.partition(predicate: (Short) -> Boolean): Pair<List<Short>, List<Short>> {\n  val first =
ArrayList<Short>()\n  val second = ArrayList<Short>()\n  for (element in this) {\n    if (predicate(element)) {\n
first.add(element)\n    } else {\n      second.add(element)\n    }\n  }\n  return Pair(first,
second)\n}\n\n/**\n * Splits the original array into pair of lists, \n * where *first* list contains elements for which
[predicate] yielded `true`, \n * while *second* list contains elements for which [predicate] yielded `false`. \n * \n *
@sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n *\npublic inline fun
IntArray.partition(predicate: (Int) -> Boolean): Pair<List<Int>, List<Int>> {\n  val first = ArrayList<Int>()\n  val
second = ArrayList<Int>()\n  for (element in this) {\n    if (predicate(element)) {\n      first.add(element)\n
    } else {\n      second.add(element)\n    }\n  }\n  return Pair(first, second)\n}\n\n/**\n * Splits the original
array into pair of lists, \n * where *first* list contains elements for which [predicate] yielded `true`, \n * while
*second* list contains elements for which [predicate] yielded `false`. \n * \n * @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n *\npublic inline fun
LongArray.partition(predicate: (Long) -> Boolean): Pair<List<Long>, List<Long>> {\n  val first =
ArrayList<Long>()\n  val second = ArrayList<Long>()\n  for (element in this) {\n    if (predicate(element)) {\n
first.add(element)\n    } else {\n      second.add(element)\n    }\n  }\n  return Pair(first,
second)\n}\n\n/**\n * Splits the original array into pair of lists, \n * where *first* list contains elements for which
[predicate] yielded `true`, \n * while *second* list contains elements for which [predicate] yielded `false`. \n * \n *
@sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n *\npublic inline fun
FloatArray.partition(predicate: (Float) -> Boolean): Pair<List<Float>, List<Float>> {\n  val first =
ArrayList<Float>()\n  val second = ArrayList<Float>()\n  for (element in this) {\n    if (predicate(element)) {\n
first.add(element)\n    } else {\n      second.add(element)\n    }\n  }\n  return Pair(first,
second)\n}\n\n/**\n * Splits the original array into pair of lists, \n * where *first* list contains elements for which
[predicate] yielded `true`, \n * while *second* list contains elements for which [predicate] yielded `false`. \n * \n *
@sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n *\npublic inline fun
DoubleArray.partition(predicate: (Double) -> Boolean): Pair<List<Double>, List<Double>> {\n  val first =
ArrayList<Double>()\n  val second = ArrayList<Double>()\n  for (element in this) {\n    if (predicate(element))
{\n      first.add(element)\n    } else {\n      second.add(element)\n    }\n  }\n  return Pair(first,
second)\n}\n\n/**\n * Splits the original array into pair of lists, \n * where *first* list contains elements for which
[predicate] yielded `true`, \n * while *second* list contains elements for which [predicate] yielded `false`. \n * \n *
@sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n *\npublic inline fun
BooleanArray.partition(predicate: (Boolean) -> Boolean): Pair<List<Boolean>, List<Boolean>> {\n  val first =
ArrayList<Boolean>()\n  val second = ArrayList<Boolean>()\n  for (element in this) {\n    if
(predicate(element)) {\n      first.add(element)\n    } else {\n      second.add(element)\n    }\n  }\n  return
Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists, \n * where *first* list contains
elements for which [predicate] yielded `true`, \n * while *second* list contains elements for which [predicate]
yielded `false`. \n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n
*\npublic inline fun CharArray.partition(predicate: (Char) -> Boolean): Pair<List<Char>, List<Char>> {\n  val
first = ArrayList<Char>()\n  val second = ArrayList<Char>()\n  for (element in this) {\n    if
(predicate(element)) {\n      first.add(element)\n    } else {\n      second.add(element)\n    }\n  }\n  return
Pair(first, second)\n}

```



```

return Pair(first, second)}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other]
array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <T, R> Array<out T>.zip(other:
Array<out R>): List<Pair<T, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun
<R> ByteArray.zip(other: Array<out R>): List<Pair<Byte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> ShortArray.zip(other: Array<out
R>): List<Pair<Short, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R>
IntArray.zip(other: Array<out R>): List<Pair<Int, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> LongArray.zip(other: Array<out
R>): List<Pair<Long, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R>
FloatArray.zip(other: Array<out R>): List<Pair<Float, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> DoubleArray.zip(other: Array<out
R>): List<Pair<Double, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R>
BooleanArray.zip(other: Array<out R>): List<Pair<Boolean, R>> {\n    return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> CharArray.zip(other: Array<out R>):
List<Pair<Char, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the
elements of `this` array and the [other] array with the same index\n * using the provided [transform] function
applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <T, R, V> Array<out
T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {\n    val size = minOf(size, other.size)\n    val
list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same
index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length
of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*/\npublic inline fun <R, V> ByteArray.zip(other: Array<out R>, transform: (a: Byte, b: R) -> V): List<V> {\n    val
size = minOf(size, other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n
list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements
of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each
pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V>
ShortArray.zip(other: Array<out R>, transform: (a: Short, b: R) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i],
other[i]))\n    }\n}

```

```

}
return list
}

/**
 * Returns a list of values built from the elements of `this` array and the [other] array
 * with the same index
 * using the provided [transform] function applied to each pair of elements.
 * The returned
 * list has length of the shortest collection.
 *
 * @sample
 * samples.collections.Iterables.Operations.zipIterableWithTransform
 */
public inline fun <R, V>
IntArray.zip(other: Array<out R>, transform: (a: Int, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

/**
 * Returns a list of values built from the elements of `this` array and the [other] array
 * with the same index
 * using the provided [transform] function applied to each pair of elements.
 * The returned
 * list has length of the shortest collection.
 *
 * @sample
 * samples.collections.Iterables.Operations.zipIterableWithTransform
 */
public inline fun <R, V> LongArray.zip(other: Array<out R>, transform: (a: Long, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

/**
 * Returns a list of values built from the elements
 * of `this` array and the [other] array with the same index
 * using the provided [transform] function applied to each
 * pair of elements.
 * The returned
 * list has length of the shortest collection.
 *
 * @sample
 * samples.collections.Iterables.Operations.zipIterableWithTransform
 */
public inline fun <R, V>
FloatArray.zip(other: Array<out R>, transform: (a: Float, b: R) -> V): List<V> {
    val size = minOf(size,
    other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

/**
 * Returns a list of values built from the elements of `this` array and the [other] array
 * with the same index
 * using the provided [transform] function applied to each pair of elements.
 * The returned
 * list has length of the shortest collection.
 *
 * @sample
 * samples.collections.Iterables.Operations.zipIterableWithTransform
 */
public inline fun <R, V>
DoubleArray.zip(other: Array<out R>, transform: (a: Double, b: R) -> V): List<V> {
    val size = minOf(size,
    other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

/**
 * Returns a list of values built from the elements of `this` array and the [other] array
 * with the same index
 * using the provided [transform] function applied to each pair of elements.
 * The returned
 * list has length of the shortest collection.
 *
 * @sample
 * samples.collections.Iterables.Operations.zipIterableWithTransform
 */
public inline fun <R, V>
BooleanArray.zip(other: Array<out R>, transform: (a: Boolean, b: R) -> V): List<V> {
    val size = minOf(size,
    other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

/**
 * Returns a list of values built from the elements of `this` array and the [other] array
 * with the same index
 * using the provided [transform] function applied to each pair of elements.
 * The returned
 * list has length of the shortest collection.
 *
 * @sample
 * samples.collections.Iterables.Operations.zipIterableWithTransform
 */
public inline fun <R, V>
CharArray.zip(other: Array<out R>, transform: (a: Char, b: R) -> V): List<V> {
    val size = minOf(size,
    other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

/**
 * Returns a list of pairs built from the elements of `this` collection and [other] array with
 * the same index.
 * The returned
 * list has length of the shortest collection.
 *
 * @sample
 * samples.collections.Iterables.Operations.zipIterable
 */
public infix fun <T, R> Array<out T>.zip(other:
Iterable<R>): List<Pair<T, R>> {
    return zip(other) { t1, t2 -> t1 to t2 }
}

/**
 * Returns a list of pairs built
 * from the elements of `this` collection and [other] array with the same index.
 * The returned
 * list has length of the
 * shortest collection.
 *
 * @sample
 * samples.collections.Iterables.Operations.zipIterable
 */
public infix fun <R>
ByteArray.zip(other: Iterable<R>): List<Pair<Byte, R>> {
    return zip(other) { t1, t2 -> t1 to t2 }
}

/**
 * Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.
 * The
 * returned
 * list has length of the shortest collection.
 *
 * @sample
 * samples.collections.Iterables.Operations.zipIterable
 */
public infix fun <R>
ShortArray.zip(other: Iterable<R>):
List<Pair<Short, R>> {
    return zip(other) { t1, t2 -> t1 to t2 }
}

/**
 * Returns a list of pairs built from the
 * elements of `this` collection and [other] array with the same index.
 * The returned
 * list has length of the shortest
 * collection.
 *
 * @sample
 * samples.collections.Iterables.Operations.zipIterable
 */
public infix fun <R>

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IntArray.zip(other: Iterable<R>): List<Pair<Int, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> LongArray.zip(other: Iterable<R>):
List<Pair<Long, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the
elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R>
FloatArray.zip(other: Iterable<R>): List<Pair<Float, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> DoubleArray.zip(other:
Iterable<R>): List<Pair<Double, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun
<R> BooleanArray.zip(other: Iterable<R>): List<Pair<Boolean, R>> {\n  return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> CharArray.zip(other: Iterable<R>):
List<Pair<Char, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the
elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function
applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <T, R, V> Array<out
T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n  val arraySize = size\n  val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n  var i = 0\n  for (element in other) {\n
if (i >= arraySize) break\n    list.add(transform(this[i++], element))\n  }\n  return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline
fun <R, V> ByteArray.zip(other: Iterable<R>, transform: (a: Byte, b: R) -> V): List<V> {\n  val arraySize = size\n
val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n  var i = 0\n  for (element in
other) {\n    if (i >= arraySize) break\n    list.add(transform(this[i++], element))\n  }\n  return list\n}\n\n/**\n *
Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n *
using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic
inline fun <R, V> ShortArray.zip(other: Iterable<R>, transform: (a: Short, b: R) -> V): List<V> {\n  val arraySize =
size\n  val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n  var i = 0\n  for (element
in other) {\n    if (i >= arraySize) break\n    list.add(transform(this[i++], element))\n  }\n  return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the
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IntArray.zip(other: Iterable<R>, transform: (a: Int, b: R) -> V): List<V> {\n  val arraySize = size\n  val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n  var i = 0\n  for (element in other) {\n
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provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline
fun <R, V> LongArray.zip(other: Iterable<R>, transform: (a: Long, b: R) -> V): List<V> {\n  val arraySize =

```

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size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element
in other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the
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samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V>
FloatArray.zip(other: Iterable<R>, transform: (a: Float, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline
fun <R, V> DoubleArray.zip(other: Iterable<R>, transform: (a: Double, b: R) -> V): List<V> {\n    val arraySize =
size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element
in other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the
same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has
length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V>
BooleanArray.zip(other: Iterable<R>, transform: (a: Boolean, b: R) -> V): List<V> {\n    val arraySize = size\n    val
list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other)
{\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n *
Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n *
using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic
inline fun <R, V> CharArray.zip(other: Iterable<R>, transform: (a: Char, b: R) -> V): List<V> {\n    val arraySize =
size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element
in other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return
list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun ByteArray.zip(other: ByteArray):
List<Pair<Byte, Byte>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun
ShortArray.zip(other: ShortArray): List<Pair<Short, Short>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun IntArray.zip(other: IntArray):
List<Pair<Int, Int>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun
LongArray.zip(other: LongArray): List<Pair<Long, Long>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun FloatArray.zip(other: FloatArray):
List<Pair<Float, Float>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun

```

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DoubleArray.zip(other: DoubleArray): List<Pair<Double, Double>> {\n  return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun BooleanArray.zip(other: BooleanArray):
List<Pair<Boolean, Boolean>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun
CharArray.zip(other: CharArray): List<Pair<Char, Char>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun
<V> ByteArray.zip(other: ByteArray, transform: (a: Byte, b: Byte) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <V>
ShortArray.zip(other: ShortArray, transform: (a: Short, b: Short) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
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samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <V>
IntArray.zip(other: IntArray, transform: (a: Int, b: Int) -> V): List<V> {\n  val size = minOf(size, other.size)\n  val list =
ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n  }\n  return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same
index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length
of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*/\npublic inline fun <V> LongArray.zip(other: LongArray, transform: (a: Long, b: Long) -> V): List<V> {\n  val
size = minOf(size, other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n
list.add(transform(this[i], other[i]))\n  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements
of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each
pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <V>
FloatArray.zip(other: FloatArray, transform: (a: Float, b: Float) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <V>
DoubleArray.zip(other: DoubleArray, transform: (a: Double, b: Double) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <V>
BooleanArray.zip(other: BooleanArray, transform: (a: Boolean, b: Boolean) -> V): List<V> {\n  val size =
minOf(size, other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i],

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other[i]))\n } \n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the
[other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n *
The returned list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <V>
CharArray.zip(other: CharArray, transform: (a: Char, b: Char) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the
given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value
of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string
(which defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n *\npublic fun
<T, A : Appendable> Array<out T>.joinTo(buffer: A, separator: CharSequence = "\", "\", prefix: CharSequence = "\",
postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? =
null): A {\n    buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count > 1)
buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            buffer.appendElement(element, transform)\n
        } else break\n    }\n    if (limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n
return buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n *\npublic fun <A :
Appendable> ByteArray.joinTo(buffer: A, separator: CharSequence = "\", "\", prefix: CharSequence = "\", postfix:
CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((Byte) -> CharSequence)? =
null): A {\n    buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count > 1)
buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            if (transform != null)\n                buffer.append(transform(element))\n            else\n                buffer.append(element.toString())\n        } else break\n
    }\n    if (limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n    return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n *\npublic fun <A :
Appendable> ShortArray.joinTo(buffer: A, separator: CharSequence = "\", "\", prefix: CharSequence = "\", postfix:
CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((Short) -> CharSequence)? =
null): A {\n    buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count > 1)
buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            if (transform != null)\n                buffer.append(transform(element))\n            else\n                buffer.append(element.toString())\n        } else break\n
    }\n    if (limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n    return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n *\npublic fun <A :
Appendable> IntArray.joinTo(buffer: A, separator: CharSequence = "\", "\", prefix: CharSequence = "\", postfix:
CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((Int) -> CharSequence)? =
null): A {\n    buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count > 1)
buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            if (transform != null)\n                buffer.append(transform(element))\n            else\n                buffer.append(element.toString())\n        } else break\n
    }\n    if (limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n    return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which

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defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> LongArray.joinTo(buffer: A, separator: CharSequence = '\', '\', prefix: CharSequence = \"\", postfix:
CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Long) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n  }\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer}\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> FloatArray.joinTo(buffer: A, separator: CharSequence = '\', '\', prefix: CharSequence = \"\", postfix:
CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Float) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n  }\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer}\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> DoubleArray.joinTo(buffer: A, separator: CharSequence = '\', '\', prefix: CharSequence = \"\", postfix:
CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Double) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n  }\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer}\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> BooleanArray.joinTo(buffer: A, separator: CharSequence = '\', '\', prefix: CharSequence = \"\",
postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Boolean) ->
CharSequence)? = null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count
> 1) buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n  }\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer}\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> CharArray.joinTo(buffer: A, separator: CharSequence = '\', '\', prefix: CharSequence = \"\", postfix:
CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Char) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element)\n    } else break\n  }\n  if
(limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return buffer}\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if

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separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n * \n public fun

BooleanArray.joinToString(separator: CharSequence = "\", \", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((Boolean) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n * \n public fun CharArray.joinToString(separator: CharSequence = "\", \", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((Char) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n * \n public fun <T> Array<out T>.asIterable(): Iterable<T> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n * \n public fun ByteArray.asIterable(): Iterable<Byte> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n * \n public fun ShortArray.asIterable(): Iterable<Short> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n * \n public fun IntArray.asIterable(): Iterable<Int> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n * \n public fun LongArray.asIterable(): Iterable<Long> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n * \n public fun FloatArray.asIterable(): Iterable<Float> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n * \n public fun DoubleArray.asIterable(): Iterable<Double> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n * \n public fun BooleanArray.asIterable(): Iterable<Boolean> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n * \n public fun CharArray.asIterable(): Iterable<Char> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n * \n public fun <T> Array<out T>.asSequence(): Sequence<T> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n * \n public fun ByteArray.asSequence(): Sequence<Byte> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n * \n public fun ShortArray.asSequence(): Sequence<Short> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n * \n public fun IntArray.asSequence(): Sequence<Int> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n * \n public fun LongArray.asSequence():

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Sequence<Long> {\n  if (isEmpty()) return emptySequence()\n  return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun FloatArray.asSequence(): Sequence<Float> {\n  if (isEmpty()) return emptySequence()\n  return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun DoubleArray.asSequence(): Sequence<Double> {\n  if (isEmpty()) return emptySequence()\n  return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun BooleanArray.asSequence(): Sequence<Boolean> {\n  if (isEmpty()) return emptySequence()\n  return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun CharArray.asSequence(): Sequence<Char> {\n  if (isEmpty()) return emptySequence()\n  return Sequence { this.iterator() }\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\n@kotlin.jvm.JvmName("averageOfByte")\npublic fun Array<out Byte>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\n@kotlin.jvm.JvmName("averageOfShort")\npublic fun Array<out Short>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\n@kotlin.jvm.JvmName("averageOfInt")\npublic fun Array<out Int>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\n@kotlin.jvm.JvmName("averageOfLong")\npublic fun Array<out Long>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\n@kotlin.jvm.JvmName("averageOfFloat")\npublic fun Array<out Float>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\n@kotlin.jvm.JvmName("averageOfDouble")\npublic fun Array<out Double>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\npublic fun ByteArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\npublic fun ShortArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\npublic fun IntArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\npublic fun LongArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\npublic fun FloatArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n\npublic fun DoubleArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n\n@kotlin.jvm.JvmName("sumOfByte")\npublic fun Array<out

```

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Byte>.sum(): Int {
    var sum: Int = 0
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the array. */
@kotlin.jvm.JvmName("sumOfShort")
public fun Array<out Short>.sum(): Int {
    var sum: Int = 0
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the array. */
@kotlin.jvm.JvmName("sumOfInt")
public fun Array<out Int>.sum(): Int {
    var sum: Int = 0
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the array. */
@kotlin.jvm.JvmName("sumOfLong")
public fun Array<out Long>.sum(): Long {
    var sum: Long = 0L
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the array. */
@kotlin.jvm.JvmName("sumOfFloat")
public fun Array<out Float>.sum(): Float {
    var sum: Float = 0.0f
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the array. */
@kotlin.jvm.JvmName("sumOfDouble")
public fun Array<out Double>.sum(): Double {
    var sum: Double = 0.0
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the array. */
public fun ByteArray.sum(): Int {
    var sum: Int = 0
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the array. */
public fun ShortArray.sum(): Int {
    var sum: Int = 0
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the array. */
public fun IntArray.sum(): Int {
    var sum: Int = 0
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the array. */
public fun LongArray.sum(): Long {
    var sum: Long = 0L
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the array. */
public fun FloatArray.sum(): Float {
    var sum: Float = 0.0f
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the array. */
public fun DoubleArray.sum(): Double {
    var sum: Double = 0.0
    for (element in this) {
        sum += element
    }
    return sum
}

}

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 * license/LICENSE.txt file. */

@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("RangesKt")
package kotlin.ranges

// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt
// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib
import kotlin.random.*

/** Returns a random element from this range.
 * @throws IllegalArgumentException if this range is empty. */
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun IntRange.random(): Int {
    return random(Random)
}

/** Returns a random element from this range.
 * @throws IllegalArgumentException if this range is empty. */
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun LongRange.random(): Long {
    return random(Random)
}

/** Returns a random element from this range using the specified source of randomness.
 * @throws IllegalArgumentException if this range is empty. */
@SinceKotlin("1.3")
public fun IntRange.random(random: Random): Int {
    try {
        return random.nextInt(this)
    } catch (e: IllegalArgumentException) {
        throw NoSuchElementException(e.message)
    }
}

/** Returns a random element from this range using the specified source of randomness.
 * @throws IllegalArgumentException if this range is empty. */
@SinceKotlin("1.3")
public fun LongRange.random(random: Random): Long {
    try {
        return random.nextLong(this)
    } catch (e: IllegalArgumentException) {
        throw NoSuchElementException(e.message)
    }
}

/** Returns a random element from this range using the specified source of randomness.
 * @throws IllegalArgumentException if this range is empty. */
@SinceKotlin("1.3")
public fun CharRange.random(random: Random): Char {
    try {
        return random.nextInt(first.code, last.code + 1).toChar()
    } catch (e: IllegalArgumentException) {
        throw NoSuchElementException(e.message)
    }
}

/** Returns a random element from this range, or `null` if this

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range is empty.\n

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun IntRange.randomOrNull(): Int? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this range, or `null` if this range is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun LongRange.randomOrNull(): Long? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this range, or `null` if this range is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharRange.randomOrNull(): Char? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness, or `null` if this range is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun IntRange.randomOrNull(random: Random): Int? {\n    if (isEmpty())\n        return null\n    return random.nextInt(this)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness, or `null` if this range is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun LongRange.randomOrNull(random: Random): Long? {\n    if (isEmpty())\n        return null\n    return random.nextLong(this)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness, or `null` if this range is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun CharRange.randomOrNull(random: Random): Char? {\n    if (isEmpty())\n        return null\n    return random.nextInt(first.code, last.code + 1).toChar()\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
```

```
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun IntRange.contains(element: Int?): Boolean {\n    return element != null && contains(element)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
```

```
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun LongRange.contains(element: Long?): Boolean {\n    return element != null && contains(element)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
```

```
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun CharRange.contains(element: Char?): Boolean {\n    return element != null && contains(element)\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
```

```
*\n@kotlin.jvm.JvmName("intRangeContains")\npublic operator fun ClosedRange<Int>.contains(value: Byte): Boolean {\n    return contains(value.toInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
```

```
*\n@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun ClosedRange<Long>.contains(value: Byte): Boolean {\n    return contains(value.toLong())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
```

```
*\n@kotlin.jvm.JvmName("shortRangeContains")\npublic operator fun ClosedRange<Short>.contains(value: Byte): Boolean {\n    return contains(value.toShort())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
```

```
*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")\n@kotlin.jvm.JvmName("doubleRangeContains")\npublic operator fun
```

```
ClosedRange<Double>.contains(value: Byte): Boolean {\n    return contains(value.toDouble())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
```

```
*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")\n@kotlin.jvm.JvmName("floatRangeContains")\npublic operator fun ClosedRange<Float>.contains(value:
```

```
Byte): Boolean {\n    return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
```

```
*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4",
```

```

hiddenSince = \"1.5\")\n@kotlin.jvm.JvmName(\"intRangeContains\")\npublic operator fun
ClosedRange<Int>.contains(value: Double): Boolean {\n  return value.toIntExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince
= \"1.5\")\n@kotlin.jvm.JvmName(\"longRangeContains\")\npublic operator fun
ClosedRange<Long>.contains(value: Double): Boolean {\n  return value.toLongExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince
= \"1.5\")\n@kotlin.jvm.JvmName(\"byteRangeContains\")\npublic operator fun
ClosedRange<Byte>.contains(value: Double): Boolean {\n  return value.toByteExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince
= \"1.5\")\n@kotlin.jvm.JvmName(\"shortRangeContains\")\npublic operator fun
ClosedRange<Short>.contains(value: Double): Boolean {\n  return value.toShortExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@kotlin.jvm.JvmName(\"floatRangeContains\")\npublic operator fun ClosedRange<Float>.contains(value:
Double): Boolean {\n  return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this
range.\n *\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous
semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\",
hiddenSince = \"1.5\")\n@kotlin.jvm.JvmName(\"intRangeContains\")\npublic operator fun
ClosedRange<Int>.contains(value: Float): Boolean {\n  return value.toIntExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince
= \"1.5\")\n@kotlin.jvm.JvmName(\"longRangeContains\")\npublic operator fun
ClosedRange<Long>.contains(value: Float): Boolean {\n  return value.toLongExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince
= \"1.5\")\n@kotlin.jvm.JvmName(\"byteRangeContains\")\npublic operator fun
ClosedRange<Byte>.contains(value: Float): Boolean {\n  return value.toByteExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince
= \"1.5\")\n@kotlin.jvm.JvmName(\"shortRangeContains\")\npublic operator fun
ClosedRange<Short>.contains(value: Float): Boolean {\n  return value.toShortExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@kotlin.jvm.JvmName(\"doubleRangeContains\")\npublic operator fun ClosedRange<Double>.contains(value:
Float): Boolean {\n  return contains(value.toDouble())\n}\n\n/**\n * Checks if the specified [value] belongs to this
range.\n *\n@kotlin.jvm.JvmName(\"longRangeContains\")\npublic operator fun
ClosedRange<Long>.contains(value: Int): Boolean {\n  return contains(value.toLong())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n *\n@kotlin.jvm.JvmName(\"byteRangeContains\")\npublic operator fun
ClosedRange<Byte>.contains(value: Int): Boolean {\n  return value.toByteExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@kotlin.jvm.JvmName(\"shortRangeContains\")\npublic operator fun ClosedRange<Short>.contains(value: Int):

```

Boolean { \n return value.toShortExactOrNull().let { if (it != null) contains(it) else false } \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.") \n @DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5") \n @kotlin.jvm.JvmName("doubleRangeContains") \n public operator fun ClosedRange<Double>.contains(value: Int): Boolean { \n return contains(value.toDouble()) \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.") \n @DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5") \n @kotlin.jvm.JvmName("floatRangeContains") \n public operator fun ClosedRange<Float>.contains(value: Int): Boolean { \n return contains(value.toFloat()) \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @kotlin.jvm.JvmName("intRangeContains") \n public operator fun ClosedRange<Int>.contains(value: Long): Boolean { \n return value.toIntExactOrNull().let { if (it != null) contains(it) else false } \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @kotlin.jvm.JvmName("byteRangeContains") \n public operator fun ClosedRange<Byte>.contains(value: Long): Boolean { \n return value.toByteExactOrNull().let { if (it != null) contains(it) else false } \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @kotlin.jvm.JvmName("shortRangeContains") \n public operator fun ClosedRange<Short>.contains(value: Long): Boolean { \n return value.toShortExactOrNull().let { if (it != null) contains(it) else false } \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.") \n @DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5") \n @kotlin.jvm.JvmName("doubleRangeContains") \n public operator fun ClosedRange<Double>.contains(value: Long): Boolean { \n return contains(value.toDouble()) \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.") \n @DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5") \n @kotlin.jvm.JvmName("floatRangeContains") \n public operator fun ClosedRange<Float>.contains(value: Long): Boolean { \n return contains(value.toFloat()) \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @kotlin.jvm.JvmName("intRangeContains") \n public operator fun ClosedRange<Int>.contains(value: Short): Boolean { \n return contains(value.toInt()) \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @kotlin.jvm.JvmName("longRangeContains") \n public operator fun ClosedRange<Long>.contains(value: Short): Boolean { \n return contains(value.toLong()) \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @kotlin.jvm.JvmName("byteRangeContains") \n public operator fun ClosedRange<Byte>.contains(value: Short): Boolean { \n return value.toByteExactOrNull().let { if (it != null) contains(it) else false } \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.") \n @DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5") \n @kotlin.jvm.JvmName("doubleRangeContains") \n public operator fun ClosedRange<Double>.contains(value: Short): Boolean { \n return contains(value.toDouble()) \n } \n \n \n * Checks if the specified [value] belongs to this range. \n * \n @Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.") \n @DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5") \n @kotlin.jvm.JvmName("floatRangeContains") \n public operator fun ClosedRange<Float>.contains(value: Short): Boolean { \n return contains(value.toFloat()) \n } \n \n \n * Returns a progression from this value down to the specified [to] value with the step -1. \n * \n * The [to] value should be less than or equal to `this` value. \n * If the [to] value is greater than `this` value the returned progression is empty. \n * \n @public infix fun Int.downTo(to: Byte): IntProgression { \n return IntProgression.fromClosedRange(this, to.toInt(), -1) \n } \n \n \n * Returns a progression from this value down to the specified [to] value with the step -1. \n * \n * The [to] value should be less than or equal


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the returned progression is empty.\n */\npublic infix fun Byte.downTo(to: Short): IntProgression {\n    return
IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value
down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n
* If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun
Short.downTo(to: Short): IntProgression {\n    return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -
1)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same step.\n
*/\npublic fun IntProgression.reversed(): IntProgression {\n    return IntProgression.fromClosedRange(last, first, -
step)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same
step.\n */\npublic fun LongProgression.reversed(): LongProgression {\n    return
LongProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the same
range in the opposite direction with the same step.\n */\npublic fun CharProgression.reversed(): CharProgression {\n
    return CharProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the
same range with the given step.\n */\npublic infix fun IntProgression.step(step: Int): IntProgression {\n
    checkStepIsPositive(step > 0, step)\n    return IntProgression.fromClosedRange(first, last, if (this.step > 0) step else -
step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n */\npublic infix fun
LongProgression.step(step: Long): LongProgression {\n    checkStepIsPositive(step > 0, step)\n    return
LongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression
that goes over the same range with the given step.\n */\npublic infix fun CharProgression.step(step: Int):
CharProgression {\n    checkStepIsPositive(step > 0, step)\n    return CharProgression.fromClosedRange(first, last, if
(this.step > 0) step else -step)\n}\n\ninternal fun Int.toByteExactOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toInt()..Byte.MAX_VALUE.toInt()) this.toByte() else null\n}\n\ninternal fun
Long.toByteExactOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toLong()..Byte.MAX_VALUE.toLong()) this.toByte() else null\n}\n\ninternal fun
Short.toByteExactOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toShort()..Byte.MAX_VALUE.toShort()) this.toByte() else null\n}\n\ninternal fun
Double.toByteExactOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toDouble()..Byte.MAX_VALUE.toDouble()) this.toInt().toByte() else null\n}\n\ninternal fun
Float.toByteExactOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toFloat()..Byte.MAX_VALUE.toFloat()) this.toInt().toByte() else null\n}\n\ninternal fun
Long.toIntExactOrNull(): Int? {\n    return if (this in Int.MIN_VALUE.toLong()..Int.MAX_VALUE.toLong())
this.toInt() else null\n}\n\ninternal fun Double.toIntExactOrNull(): Int? {\n    return if (this in
Int.MIN_VALUE.toDouble()..Int.MAX_VALUE.toDouble()) this.toInt() else null\n}\n\ninternal fun
Float.toIntExactOrNull(): Int? {\n    return if (this in Int.MIN_VALUE.toFloat()..Int.MAX_VALUE.toFloat())
this.toInt() else null\n}\n\ninternal fun Double.toLongExactOrNull(): Long? {\n    return if (this in
Long.MIN_VALUE.toDouble()..Long.MAX_VALUE.toDouble()) this.toLong() else null\n}\n\ninternal fun
Float.toLongExactOrNull(): Long? {\n    return if (this in
Long.MIN_VALUE.toFloat()..Long.MAX_VALUE.toFloat()) this.toLong() else null\n}\n\ninternal fun
Int.toShortExactOrNull(): Short? {\n    return if (this in Short.MIN_VALUE.toInt()..Short.MAX_VALUE.toInt())
this.toShort() else null\n}\n\ninternal fun Long.toShortExactOrNull(): Short? {\n    return if (this in
Short.MIN_VALUE.toLong()..Short.MAX_VALUE.toLong()) this.toShort() else null\n}\n\ninternal fun
Double.toShortExactOrNull(): Short? {\n    return if (this in
Short.MIN_VALUE.toDouble()..Short.MAX_VALUE.toDouble()) this.toInt().toShort() else null\n}\n\ninternal fun
Float.toShortExactOrNull(): Short? {\n    return if (this in
Short.MIN_VALUE.toFloat()..Short.MAX_VALUE.toFloat()) this.toInt().toShort() else null\n}\n\n/**\n * Returns
a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to
`this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Byte): IntRange {\n    return this ..
(to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n *
\n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun

```



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samples.comparisons.ComparableOps.coerceAtLeast\n *\npublic fun Byte.coerceAtLeast(minimumValue: Byte):
Byte {\n  return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less
than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue]
or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n
*\npublic fun Short.coerceAtLeast(minimumValue: Short): Short {\n  return if (this < minimumValue)
minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n
* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n
* @sample samples.comparisons.ComparableOps.coerceAtLeast\n *\npublic fun Int.coerceAtLeast(minimumValue:
Int): Int {\n  return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not
less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the
[minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeast\n *\npublic fun Long.coerceAtLeast(minimumValue: Long):
Long {\n  return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less
than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue]
or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n
*\npublic fun Float.coerceAtLeast(minimumValue: Float): Float {\n  return if (this < minimumValue)
minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n
* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n
* @sample samples.comparisons.ComparableOps.coerceAtLeast\n *\npublic fun
Double.coerceAtLeast(minimumValue: Double): Double {\n  return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostComparable\n *\npublic fun <T : Comparable<T>>
T.coerceAtMost(maximumValue: T): T {\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n
* Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less
than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n *\npublic fun Byte.coerceAtMost(maximumValue: Byte):
Byte {\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not
greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n *\npublic fun Short.coerceAtMost(maximumValue: Short):
Short {\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not
greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n *\npublic fun Int.coerceAtMost(maximumValue: Int): Int
{\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater
than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or
the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n
*\npublic fun Long.coerceAtMost(maximumValue: Long): Long {\n  return if (this > maximumValue)
maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n *
\n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n
* @sample samples.comparisons.ComparableOps.coerceAtMost\n *\npublic fun
Float.coerceAtMost(maximumValue: Float): Float {\n  return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n *\npublic fun Double.coerceAtMost(maximumValue:
Double): Double {\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this
value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range,

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or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInComparable\n *\npublic fun
<T : Comparable<T>> T.coerceIn(minimumValue: T?, maximumValue: T?): T {\n    if (minimumValue !== null
&& maximumValue !== null) {\n        if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n        if (this < minimumValue) return minimumValue\n        if (this >
maximumValue) return maximumValue\n    }\n    else {\n        if (minimumValue !== null && this <
minimumValue) return minimumValue\n        if (maximumValue !== null && this > maximumValue) return
maximumValue\n    }\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Byte.coerceIn(minimumValue: Byte,
maximumValue: Byte): Byte {\n    if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Short.coerceIn(minimumValue: Short,
maximumValue: Short): Short {\n    if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Int.coerceIn(minimumValue: Int, maximumValue:
Int): Int {\n    if (minimumValue > maximumValue) throw IllegalArgumentException("Cannot coerce value to an
empty range: maximum $maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue)
return minimumValue\n    if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures
that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in
the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater
than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n *\npublic fun
Long.coerceIn(minimumValue: Long, maximumValue: Long): Long {\n    if (minimumValue > maximumValue)
throw IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Float.coerceIn(minimumValue: Float,
maximumValue: Float): Float {\n    if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Double.coerceIn(minimumValue: Double,
maximumValue: Double): Double {\n    if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than

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minimum $minimumValue.)\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInFloatingPointRange\n *\n@SinceKotlin("1.1")\npublic fun <T :
Comparable<T>> T.coerceIn(range: ClosedFloatingPointRange<T>): T {\n    if (range.isEmpty()) throw
IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n    return when {\n        // this <
start equiv to this <= start && !(this >= start)\n        range.lessThanOrEqualTo(this, range.start) &&
!range.lessThanOrEqualTo(range.start, this) -> range.start\n        // this > end equiv to this >= end && !(this <= end)\n
range.lessThanOrEqualTo(range.endInclusive, this) && !range.lessThanOrEqualTo(this, range.endInclusive) ->
range.endInclusive\n        else -> this\n    }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInComparable\n *\npublic fun <T : Comparable<T>>
T.coerceIn(range: ClosedRange<T>): T {\n    if (range is ClosedFloatingPointRange) {\n        return
this.coerceIn<T>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an
empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this > range.endInclusive ->
range.endInclusive\n        else -> this\n    }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n
*\npublic fun Int.coerceIn(range: ClosedRange<Int>): Int {\n    if (range is ClosedFloatingPointRange) {\n
return this.coerceIn<Int>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce
value to an empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this >
range.endInclusive -> range.endInclusive\n        else -> this\n    }\n}\n\n/**\n * Ensures that this value lies in the
specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than
`range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Long.coerceIn(range: ClosedRange<Long>): Long
{\n    if (range is ClosedFloatingPointRange) {\n        return this.coerceIn<Long>(range)\n    }\n    if
(range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n    return
when {\n        this < range.start -> range.start\n        this > range.endInclusive -> range.endInclusive\n        else ->
this\n    }\n}\n\n"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport kotlin.experimental.*\nimport
kotlin.jvm.*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@JvmInline\npu
blic value class UByte @PublishedApi internal constructor(@PublishedApi internal val data: Byte) :
Comparable<UByte> {\n\n    companion object {\n        /**\n         * A constant holding the minimum value an
instance of UByte can have.\n         *\n         * public const val MIN_VALUE: UByte = UByte(0)\n         *\n         *
A constant holding the maximum value an instance of UByte can have.\n         *\n         * public const val
MAX_VALUE: UByte = UByte(-1)\n         *\n         * The number of bytes used to represent an instance of
UByte in a binary form.\n         *\n         * public const val SIZE_BYTES: Int = 1\n         *\n         * The number of
bits used to represent an instance of UByte in a binary form.\n         *\n         * public const val SIZE_BITS: Int = 8\n
}\n\n        /**\n         * Compares this value with the specified value for order.\n         * Returns zero if this value is equal to
the specified other value, a negative number if it's less than other,\n         * or a positive number if it's greater than
other.\n         *\n         * @kotlin.internal.InlineOnly\n         * @Suppress("OVERRIDE_BY_INLINE")\n         * public override
inline operator fun compareTo(other: UByte): Int = this.toInt().compareTo(other.toInt())\n         *\n         * Compares
this value with the specified value for order.\n         * Returns zero if this value is equal to the specified other value, a
negative number if it's less than other,\n         * or a positive number if it's greater than other.\n         *\n
         * @kotlin.internal.InlineOnly\n         * public inline operator fun compareTo(other: UShort): Int =

```

```

this.toInt().compareTo(other.toInt())\n\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun
compareTo(other: UInt): Int = this.toUInt().compareTo(other)\n\n /**\n * Compares this value with the
specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n
public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n /** Adds the
other value to this value. *\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UByte): UInt =
this.toUInt().plus(other.toUInt())\n\n /** Adds the other value to this value. *\n @kotlin.internal.InlineOnly\n
public inline operator fun plus(other: UShort): UInt = this.toUInt().plus(other.toUInt())\n\n /** Adds the other value
to this value. *\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UInt): UInt =
this.toUInt().plus(other)\n\n /** Adds the other value to this value. *\n @kotlin.internal.InlineOnly\n public
inline operator fun plus(other: ULong): ULong = this.toULong().plus(other)\n\n /** Subtracts the other value from
this value. *\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UByte): UInt =
this.toUInt().minus(other.toUInt())\n\n /** Subtracts the other value from this value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun minus(other: UShort): UInt =
this.toUInt().minus(other.toUInt())\n\n /** Subtracts the other value from this value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun minus(other: UInt): UInt = this.toUInt().minus(other)\n\n
/** Subtracts the other value from this value. *\n @kotlin.internal.InlineOnly\n public inline operator fun
minus(other: ULong): ULong = this.toULong().minus(other)\n\n /** Multiplies this value by the other value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UByte): UInt =
this.toUInt().times(other.toUInt())\n\n /** Multiplies this value by the other value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): UInt =
this.toUInt().times(other.toUInt())\n\n /** Multiplies this value by the other value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): UInt = this.toUInt().times(other)\n\n
/** Multiplies this value by the other value. *\n @kotlin.internal.InlineOnly\n public inline operator fun
times(other: ULong): ULong = this.toULong().times(other)\n\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. *\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UByte): UInt = this.toUInt().div(other.toUInt())\n\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. *\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UShort): UInt = this.toUInt().div(other.toUInt())\n\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. *\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UInt): UInt = this.toUInt().div(other)\n\n /** Divides this value by the other value, truncating the
result to an integer that is closer to zero. *\n @kotlin.internal.InlineOnly\n public inline operator fun div(other:
ULong): ULong = this.toULong().div(other)\n\n /**\n * Calculates the remainder of truncating division of this
value by the other value.\n * \n * The result is always less than the divisor.\n */\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UByte): UInt =
this.toUInt().rem(other.toUInt())\n\n /**\n * Calculates the remainder of truncating division of this value by the
other value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UShort): UInt = this.toUInt().rem(other.toUInt())\n\n /**\n * Calculates the
remainder of truncating division of this value by the other value.\n * \n * The result is always less than the
divisor.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt =
this.toUInt().rem(other)\n\n /**\n * Calculates the remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /**\n * Divides this value by
the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types,
the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UByte): UInt = this.toUInt().floorDiv(other.toUInt())\n\n /**\n * Divides this

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value by the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned
types, the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UShort): UInt = this.toUInt().floorDiv(other.toUInt())\n /**\n * Divides this
value by the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned
types, the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UInt): UInt = this.toUInt().floorDiv(other)\n /**\n * Divides this value by the
other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the
results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public
inline fun floorDiv(other: ULong): ULong = this.toULong().floorDiv(other)\n\n /**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is always less than the
divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the same.\n
*/\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UByte): UByte =
this.toUInt().mod(other.toUInt()).toUByte()\n /**\n * Calculates the remainder of flooring division of this value
by the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun mod(other: UShort): UShort = this.toUInt().mod(other.toUInt()).toUShort()\n /**\n *
Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is always less
than the divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the
same.\n */\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UInt): UInt =
this.toUInt().mod(other)\n /**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders of
flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun
mod(other: ULong): ULong = this.toULong().mod(other)\n\n /**\n * Returns this value incremented by one.\n
*\n * @sample samples.misc.Builtins.inc\n */\n @kotlin.internal.InlineOnly\n public inline operator fun
inc(): UByte = UByte(data.inc())\n\n /**\n * Returns this value decremented by one.\n * \n * @sample
samples.misc.Builtins.dec\n */\n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UByte =
UByte(data.dec())\n\n /** Creates a range from this value to the specified [other] value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UByte): UIntRange =
UIntRange(this.toUInt(), other.toUInt())\n\n /** Performs a bitwise AND operation between the two values. */\n
@kotlin.internal.InlineOnly\n public inline infix fun and(other: UByte): UByte = UByte(this.data and other.data)\n
\n /** Performs a bitwise OR operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline
infix fun or(other: UByte): UByte = UByte(this.data or other.data)\n\n /** Performs a bitwise XOR operation
between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix fun xor(other: UByte): UByte =
UByte(this.data xor other.data)\n\n /** Inverts the bits in this value. */\n @kotlin.internal.InlineOnly\n public
inline fun inv(): UByte = UByte(data.inv())\n\n /**\n * Converts this [UByte] value to [Byte].\n * \n * If
this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same
numerical value as this `UByte`. Otherwise the result is negative.\n * \n * The resulting `Byte` value has the
same binary representation as this `UByte` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun
toByte(): Byte = data\n\n /**\n * Converts this [UByte] value to [Short].\n * \n * The resulting `Short` value
represents the same numerical value as this `UByte`. \n * \n * The least significant 8 bits of the resulting `Short`\n
value are the same as the bits of this `UByte` value, \n * whereas the most significant 8 bits are filled with zeros.\n
*/\n @kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data.toShort() and 0xFF\n\n /**\n *
Converts this [UByte] value to [Int].\n * \n * The resulting `Int` value represents the same numerical value as
this `UByte`. \n * \n * The least significant 8 bits of the resulting `Int` value are the same as the bits of this
`UByte` value, \n * whereas the most significant 24 bits are filled with zeros.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data.toInt() and 0xFF\n\n /**\n * Converts this
[UByte] value to [Long].\n * \n * The resulting `Long` value represents the same numerical value as this
`UByte`. \n * \n * The least significant 8 bits of the resulting `Long` value are the same as the bits of this
`UByte`. \n */

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`UByte` value,
 * whereas the most significant 56 bits are filled with zeros.
 */
@kotlin.internal.InlineOnly
public inline fun toLong(): Long = data.toLong() and 0xFF
/** Returns this
value.
 */
@kotlin.internal.InlineOnly
public inline fun toUByte(): UByte = this
/**
 * Converts this
[UByte] value to [UShort].
 *
 * The resulting `UShort` value represents the same numerical value as this
`UByte`.
 *
 * The least significant 8 bits of the resulting `UShort` value are the same as the bits of this
`UByte` value,
 * whereas the most significant 8 bits are filled with zeros.
 */
@kotlin.internal.InlineOnly
public inline fun toUShort(): UShort = UShort(data.toShort() and 0xFF)
/**
 * Converts this [UByte] value to [UInt].
 *
 * The resulting `UInt` value represents the same numerical value
as this `UByte`.
 *
 * The least significant 8 bits of the resulting `UInt` value are the same as the bits of this
`UByte` value,
 * whereas the most significant 24 bits are filled with zeros.
 */
@kotlin.internal.InlineOnly
public inline fun toUInt(): UInt = UInt(data.toInt() and 0xFF)
/**
 * Converts this [UByte] value to [ULong].
 *
 * The resulting `ULong` value represents the same numerical
value as this `UByte`.
 *
 * The least significant 8 bits of the resulting `ULong` value are the same as the bits
of this `UByte` value,
 * whereas the most significant 56 bits are filled with zeros.
 */
@kotlin.internal.InlineOnly
public inline fun toULong(): ULong = ULong(data.toLong() and 0xFF)
/**
 * Converts this [UByte] value to [Float].
 *
 * The resulting `Float` value represents the same numerical
value as this `UByte`.
 */
@kotlin.internal.InlineOnly
public inline fun toFloat(): Float =
this.toInt().toFloat()
/**
 * Converts this [UByte] value to [Double].
 *
 * The resulting `Double`
value represents the same numerical value as this `UByte`.
 */
@kotlin.internal.InlineOnly
public inline
fun toDouble(): Double = this.toInt().toDouble()
public override fun toString(): String =
toInt().toString()
}
}
/**
 * Converts this [Byte] value to [UByte].
 *
 * If this value is positive, the resulting
`UByte` value represents the same numerical value as this `Byte`.
 *
 * The resulting `UByte` value has the same
binary representation as this `Byte` value.
 */
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
public inline fun Byte.toUByte(): UByte = UByte(this)
/**
 * Converts this [Short] value to [UByte].
 *
 * If
this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents
 *
the same numerical value as this `Short`.
 *
 * The resulting `UByte` value is represented by the least significant 8
bits of this `Short` value.
 */
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
public inline fun Short.toUByte(): UByte = UByte(this.toByte())
/**
 * Converts this [Int] value to [UByte].
 *
 *
 * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value
represents
 *
the same numerical value as this `Int`.
 *
 * The resulting `UByte` value is represented by the least
significant 8 bits of this `Int` value.
 */
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
public inline fun Int.toUByte(): UByte = UByte(this.toByte())
/**
 * Converts this [Long] value to [UByte].
 *
 *
 * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value
represents
 *
the same numerical value as this `Long`.
 *
 * The resulting `UByte` value is represented by the
least significant 8 bits of this `Long` value.
 */
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
public inline fun Long.toUByte(): UByte = UByte(this.toByte())
"/
 * Copyright 2010-2021 JetBrains s.r.o.
and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.
 */
// Auto-generated file. DO NOT EDIT!
package
kotlin
import kotlin.experimental.*
import
kotlin.jvm.*
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
@JvmInline
public value class UInt @PublishedApi internal constructor(@PublishedApi internal val data: Int) :
Comparable<UInt> {
    companion object {
        /**
         * A constant holding the minimum value an
instance of UInt can have.
 */
        public const val MIN_VALUE: UInt = UInt(0)
        /**
         * A
constant holding the maximum value an instance of UInt can have.
 */
        public const val MAX_VALUE:

```



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/**\n * Calculates the remainder of truncating division of this value by the other value.\n * \n * The result is
always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt):
UInt = uintRemainder(this, other)\n /**\n * Calculates the remainder of truncating division of this value by the
other value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n /**\n * Divides this value by
the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types,
the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UByte): UInt = this.floorDiv(other.toUInt())\n /**\n * Divides this value by the
other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the
results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public
inline fun floorDiv(other: UShort): UInt = this.floorDiv(other.toUInt())\n /**\n * Divides this value by the other
value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the results
of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline
fun floorDiv(other: UInt): UInt = div(other)\n /**\n * Divides this value by the other value, flooring the result to
an integer that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and
truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other:
ULong): ULong = this.toULong().floorDiv(other)\n /**\n * Calculates the remainder of flooring division of
this value by the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned
types, the remainders of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun mod(other: UByte): UByte = this.mod(other.toUInt()).toUByte()\n /**\n * Calculates the remainder
of flooring division of this value by the other value.\n * \n * The result is always less than the divisor.\n * \n
* For unsigned types, the remainders of flooring division and truncating
division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UShort): UShort =
this.mod(other.toUInt()).toUShort()\n /**\n * Calculates the remainder of flooring division of this value by the
other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders
of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline
fun mod(other: UInt): UInt = rem(other)\n /**\n * Calculates the remainder of flooring division of this value by
the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun mod(other: ULong): ULong = this.toULong().mod(other)\n /**\n * Returns this value
incremented by one.\n * \n * @sample samples.misc.Builtins.inc\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun inc(): UInt = UInt(data.inc())\n /**\n * Returns this value decremented by one.\n * \n *
@sample samples.misc.Builtins.dec\n */\n @kotlin.internal.InlineOnly\n public inline operator fun
dec(): UInt = UInt(data.dec())\n /**\n * Creates a range from this value to the specified [other] value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UInt): UIntRange = UIntRange(this,
other)\n /**\n * Shifts this value left by the [bitCount] number of bits.\n * \n * Note that only the five
lowest-order bits of the [bitCount] are used as the shift distance.\n * \n * The shift distance actually used is therefore
always in the range `0..31`.\n */\n @kotlin.internal.InlineOnly\n public inline infix fun shl(bitCount: Int): UInt
= UInt(data shl bitCount)\n /**\n * Shifts this value right by the [bitCount] number of bits, filling the leftmost
bits with zeros.\n * \n * Note that only the five lowest-order bits of the [bitCount] are used as the shift
distance.\n * \n * The shift distance actually used is therefore always in the range `0..31`.\n */\n
@kotlin.internal.InlineOnly\n public inline infix fun shr(bitCount: Int): UInt = UInt(data ushr bitCount)\n /**\n
Performs a bitwise AND operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix
fun and(other: UInt): UInt = UInt(this.data and other.data)\n /**\n * Performs a bitwise OR operation between the two
values. */\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UInt): UInt = UInt(this.data or
other.data)\n /**\n * Performs a bitwise XOR operation between the two values. */\n @kotlin.internal.InlineOnly\n
public inline infix fun xor(other: UInt): UInt = UInt(this.data xor other.data)\n /**\n * Inverts the bits in this
value. */\n @kotlin.internal.InlineOnly\n public inline fun inv(): UInt = UInt(data.inv())\n /**\n * Converts this

```

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[UInt] value to [Byte].\n * If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte`
value represents\n * the same numerical value as this `UInt`.\n * The resulting `Byte` value is
represented by the least significant 8 bits of this `UInt` value.\n * Note that the resulting `Byte` value may be
negative.\n * \n @kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data.toByte()\n /**\n *
Converts this [UInt] value to [Short].\n * If this value is less than or equals to [Short.MAX_VALUE], the
resulting `Short` value represents\n * the same numerical value as this `UInt`.\n * The resulting `Short`
value is represented by the least significant 16 bits of this `UInt` value.\n * Note that the resulting `Short` value
may be negative.\n * \n @kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data.toShort()\n
/**\n * Converts this [UInt] value to [Int].\n * If this value is less than or equals to [Int.MAX_VALUE],
the resulting `Int` value represents\n * the same numerical value as this `UInt`. Otherwise the result is negative.\n
*\n * The resulting `Int` value has the same binary representation as this `UInt` value.\n * \n
@kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data\n /**\n * Converts this [UInt] value to
[Long].\n * The resulting `Long` value represents the same numerical value as this `UInt`.\n * The
least significant 32 bits of the resulting `Long` value are the same as the bits of this `UInt` value,\n * whereas the
most significant 32 bits are filled with zeros.\n * \n @kotlin.internal.InlineOnly\n public inline fun toLong():
Long = data.toLong() and 0xFFFF_FFFF\n\n /**\n * Converts this [UInt] value to [UByte].\n * If this
value is less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same
numerical value as this `UInt`.\n * The resulting `UByte` value is represented by the least significant 8 bits
of this `UInt` value.\n * \n @kotlin.internal.InlineOnly\n public inline fun toUByte(): UByte =
data.toUByte()\n /**\n * Converts this [UInt] value to [UShort].\n * If this value is less than or equals
to [UShort.MAX_VALUE], the resulting `UShort` value represents\n * the same numerical value as this `UInt`.\n
*\n * The resulting `UShort` value is represented by the least significant 16 bits of this `UInt` value.\n * \n
@kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = data.toUShort()\n /** Returns this value.
*\n @kotlin.internal.InlineOnly\n public inline fun toUInt(): UInt = this\n /**\n * Converts this [UInt] value
to [ULong].\n * The resulting `ULong` value represents the same numerical value as this `UInt`.\n *
The least significant 32 bits of the resulting `ULong` value are the same as the bits of this `UInt` value,\n *
whereas the most significant 32 bits are filled with zeros.\n * \n @kotlin.internal.InlineOnly\n public inline
fun toULong(): ULong = ULong(data.toLong() and 0xFFFF_FFFF)\n\n /**\n * Converts this [UInt] value to
[Float].\n * The resulting value is the closest `Float` to this `UInt` value.\n * In case when this `UInt`
value is exactly between two `Float`s,\n * the one with zero at least significant bit of mantissa is selected.\n * \n
@kotlin.internal.InlineOnly\n public inline fun toFloat(): Float = this.toDouble().toFloat()\n /**\n * Converts
this [UInt] value to [Double].\n * The resulting `Double` value represents the same numerical value as this
`UInt`.\n * \n @kotlin.internal.InlineOnly\n public inline fun toDouble(): Double = uintToDouble(data)\n\n
public override fun toString(): String = toLong().toString()\n\n\n /**\n * Converts this [Byte] value to [UInt].\n
*\n * If this value is positive, the resulting `UInt` value represents the same numerical value as this `Byte`.\n *
The least significant 8 bits of the resulting `UInt` value are the same as the bits of this `Byte` value,\n * whereas the
most significant 24 bits are filled with the sign bit of this value.\n
*\n @SinceKotlin("1.5")\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Byte.toUInt(): UInt = UInt(this.toInt())\n\n /**\n * Converts this [Short] value to [UInt].\n *
If this value is positive, the resulting `UInt` value represents the same numerical value as this `Short`.\n *
The least significant 16 bits of the resulting `UInt` value are the same as the bits of this `Short` value,\n *
whereas the most significant 16 bits are filled with the sign bit of this value.\n
*\n @SinceKotlin("1.5")\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Short.toUInt(): UInt = UInt(this.toInt())\n\n /**\n * Converts this [Int] value to [UInt].\n *
If this value is positive, the resulting `UInt` value represents the same numerical value as this `Int`.\n *
The resulting `UInt` value has the same binary representation as this `Int` value.\n
*\n @SinceKotlin("1.5")\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Int.toUInt(): UInt = UInt(this)\n\n /**\n * Converts this [Long] value to [UInt].\n * If this value

```

is positive and less than or equals to [UInt.MAX_VALUE], the resulting `UInt` value represents the same numerical value as this `Long`. The resulting `UInt` value is represented by the least significant 32 bits of this `Long` value.

```
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun Long.toUInt(): UInt = UInt(this.toInt())\n\n/**\n * Converts this [Float] value to [UInt].\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Float` value is negative or `NaN`,\n * [UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`.\n
```

```
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun Float.toUInt(): UInt = doubleToUInt(this.toDouble())\n\n/**\n * Converts this [Double] value to [UInt].\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Double` value is negative or `NaN`,\n * [UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`.\n
```

```
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun Double.toUInt(): UInt = doubleToUInt(this)\n\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and\n * Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that\n * can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage\nkotlin\n\nimport kotlin.experimental.*\nimport\n
```

```
kotlin.jvm.*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@JvmInline\npublic value class UShort @PublishedApi internal constructor(@PublishedApi internal val data: Short) :\n
```

```
Comparable<UShort> {\n\n    companion object {\n\n        /**\n         * A constant holding the minimum value an\n         * instance of UShort can have.\n         */\n        public const val MIN_VALUE: UShort = UShort(0)\n\n        /**\n         * A constant holding the maximum value an instance of UShort can have.\n         */\n        public const val\n
```

```
MAX_VALUE: UShort = UShort(-1)\n\n        /**\n         * The number of bytes used to represent an instance of\n         * UShort in a binary form.\n         */\n        public const val SIZE_BYTES: Int = 2\n\n        /**\n         * The number of\n
```

```
bits used to represent an instance of UShort in a binary form.\n        */\n        public const val SIZE_BITS: Int =\n
```

```
16\n    }\n\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is\n     * equal to the specified other value, a negative number if it's less than other,\n     * or a positive number if it's greater\n
```

```
than other.\n    */\n    @kotlin.internal.InlineOnly\n    public inline operator fun compareTo(other: UByte): Int =\n    this.toInt().compareTo(other.toInt())\n\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n    */\n    @kotlin.internal.InlineOnly\n
```

```
public inline operator fun compareTo(other: UShort): Int =\n    this.toInt().compareTo(other.toInt())\n\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n    */\n    @kotlin.internal.InlineOnly\n
```

```
public override inline operator fun compareTo(other: UShort): Int =\n    this.toInt().compareTo(other.toInt())\n\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n    */\n    @kotlin.internal.InlineOnly\n
```

```
public inline operator fun compareTo(other: UInt): Int = this.toUInt().compareTo(other)\n\n    /**\n     * Compares this value with the\n     * specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if\n     * it's less than other,\n     * or a positive number if it's greater than other.\n    */\n    @kotlin.internal.InlineOnly\n
```

```
public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n    /**\n     * Adds the\n     * other value to this value.\n    */\n    @kotlin.internal.InlineOnly\n
```

```
public inline operator fun plus(other: UByte): UInt =\n    this.toUInt().plus(other.toUInt())\n\n    /**\n     * Adds the other value to this value.\n    */\n    @kotlin.internal.InlineOnly\n
```

```
public inline operator fun plus(other: UShort): UInt = this.toUInt().plus(other.toUInt())\n\n    /**\n     * Adds the other value\n     * to this value.\n    */\n    @kotlin.internal.InlineOnly\n
```

```
public inline operator fun plus(other: UInt): UInt =\n    this.toUInt().plus(other)\n\n    /**\n     * Adds the other value to this value.\n    */\n    @kotlin.internal.InlineOnly\n
```

```
public inline operator fun plus(other: ULong): ULong = this.toULong().plus(other)\n\n    /**\n     * Subtracts the other value from\n     * this value.\n    */\n    @kotlin.internal.InlineOnly\n
```

```
public inline operator fun minus(other: UByte): UInt =\n    this.toUInt().minus(other.toUInt())\n\n    /**\n     * Subtracts the other value from this value.\n    */\n    @kotlin.internal.InlineOnly\n
```

```
public inline operator fun minus(other: UShort): UInt =\n    this.toUInt().minus(other.toUInt())\n\n    /**\n     * Subtracts the other value from this value.\n    */\n    @kotlin.internal.InlineOnly\n
```

```
public inline operator fun minus(other: UShort): UInt =\n    this.toUInt().minus(other.toUInt())\n\n    /**\n     * Subtracts the other value from this value.\n    */\n    @kotlin.internal.InlineOnly\n
```

```

@kotlin.internal.InlineOnly\n public inline operator fun minus(other: UInt): UInt = this.toUInt().minus(other)\n
/** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun
minus(other: ULong): ULong = this.toULong().minus(other)\n\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UByte): UInt =
this.toUInt().times(other.toUInt())\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): UInt =
this.toUInt().times(other.toUInt())\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): UInt = this.toUInt().times(other)\n
/** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun
times(other: ULong): ULong = this.toULong().times(other)\n\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UByte): UInt = this.toUInt().div(other.toUInt())\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UShort): UInt = this.toUInt().div(other.toUInt())\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UInt): UInt = this.toUInt().div(other)\n /** Divides this value by the other value, truncating the
result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other:
ULong): ULong = this.toULong().div(other)\n\n /**\n * Calculates the remainder of truncating division of this
value by the other value.\n * \n * The result is always less than the divisor.\n */\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UByte): UInt =
this.toUInt().rem(other.toUInt())\n /**\n * Calculates the remainder of truncating division of this value by the
other value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UShort): UInt = this.toUInt().rem(other.toUInt())\n /**\n * Calculates the
remainder of truncating division of this value by the other value.\n * \n * The result is always less than the
divisor.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt =
this.toUInt().rem(other)\n /**\n * Calculates the remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /**\n * Divides this value by
the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types,
the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UByte): UInt = this.toUInt().floorDiv(other.toUInt())\n /**\n * Divides this
value by the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned
types, the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UShort): UInt = this.toUInt().floorDiv(other.toUInt())\n /**\n * Divides this
value by the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned
types, the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UInt): UInt = this.toUInt().floorDiv(other)\n /**\n * Divides this value by the
other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the
results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public
inline fun floorDiv(other: ULong): ULong = this.toULong().floorDiv(other)\n\n /**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is always less than the
divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the same.\n
*/\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UByte): UByte =
this.toUInt().mod(other.toUInt()).toUByte()\n /**\n * Calculates the remainder of flooring division of this value
by the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun mod(other: UShort): UShort = this.toUInt().mod(other.toUInt()).toUShort()\n /**\n *
Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is always less

```

than the divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UInt): UInt = this.toUInt().mod(other)\n /**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun mod(other: ULong): ULong = this.toULong().mod(other)\n\n /**\n * Returns this value incremented by one.\n */\n * @sample samples.misc.Builtins.inc\n */\n @kotlin.internal.InlineOnly\n public inline operator fun inc(): UShort = UShort(data.inc())\n\n /**\n * Returns this value decremented by one.\n */\n * @sample samples.misc.Builtins.dec\n */\n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UShort = UShort(data.dec())\n\n /**\n * Creates a range from this value to the specified [other] value.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UShort): UIntRange = UIntRange(this.toUInt(), other.toUInt())\n\n /**\n * Performs a bitwise AND operation between the two values.\n */\n @kotlin.internal.InlineOnly\n public inline infix fun and(other: UShort): UShort = UShort(this.data and other.data)\n\n /**\n * Performs a bitwise OR operation between the two values.\n */\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UShort): UShort = UShort(this.data or other.data)\n\n /**\n * Performs a bitwise XOR operation between the two values.\n */\n @kotlin.internal.InlineOnly\n public inline infix fun xor(other: UShort): UShort = UShort(this.data xor other.data)\n\n /**\n * Inverts the bits in this value.\n */\n @kotlin.internal.InlineOnly\n public inline fun inv(): UShort = UShort(data.inv())\n\n /**\n * Converts this [UShort] value to [Byte].\n * \n * If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same numerical value as this `UShort`.\n * \n * The resulting `Byte` value is represented by the least significant 8 bits of this `UShort` value.\n * \n * Note that the resulting `Byte` value may be negative.\n */\n @kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data.toByte()\n\n /**\n * Converts this [UShort] value to [Short].\n * \n * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value represents\n * the same numerical value as this `UShort`. Otherwise the result is negative.\n * \n * The resulting `Short` value has the same binary representation as this `UShort` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data\n\n /**\n * Converts this [UShort] value to [Int].\n * \n * The resulting `Int` value represents the same numerical value as this `UShort`.\n * \n * The least significant 16 bits of the resulting `Int` value are the same as the bits of this `UShort` value,\n * whereas the most significant 16 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data.toInt() and 0xFFFF\n\n /**\n * Converts this [UShort] value to [Long].\n * \n * The resulting `Long` value represents the same numerical value as this `UShort`.\n * \n * The least significant 16 bits of the resulting `Long` value are the same as the bits of this `UShort` value,\n * whereas the most significant 48 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toLong(): Long = data.toLong() and 0xFFFF\n\n /**\n * Converts this [UShort] value to [UByte].\n * \n * If this value is less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same numerical value as this `UShort`.\n * \n * The resulting `UByte` value is represented by the least significant 8 bits of this `UShort` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUByte(): UByte = data.toUByte()\n\n /**\n * Returns this value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = this\n\n /**\n * Converts this [UShort] value to [UInt].\n * \n * The resulting `UInt` value represents the same numerical value as this `UShort`.\n * \n * The least significant 16 bits of the resulting `UInt` value are the same as the bits of this `UShort` value,\n * whereas the most significant 16 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUInt(): UInt = UInt(data.toInt() and 0xFFFF)\n\n /**\n * Converts this [UShort] value to [ULong].\n * \n * The resulting `ULong` value represents the same numerical value as this `UShort`.\n * \n * The least significant 16 bits of the resulting `ULong` value are the same as the bits of this `UShort` value,\n * whereas the most significant 48 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toULong(): ULong = ULong(data.toLong() and 0xFFFF)\n\n /**\n * Converts this [UShort] value to [Float].\n * \n * The resulting `Float` value represents the same numerical value as this `UShort`.\n */\n @kotlin.internal.InlineOnly\n public inline fun toFloat(): Float = this.toInt().toFloat()\n\n /**\n * Converts this

```

[UShort] value to [Double].\n * The resulting `Double` value represents the same numerical value as this
`UShort`.\n * \n @kotlin.internal.InlineOnly\n public inline fun toDouble(): Double =
this.toInt().toDouble()\n\n public override fun toString(): String = toInt().toString()\n}\n\n/**\n * Converts this
[Byte] value to [UShort].\n *\n * If this value is positive, the resulting `UShort` value represents the same numerical
value as this `Byte`.\n *\n * The least significant 8 bits of the resulting `UShort` value are the same as the bits of this
`Byte` value,\n * whereas the most significant 8 bits are filled with the sign bit of this value.\n
*\n @SinceKotlin("1.5")\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Byte.toUShort(): UShort = UShort(this.toShort())\n\n/**\n * Converts this [Short] value to
[UShort].\n *\n * If this value is positive, the resulting `UShort` value represents the same numerical value as this
`Short`.\n *\n * The resulting `UShort` value has the same binary representation as this `Short` value.\n
*\n @SinceKotlin("1.5")\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Short.toUShort(): UShort = UShort(this)\n\n/**\n * Converts this [Int] value to [UShort].\n *\n * If
this value is positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n *
the same numerical value as this `Int`.\n *\n * The resulting `UShort` value is represented by the least significant 16
bits of this `Int` value.\n
*\n @SinceKotlin("1.5")\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Int.toUShort(): UShort = UShort(this.toShort())\n\n/**\n * Converts this [Long] value to
[UShort].\n *\n * If this value is positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort`
value represents\n * the same numerical value as this `Long`.\n *\n * The resulting `UShort` value is represented by
the least significant 16 bits of this `Long` value.\n
*\n @SinceKotlin("1.5")\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Long.toUShort(): UShort = UShort(this.toShort())\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin.ranges\n\n/**\n * A range of values of type `Char`.\n */\npublic class CharRange(start: Char, endInclusive:
Char) : CharProgression(start, endInclusive, 1), ClosedRange<Char> {\n\n    override val start: Char get() = first\n
    override val endInclusive: Char get() = last\n\n    override fun contains(value: Char): Boolean = first <= value &&
value <= last\n\n    /**\n     * Checks whether the range is empty.\n     *\n     * The range is empty if its start value is
greater than the end value.\n     *\n     * override fun isEmpty(): Boolean = first > last\n\n     * override fun equals(other:
Any?): Boolean =\n     *     other is CharRange && (isEmpty() && other.isEmpty()) ||\n     *     first == other.first && last
== other.last)\n\n     * override fun hashCode(): Int =\n     *     if (isEmpty()) -1 else (31 * first.code + last.code)\n\n     *
override fun toString(): String = "$first..$last"\n\n     companion object {\n     /**\n      * An empty range of values of
type Char.\n      *\n      * public val EMPTY: CharRange = CharRange(1.toChar(), 0.toChar())\n     }\n}\n\n/**\n * A
range of values of type `Int`.\n */\npublic class IntRange(start: Int, endInclusive: Int) : IntProgression(start,
endInclusive, 1), ClosedRange<Int> {\n\n    override val start: Int get() = first\n    override val endInclusive: Int get() =
last\n\n    override fun contains(value: Int): Boolean = first <= value && value <= last\n\n    /**\n     * Checks
whether the range is empty.\n     *\n     * The range is empty if its start value is greater than the end value.\n     *\n     *
override fun isEmpty(): Boolean = first > last\n\n     * override fun equals(other: Any?): Boolean =\n     *     other is
IntRange && (isEmpty() && other.isEmpty()) ||\n     *     first == other.first && last == other.last)\n\n     * override fun
hashCode(): Int =\n     *     if (isEmpty()) -1 else (31 * first + last)\n\n     * override fun toString(): String =
"$first..$last"\n\n     companion object {\n     /**\n      * An empty range of values of type Int.\n      *\n      * public val
EMPTY: IntRange = IntRange(1, 0)\n     }\n}\n\n/**\n * A range of values of type `Long`.\n */\npublic class
LongRange(start: Long, endInclusive: Long) : LongProgression(start, endInclusive, 1), ClosedRange<Long> {\n\n    override
val start: Long get() = first\n    override val endInclusive: Long get() = last\n\n    override fun
contains(value: Long): Boolean = first <= value && value <= last\n\n    /**\n     * Checks whether the range is
empty.\n     *\n     * The range is empty if its start value is greater than the end value.\n     *\n     * override fun
isEmpty(): Boolean = first > last\n\n     * override fun equals(other: Any?): Boolean =\n     *     other is LongRange &&
(isEmpty() && other.isEmpty()) ||\n     *     first == other.first && last == other.last)\n\n     * override fun
hashCode(): Int

```

```

= \n    if (isEmpty()) -1 else (31 * (first xor (first ushr 32)) + (last xor (last ushr 32))).toInt()\n\n    override fun
toString(): String = \"$first..$last\"\n\n    companion object {\n        /** An empty range of values of type Long. */\n
        public val EMPTY: LongRange = LongRange(1, 0)\n    }\n}\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n@file:OptIn(kotlin.exper
imental.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\nimport
kotlin.random.Random\n\ninternal object EmptyIterator : ListIterator<Nothing> {\n    override fun hasNext():
Boolean = false\n    override fun hasPrevious(): Boolean = false\n    override fun nextIndex(): Int = 0\n    override
fun previousIndex(): Int = -1\n    override fun next(): Nothing = throw NoSuchElementException()\n    override fun
previous(): Nothing = throw NoSuchElementException()\n}\n\ninternal object EmptyList : List<Nothing>,
Serializable, RandomAccess {\n    private const val serialVersionUID: Long = -7390468764508069838L\n\n    override fun equals(other: Any?): Boolean = other is List<*> && other.isEmpty()\n    override fun hashCode(): Int = 1\n    override fun toString(): String = "[]"\n    override val size: Int get() = 0\n    override fun isEmpty(): Boolean = true\n    override fun contains(element: Nothing): Boolean = false\n    override fun containsAll(elements: Collection<Nothing>): Boolean = elements.isEmpty()\n    override fun get(index: Int): Nothing = throw IndexOutOfBoundsException("Empty list doesn't contain element at index $index.")\n    override fun indexOf(element: Nothing): Int = -1\n    override fun lastIndexOf(element: Nothing): Int = -1\n    override fun iterator(): Iterator<Nothing> = EmptyIterator\n    override fun listIterator(): ListIterator<Nothing> = EmptyIterator\n    override fun listIterator(index: Int): ListIterator<Nothing> {\n        if (index != 0) throw IndexOutOfBoundsException("Index: $index")\n        return EmptyIterator\n    }\n\n    override fun subList(fromIndex: Int, toIndex: Int): List<Nothing> {\n        if (fromIndex == 0 && toIndex == 0) return this\n        throw IndexOutOfBoundsException("fromIndex: $fromIndex, toIndex: $toIndex")\n    }\n\n    private fun readResolve(): Any = EmptyList\n}\n\ninternal fun <T> Array<out T>.asCollection(): Collection<T> = ArrayAsCollection(this, isVarargs = false)\n\nprivate class ArrayAsCollection<T>(val values: Array<out T>, val isVarargs: Boolean) : Collection<T> {\n    override val size: Int get() = values.size\n    override fun isEmpty(): Boolean = values.isEmpty()\n    override fun contains(element: T): Boolean = values.contains(element)\n    override fun containsAll(elements: Collection<T>): Boolean = elements.all { contains(it) }\n    override fun iterator(): Iterator<T> = values.iterator()\n    // override hidden toArray implementation to prevent copying of values array\n    public fun toArray(): Array<out Any?> = values.copyToArrayOfAny(isVarargs)\n}\n\n/**\n * Returns an empty read-only list. The returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.emptyReadOnlyList\n */\n\npublic fun <T> emptyList(): List<T> = EmptyList\n\n/**\n * Returns a new read-only list of given elements. The returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.readOnlyList\n */\n\npublic fun <T> listOf(vararg elements: T): List<T> = if (elements.size > 0) elements.asList() else emptyList()\n\n/**\n * Returns an empty read-only list. The returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.emptyReadOnlyList\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> listOf(): List<T> = emptyList()\n\n/**\n * Returns an empty new [MutableList].\n * @sample samples.collections.Collections.Lists.emptyMutableList\n */\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> mutableListOf(): MutableList<T> = ArrayList()\n\n/**\n * Returns an empty new [ArrayList].\n * @sample samples.collections.Collections.Lists.emptyArrayList\n */\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> arrayListOf(): ArrayList<T> = ArrayList()\n\n/**\n * Returns a new [MutableList] with the given elements.\n * @sample samples.collections.Collections.Lists.mutableList\n */\n\npublic fun <T> mutableListOf(vararg elements: T): MutableList<T> =\n    if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs = true))\n\n/**\n * Returns a new [ArrayList] with the given elements.\n * @sample samples.collections.Collections.Lists.arrayList\n */\n\npublic fun <T> arrayListOf(vararg elements: T): ArrayList<T> =\n    if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs = true))\n\n/**

```

Returns a new read-only list either of single given element, if it is not null, or empty list if the element is null. The returned list is serializable (JVM).

```

@sample samples.collections.Collections.Lists.listOfNotNull
public fun
<T : Any> listOfNotNull(element: T?): List<T> = if (element != null) listOf(element) else emptyList()

```

Returns a new read-only list only of those given elements, that are not null. The returned list is serializable (JVM).

```

@sample samples.collections.Collections.Lists.listOfNotNull
public fun <T : Any>
listOfNotNull(vararg elements: T?): List<T> = elements.filterNotNull()

```

Creates a new read-only list with the specified [size], where each element is calculated by calling the specified [init] function. The function [init] is called for each list element sequentially starting from the first one. It should return the value for a list element given its index.

```

@sample samples.collections.Collections.Lists.readOnlyListFromInitializer
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public inline fun <T> List(size: Int, init: (index: Int) -> T):
List<T> = MutableList(size, init)

```

Creates a new mutable list with the specified [size], where each element is calculated by calling the specified [init] function. The function [init] is called for each list element sequentially starting from the first one. It should return the value for a list element given its index.

```

@sample samples.collections.Collections.Lists.mutableListFromInitializer
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public inline fun <T> MutableList(size: Int, init: (index:
Int) -> T): MutableList<T> {
    val list = ArrayList<T>(size)
    repeat(size) { index -> list.add(init(index)) }
    return list
}

```

Builds a new read-only [List] by populating a [MutableList] using the given [builderAction] and returning a read-only list with the same elements. The list passed as a receiver to the [builderAction] is valid only inside that function. Using it outside of the function produces an unspecified behavior. The returned list is serializable (JVM).

```

@sample
samples.collections.Builders.Lists.buildListSample
@SinceKotlin("1.6")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <E> buildList(@BuilderInference builderAction: MutableList<E>().->Unit): List<E> {
    contract {
        callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE)
    }
    return
    buildListInternal(builderAction)
}
@PublishedApi
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
internal expect inline fun <E> buildListInternal(builderAction: MutableList<E>().->Unit): List<E>

```

Builds a new read-only [List] by populating a [MutableList] using the given [builderAction] and returning a read-only list with the same elements. The list passed as a receiver to the [builderAction] is valid only inside that function. Using it outside of the function produces an unspecified behavior. The returned list is serializable (JVM). [capacity] is used to hint the expected number of elements added in the [builderAction].

```

@throws IllegalArgumentException if the given [capacity] is negative.
@sample
samples.collections.Builders.Lists.buildListSampleWithCapacity
@SinceKotlin("1.6")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <E> buildList(capacity: Int, @BuilderInference builderAction: MutableList<E>().->Unit): List<E> {
    contract {
        callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE)
    }
    return buildListInternal(capacity,
    builderAction)
}
@PublishedApi
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
internal expect inline
fun <E> buildListInternal(capacity: Int, builderAction: MutableList<E>().->Unit): List<E>

```

Returns an [IntRange] of the valid indices for this collection.

```

@sample
samples.collections.Collections.Collections.indicesOfCollection
public val Collection<*>.indices: IntRange
get() = 0..size - 1

```

Returns the index of the last item in the list or -1 if the list is empty.

```

@sample
samples.collections.Collections.Collections.lastIndexOfList
public val <T> List<T>.lastIndex: Int
get() =
this.size - 1

```

Returns `true` if the collection is not empty.

```

@sample
samples.collections.Collections.Collections.collectionIsNotEmpty
@kotlin.internal.InlineOnly
public inline
fun <T> Collection<T>.isNotEmpty(): Boolean = !isEmpty()

```

Returns `true` if this nullable collection is either null or empty.

```

@sample
samples.collections.Collections.Collections.collectionIsNullOrEmpty
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun <T> Collection<T>?.isNullOrEmpty():
Boolean {
    contract {
        returns(false) implies (this@isNullOrEmpty != null)
    }
    return this == null ||
    this.isEmpty()
}

```

Returns this Collection if it's not `null` and the empty list otherwise.

```

@sample

```



```

samples.collections.Collections.Collections.collectionOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Collection<T>?.orEmpty(): Collection<T> = this ?: emptyList()\n\n/**\n * Returns this List if it's not `null` and
the empty list otherwise.\n * @sample samples.collections.Collections.Lists.listOrNull\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>?.orEmpty(): List<T> = this ?: emptyList()\n\n/**\n
* Returns this collection if it's not empty\n * or the result of calling [defaultValue] function if the collection is
empty.\n *\n * @sample samples.collections.Collections.Collections.collectionIfEmpty\n
*/\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.isEmpty(defaultValue: () ->
R): R where C : Collection<*>, C : R =\n    if (isEmpty()) defaultValue() else this\n\n\n/**\n * Checks if all
elements in the specified collection are contained in this collection.\n *\n * Allows to overcome type-safety
restriction of `containsAll` that requires to pass a collection of type `Collection<E>`.\n * @sample
samples.collections.Collections.Collections.collectionContainsAll\n
*/\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in
some cases\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T>
Collection<T>.containsAll(elements: Collection<T>): Boolean = this.containsAll(elements)\n\n\n/**\n * Returns a
new list with the elements of this list randomly shuffled\n * using the specified [random] instance as the source of
randomness.\n *\n */\n@SinceKotlin("1.3")\npublic fun <T> Iterable<T>.shuffled(random: Random): List<T> =
toMutableList().apply { shuffle(random) }\n\n\ninternal fun <T> List<T>.optimizeReadOnlyList() = when (size) {\n
    0 -> emptyList()\n    1 -> listOf(this[0])\n    else -> this\n}\n\n\n/**\n * Searches this list or its range for the provided
[element] using the binary search algorithm.\n * The list is expected to be sorted into ascending order according to
the Comparable natural ordering of its elements,\n * otherwise the result is undefined.\n *\n * If the list contains
multiple elements equal to the specified [element], there is no guarantee which one will be found.\n *\n * `null`
value is considered to be less than any non-null value.\n *\n * @return the index of the element, if it is contained in
the list within the specified range;\n * otherwise, the inverted insertion point `(-insertion point - 1)`.\n * The
insertion point is defined as the index at which the element should be inserted,\n * so that the list (or the specified
subrange of list) still remains sorted.\n * @sample
samples.collections.Collections.Lists.binarySearchOnComparable\n * @sample
samples.collections.Collections.Lists.binarySearchWithBoundaries\n */\npublic fun <T : Comparable<T>>
List<T?>.binarySearch(element: T?, fromIndex: Int = 0, toIndex: Int = size): Int {\n    rangeCheck(size, fromIndex,
toIndex)\n    var low = fromIndex\n    var high = toIndex - 1\n    while (low <= high) {\n        val mid = (low +
high).ushr(1) // safe from overflows\n        val midVal = get(mid)\n        val cmp = compareValues(midVal,
element)\n        if (cmp < 0)\n            low = mid + 1\n        else if (cmp > 0)\n            high = mid - 1\n        else\n
            return mid // key found\n    }\n    return -(low + 1) // key not found\n}\n\n\n/**\n * Searches this list or its range
for the provided [element] using the binary search algorithm.\n * The list is expected to be sorted into ascending
order according to the specified [comparator].\n * otherwise the result is undefined.\n *\n * If the list contains
multiple elements equal to the specified [element], there is no guarantee which one will be found.\n *\n * `null`
value is considered to be less than any non-null value.\n *\n * @return the index of the element, if it is contained in
the list within the specified range;\n * otherwise, the inverted insertion point `(-insertion point - 1)`.\n * The
insertion point is defined as the index at which the element should be inserted,\n * so that the list (or the specified
subrange of list) still remains sorted according to the specified [comparator].\n * @sample
samples.collections.Collections.Lists.binarySearchWithComparator\n */\npublic fun <T>
List<T>.binarySearch(element: T, comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Int {\n
    rangeCheck(size, fromIndex, toIndex)\n    var low = fromIndex\n    var high = toIndex - 1\n    while (low <=
high) {\n        val mid = (low + high).ushr(1) // safe from overflows\n        val midVal = get(mid)\n        val cmp =
comparator.compare(midVal, element)\n        if (cmp < 0)\n            low = mid + 1\n        else if (cmp > 0)\n
            high = mid - 1\n        else\n            return mid // key found\n    }\n    return -(low + 1) // key not found\n}\n\n\n/**\n
* Searches this list or its range for an element having the key returned by the specified [selector] function\n * equal to
the provided [key] value using the binary search algorithm.\n * The list is expected to be sorted into ascending order
according to the Comparable natural ordering of keys of its elements.\n * otherwise the result is undefined.\n *\n * If

```

the list contains multiple elements with the specified [key], there is no guarantee which one will be found.
`null` value is considered to be less than any non-null value.
`@return` the index of the element with the specified [key], if it is contained in the list within the specified range;
otherwise, the inverted insertion point `(-insertion point - 1)`.
The insertion point is defined as the index at which the element should be inserted,
so that the list (or the specified subrange of list) still remains sorted.
`@sample`
`samples.collections.Collections.Lists.binarySearchByKey`
`public inline fun <T, K : Comparable<K>> List<T>.binarySearchBy(key: K?, fromIndex: Int = 0, toIndex: Int = size, crossinline selector: (T) -> K?): Int =`
`binarySearch(fromIndex, toIndex) { compareValues(selector(it), key) }`
do not introduce this overload --- too rare
`public fun <T, K> List<T>.binarySearchBy(key: K, comparator: Comparator<K>, fromIndex: Int = 0, toIndex: Int = size(), selector: (T) -> K): Int =`
`binarySearch(fromIndex, toIndex) { comparator.compare(selector(it), key) }`
Searches this list or its range for an element for which the given [comparison] function returns zero using the binary search algorithm.
The list is expected to be sorted so that the signs of the [comparison] function's return values ascend on the list elements,
i.e. negative values come before zero and zeroes come before positive values.
Otherwise, the result is undefined.
If the list contains multiple elements for which [comparison] returns zero, there is no guarantee which one will be found.
`@param` comparison function that returns zero when called on the list element being searched.
On the elements coming before the target element, the function must return negative values;
on the elements coming after the target element, the function must return positive values.
`@return` the index of the found element, if it is contained in the list within the specified range;
otherwise, the inverted insertion point `(-insertion point - 1)`.
The insertion point is defined as the index at which the element should be inserted,
so that the list (or the specified subrange of list) still remains sorted.
`@sample`
`samples.collections.Collections.Lists.binarySearchWithComparisonFunction`
`public fun <T> List<T>.binarySearch(fromIndex: Int = 0, toIndex: Int = size, comparison: (T) -> Int): Int {`
`rangeCheck(size, fromIndex, toIndex)`
`var low = fromIndex`
`var high = toIndex - 1`
`while (low <= high) {`
`val mid = (low + high).ushr(1) // safe from overflows`
`val midVal = get(mid)`
`val cmp = comparison(midVal)`
`if (cmp < 0) low = mid + 1`
`else if (cmp > 0) high = mid - 1`
`else return mid // key found`
`}`
`return -(low + 1) // key not found`
`}`
Checks that `from` and `to` are in the range of [0..size] and throws an appropriate exception, if they aren't.
`private fun rangeCheck(size: Int, fromIndex: Int, toIndex: Int) {`
`when {`
`fromIndex > toIndex -> throw`
`IllegalArgumentException("fromIndex (\$fromIndex) is greater than toIndex (\$toIndex).")`
`fromIndex < 0 ->`
`throw IndexOutOfBoundsException("fromIndex (\$fromIndex) is less than zero.")`
`toIndex > size -> throw`
`IndexOutOfBoundsException("toIndex (\$toIndex) is greater than size (\$size).")`
`}`
`}`
`@PublishedApi`
`@SinceKotlin("1.3")`
`internal expect fun checkIndexOverflow(index: Int): Int`
`@PublishedApi`
`@SinceKotlin("1.3")`
`internal expect fun checkCountOverflow(count: Int): Int`
`@PublishedApi`
`@SinceKotlin("1.3")`
`internal fun throwIndexOverflow() {`
`throw`
`ArithmeticException("Index overflow has happened.")`
`}`
`@PublishedApi`
`@SinceKotlin("1.3")`
`internal fun throwCountOverflow() {`
`throw`
`ArithmeticException("Count overflow has happened.")`
`}`
`"*/`
`* Copyright`
`2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.`
`Use of this source code is governed`
`by the Apache 2.0 license that can be found in the license/LICENSE.txt file.`
`@file:kotlin.jvm.JvmMultifileClass`
`@file:kotlin.jvm.JvmName("MapsKt")`
`@file:OptIn(kotlin.experimental.ExperimentalTypeInference::class)`
`package kotlin.collections`
`import kotlin.contracts.*`
`private object`
`EmptyMap : Map<Any?, Nothing>, Serializable {`
`private const val serialVersionUID: Long =`
`8246714829545688274`
`override fun equals(other: Any?): Boolean = other is Map<*, *> &&`
`other.isEmpty()`
`override fun hashCode(): Int = 0`
`override fun toString(): String = "{}`
`override val`
`size: Int get() = 0`
`override fun isEmpty(): Boolean = true`
`override fun containsKey(key: Any?): Boolean =`
`false`
`override fun containsValue(value: Nothing): Boolean = false`
`override fun get(key: Any?): Nothing? =`
`null`
`override val entries: Set<Map.Entry<Any?, Nothing>> get() =`
`EmptySet`
`override val keys: Set<Any?>`
`get() =`
`EmptySet`
`override val values: Collection<Nothing> get() =`
`EmptyList`
`private fun readResolve():`

Any = EmptyMap\n}\n\n/**\n * Returns an empty read-only map of specified type.\n *\n * The returned map is serializable (JVM).\n * @sample samples.collections.Maps.Instantiation.emptyReadOnlyMap\n */\n\npublic fun <K, V> emptyMap(): Map<K, V> = @Suppress("UNCHECKED_CAST") (EmptyMap as Map<K, V>)\n\n/**\n * Returns a new read-only map with the specified contents, given as a list of pairs\n * where the first value is the key and the second is the value.\n *\n * If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n *\n * Entries of the map are iterated in the order they were specified.\n *\n * The returned map is serializable (JVM).\n * @sample samples.collections.Maps.Instantiation.mapFromPairs\n */\n\npublic fun <K, V> mapOf(vararg pairs: Pair<K, V>): Map<K, V> =\n if (pairs.size > 0)\n pairs.toMap(LinkedHashMap(mapCapacity(pairs.size)))\n else emptyMap()\n\n/**\n * Returns an empty read-only map.\n *\n * The returned map is serializable (JVM).\n * @sample samples.collections.Maps.Instantiation.emptyReadOnlyMap\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> mapOf(): Map<K, V> = emptyMap()\n\n/**\n * Returns an empty new [MutableMap].\n *\n * The returned map preserves the entry iteration order.\n * @sample samples.collections.Maps.Instantiation.emptyMutableMap\n */\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> mutableMapOf(): MutableMap<K, V> = LinkedHashMap()\n\n/**\n * Returns a new [MutableMap] with the specified contents, given as a list of pairs\n * where the first component is the key and the second is the value.\n *\n * If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n *\n * Entries of the map are iterated in the order they were specified.\n *\n * @sample samples.collections.Maps.Instantiation.mutableMapFromPairs\n */\n\n@sample\nsamples.collections.Maps.Instantiation.emptyMutableMap\n\npublic fun <K, V> mutableMapOf(vararg pairs: Pair<K, V>): MutableMap<K, V> =\n LinkedHashMap<K, V>(mapCapacity(pairs.size)).apply { putAll(pairs) }\n\n/**\n * Returns an empty new [HashMap].\n *\n * @sample samples.collections.Maps.Instantiation.emptyHashMap\n */\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> hashMapOf(): HashMap<K, V> = HashMap<K, V>()\n\n/**\n * Returns a new [HashMap] with the specified contents, given as a list of pairs\n * where the first component is the key and the second is the value.\n *\n * @sample samples.collections.Maps.Instantiation.hashMapFromPairs\n */\n\npublic fun <K, V> hashMapOf(vararg pairs: Pair<K, V>): HashMap<K, V> = HashMap<K, V>(mapCapacity(pairs.size)).apply { putAll(pairs) }\n\n/**\n * Returns an empty new [LinkedHashMap].\n */\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> linkedMapOf(): LinkedHashMap<K, V> = LinkedHashMap<K, V>()\n\n/**\n * Returns a new [LinkedHashMap] with the specified contents, given as a list of pairs\n * where the first component is the key and the second is the value.\n *\n * If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n *\n * Entries of the map are iterated in the order they were specified.\n *\n * @sample samples.collections.Maps.Instantiation.linkedMapFromPairs\n */\n\npublic fun <K, V> linkedMapOf(vararg pairs: Pair<K, V>): LinkedHashMap<K, V> =\n pairs.toMap(LinkedHashMap(mapCapacity(pairs.size)))\n\n/**\n * Builds a new read-only [Map] by populating a [MutableMap] using the given [builderAction]\n * and returning a read-only map with the same key-value pairs.\n *\n * The map passed as a receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified behavior.\n *\n * Entries of the map are iterated in the order they were added by the [builderAction].\n *\n * The returned map is serializable (JVM).\n *\n * @sample samples.collections.Builders.Maps.buildMapSample\n */\n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> buildMap(@BuilderInference builderAction: MutableMap<K, V>().->Unit): Map<K, V> {\n contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return buildMapInternal(builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal expect inline fun <K, V> buildMapInternal(builderAction: MutableMap<K, V>().->Unit): Map<K, V>\n\n/**\n * Builds a new read-only [Map] by populating a [MutableMap] using the given [builderAction]\n * and returning a read-only map with the same key-value pairs.\n *\n * The map passed as a receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified

behavior.
 * [capacity] is used to hint the expected number of pairs added in the [builderAction].
 * Entries of the map are iterated in the order they were added by the [builderAction].
 * The returned map is serializable (JVM).
 * @throws IllegalArgumentException if the given [capacity] is negative.
 * @sample samples.collections.Builders.Maps.buildMapSample

```


* \n @SinceKotlin("1.6") \n @WasExperimental(ExperimentalStdlibApi::class) \n @kotlin.internal.InlineOnly \n public inline fun <K, V> buildMap(capacity: Int, @BuilderInference builderAction: MutableMap<K, V>().->Unit): Map<K, V> { \n     contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) } \n     return buildMapInternal(capacity, builderAction) \n } \n \n @PublishedApi \n @SinceKotlin("1.3") \n @kotlin.internal.InlineOnly \n internal expect inline fun <K, V> buildMapInternal(capacity: Int, builderAction: MutableMap<K, V>().->Unit): Map<K, V> \n \n /** \n * Calculate the initial capacity of a map. \n * \n @PublishedApi \n internal expect fun mapCapacity(expectedSize: Int): Int \n \n /** \n * Returns `true` if this map is not empty. \n * \n @sample samples.collections.Maps.Usage.mapIsNotEmpty \n * \n @kotlin.internal.InlineOnly \n public inline fun <K, V> Map<out K, V>.isEmpty(): Boolean = !isNotEmpty() \n \n /** \n * Returns `true` if this nullable map is either null or empty. \n * \n @sample samples.collections.Maps.Usage.mapIsNullOrEmpty \n * \n @SinceKotlin("1.3") \n @kotlin.internal.InlineOnly \n public inline fun <K, V> Map<out K, V>?.isEmpty(): Boolean { \n     contract { \n         returns(false) implies (this@isEmpty != null) \n     } \n     return this == null || isEmpty() \n } \n \n /** \n * Returns the [Map] if its not `null`, or the empty [Map] otherwise. \n * \n @sample samples.collections.Maps.Usage.mapOrElse \n * \n @kotlin.internal.InlineOnly \n public inline fun <K, V> Map<K, V>?.orElse(): Map<K, V> = this ?: emptyMap() \n \n /** \n * Returns this map if it's not empty \n * or the result of calling [defaultValue] function if the map is empty. \n * \n @sample samples.collections.Maps.Usage.mapIfEmpty \n * \n @SinceKotlin("1.3") \n @kotlin.internal.InlineOnly \n public inline fun <M, R> M.ifEmpty(defaultValue: () -> R): R where M : Map<*, *>, M : R = \n     if (isEmpty()) \n     defaultValue() \n     else this \n \n /** \n * Checks if the map contains the given key. \n * \n * This method allows to use the `x in map` syntax for checking whether an object is contained in the map. \n * \n @sample samples.collections.Maps.Usage.containsKey \n * \n @kotlin.internal.InlineOnly \n public inline operator fun <@kotlin.internal.OnlyInputTypes K, V> Map<out K, V>.contains(key: K): Boolean = \n     containsKey(key) \n \n /** \n * Returns the value corresponding to the given [key], or `null` if such a key is not present in the map. \n * \n @kotlin.internal.InlineOnly \n public inline operator fun <@kotlin.internal.OnlyInputTypes K, V> Map<out K, V>.get(key: K): V? = \n     @Suppress("UNCHECKED_CAST") (this as Map<K, V>).get(key) \n \n /** \n * Allows to use the index operator for storing values in a mutable map. \n * \n @kotlin.internal.InlineOnly \n public inline operator fun <K, V> MutableMap<K, V>.set(key: K, value: V): Unit { \n     put(key, value) \n } \n \n /** \n * Returns `true` if the map contains the specified [key]. \n * \n * Allows to overcome type-safety restriction of `containsKey` that requires to pass a key of type `K`. \n * \n @kotlin.internal.InlineOnly \n public inline fun <@kotlin.internal.OnlyInputTypes K> Map<out K, *>.containsKey(key: K): Boolean = \n     @Suppress("UNCHECKED_CAST") (this as Map<K, *>).containsKey(key) \n \n /** \n * Returns `true` if the map maps one or more keys to the specified [value]. \n * \n * Allows to overcome type-safety restriction of `containsValue` that requires to pass a value of type `V`. \n * \n @sample samples.collections.Maps.Usage.containsValue \n * \n @Suppress("EXTENSION_SHADOWED_BY_MEMBER") \n // false warning, extension takes precedence in some cases \n @kotlin.internal.InlineOnly \n public inline fun <K, @kotlin.internal.OnlyInputTypes V> Map<K, V>.containsValue(value: V): Boolean = \n     this.containsValue(value) \n \n /** \n * Removes the specified key and its corresponding value from this map. \n * \n * @return the previous value associated with the key, or `null` if the key was not present in the map. \n * \n * Allows to overcome type-safety restriction of `remove` that requires to pass a key of type `K`. \n * \n @kotlin.internal.InlineOnly \n public inline fun <@kotlin.internal.OnlyInputTypes K, V> MutableMap<out K, V>.remove(key: K): V? = \n     @Suppress("UNCHECKED_CAST") (this as MutableMap<K, V>).remove(key) \n \n /** \n * Returns the key component of the map entry. \n * \n * This method allows to use destructuring declarations when working with maps, for example: \n * \n ``` \n * for ((key, value) in map) { \n *     // do


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something with the key and the value

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    }
}

@kotlin.internal.InlineOnly
public inline operator fun <K, V> Map.Entry<K, V>.component1(): K = key

Returns the value component of the map entry.

This method allows to use destructuring declarations when working with maps, for example:
    for ((key, value) in map) {
        // do something with the key and the value
    }

@kotlin.internal.InlineOnly
public inline operator fun <K, V> Map.Entry<K, V>.component2(): V = value

Converts entry to [Pair] with key being first component and value being second.

@kotlin.internal.InlineOnly
public inline fun <K, V> Map.Entry<K, V>.toPair(): Pair<K, V> = Pair(key, value)

Returns the value for the given key, or the result of the [defaultValue] function if there was no entry for the given key.

@sample samples.collections.Maps.Usage.getOrNull

@kotlin.internal.InlineOnly
public inline fun <K, V> Map<K, V>.getOrNull(key: K, defaultValue: () -> V): V = get(key) ?: defaultValue

internal inline fun <K, V> Map<K, V>.getOrNullNullable(key: K, defaultValue: () -> V): V {
    val value = get(key)
    if (value == null && !containsKey(key)) {
        return defaultValue()
    }
    else {
        @Suppress("UNCHECKED_CAST")
        return value as V
    }
}

Returns the value for the given [key] or throws an exception if there is no such key in the map.

If the map was created by [withDefault], resorts to its `defaultValue` provider function instead of throwing an exception.

@throws NoSuchElementException when the map doesn't contain a value for the specified key and no implicit default value was provided for that map.

@SinceKotlin("1.1")
public fun <K, V> Map<K, V>.getValue(key: K): V = getOrDefault(key)

Returns the value for the given key. If the key is not found in the map, calls the [defaultValue] function, puts its result into the map under the given key and returns it.

Note that the operation is not guaranteed to be atomic if the map is being modified concurrently.

@sample samples.collections.Maps.Usage.getOrPut

public inline fun <K, V> MutableMap<K, V>.getOrPut(key: K, defaultValue: () -> V): V {
    val value = get(key)
    return if (value == null) {
        val answer = defaultValue()
        put(key, answer)
        answer
    } else {
        value
    }
}

Returns an [Iterator] over the entries in the [Map].

@sample samples.collections.Maps.Usage.forOverEntries

@kotlin.internal.InlineOnly
public inline operator fun <K, V> Map<out K, V>.iterator(): Iterator<Map.Entry<K, V>> = entries.iterator()

Returns a [MutableIterator] over the mutable entries in the [MutableMap].

@kotlin.jvm.JvmName("mutableIterator")
@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<K, V>.iterator(): MutableIterator<MutableMap.MutableEntry<K, V>> = entries.iterator()

Populates the given [destination] map with entries having the keys of this map and the values obtained by applying the [transform] function to each entry in this [Map].

public inline fun <K, V, R, M> MutableMap<in K, in V>> Map<out K, V>.mapValuesTo(destination: M, transform: (Map.Entry<K, V>) -> R): M {
    return entries.associateByTo(destination, { it.key }, transform)
}

Populates the given [destination] map with entries having the keys obtained by applying the [transform] function to each entry in this [Map] and the values of this map.

In case if any two entries are mapped to the equal keys, the value of the latter one will overwrite the value associated with the former one.

public inline fun <K, V, R, M> MutableMap<in R, in V>> Map<out K, V>.mapKeysTo(destination: M, transform: (Map.Entry<K, V>) -> R): M {
    return entries.associateByTo(destination, transform, { it.value })
}

Puts all the given [pairs] into this [MutableMap] with the first component in the pair being the key and the second the value.

public fun <K, V> MutableMap<in K, in V>.putAll(pairs: Array<out Pair<K, V>>): Unit {
    for ((key, value) in pairs) {
        put(key, value)
    }
}

Puts all the elements of the given collection into this [MutableMap] with the first component in the pair being the key and the second the value.

public fun <K, V> MutableMap<in K, in V>.putAll(pairs: Iterable<Pair<K, V>>): Unit {
    for ((key, value) in pairs) {
        put(key, value)
    }
}

Puts all the elements of the given sequence into this [MutableMap] with the first component in the pair being the key and the second the value.

public fun <K, V> MutableMap<in K, in V>.putAll(pairs: Sequence<Pair<K, V>>): Unit {
    for ((key, value) in pairs) {
        put(key, value)
    }
}

Returns a new map with entries having the keys of this map and the values obtained by applying the [transform] function to each entry in this [Map].

The returned map preserves the entry iteration order of the original map.

@sample samples.collections.Maps.Transformations.mapValues

public inline fun <K, V, R> Map<out K,

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V>.mapValues(transform: (Map.Entry<K, V>) -> R): Map<K, R> {\n  return mapValuesTo(LinkedHashMap<K,
R>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()\n\n/**\n * Returns a new Map with entries
having the keys obtained by applying the [transform] function to each entry in this\n * [Map] and the values of this
map.\n * In case if any two entries are mapped to the equal keys, the value of the latter one will overwrite\n * the
value associated with the former one.\n * The returned map preserves the entry iteration order of the original
map.\n * @sample samples.collections.Maps.Transformations.mapKeys\n */\npublic inline fun <K, V, R>
Map<out K, V>.mapKeys(transform: (Map.Entry<K, V>) -> R): Map<R, V> {\n  return
mapKeysTo(LinkedHashMap<R, V>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()\n\n/**\n *
Returns a map containing all key-value pairs with keys matching the given [predicate].\n * The returned map
preserves the entry iteration order of the original map.\n * @sample samples.collections.Maps.Filtering.filterKeys\n
*/\npublic inline fun <K, V> Map<out K, V>.filterKeys(predicate: (K) -> Boolean): Map<K, V> {\n  val result =
LinkedHashMap<K, V>()\n  for (entry in this) {\n    if (predicate(entry.key)) {\n      result.put(entry.key,
entry.value)\n    }\n  }\n  return result\n}\n\n/**\n * Returns a map containing all key-value pairs with values
matching the given [predicate].\n * The returned map preserves the entry iteration order of the original map.\n *
@sample samples.collections.Maps.Filtering.filterValues\n */\npublic inline fun <K, V> Map<out K,
V>.filterValues(predicate: (V) -> Boolean): Map<K, V> {\n  val result = LinkedHashMap<K, V>()\n  for (entry
in this) {\n    if (predicate(entry.value)) {\n      result.put(entry.key, entry.value)\n    }\n  }\n  return
result\n}\n\n/**\n * Appends all entries matching the given [predicate] into the mutable map given as [destination]
parameter.\n * @return the destination map.\n * @sample samples.collections.Maps.Filtering.filterTo\n
*/\npublic inline fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.filterTo(destination: M, predicate:
(Map.Entry<K, V>) -> Boolean): M {\n  for (element in this) {\n    if (predicate(element)) {\n
destination.put(element.key, element.value)\n    }\n  }\n  return destination\n}\n\n/**\n * Returns a new map
containing all key-value pairs matching the given [predicate].\n * The returned map preserves the entry iteration
order of the original map.\n * @sample samples.collections.Maps.Filtering.filter\n */\npublic inline fun <K, V>
Map<out K, V>.filter(predicate: (Map.Entry<K, V>) -> Boolean): Map<K, V> {\n  return
filterTo(LinkedHashMap<K, V>(), predicate)\n}\n\n/**\n * Appends all entries not matching the given [predicate]
into the given [destination].\n * @return the destination map.\n * @sample
samples.collections.Maps.Filtering.filterNotTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>>
Map<out K, V>.filterNotTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {\n  for (element in
this) {\n    if (!predicate(element)) {\n      destination.put(element.key, element.value)\n    }\n  }\n  return
destination\n}\n\n/**\n * Returns a new map containing all key-value pairs not matching the given [predicate].\n *
The returned map preserves the entry iteration order of the original map.\n * @sample
samples.collections.Maps.Filtering.filterNot\n */\npublic inline fun <K, V> Map<out K, V>.filterNot(predicate:
(Map.Entry<K, V>) -> Boolean): Map<K, V> {\n  return filterNotTo(LinkedHashMap<K, V>(),
predicate)\n}\n\n/**\n * Returns a new map containing all key-value pairs from the given collection of pairs.\n *
The returned map preserves the entry iteration order of the original collection.\n * If any of two pairs would have
the same key the last one gets added to the map.\n */\npublic fun <K, V> Iterable<Pair<K, V>>.toMap(): Map<K, V>
{\n  if (this is Collection) {\n    return when (size) {\n      0 -> emptyMap()\n      1 -> mapOf(if (this is
List) this[0] else iterator().next())\n      else -> toMap(LinkedHashMap<K, V>(mapCapacity(size)))\n    }\n  }\n
return toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs from the given collection of pairs.\n */\npublic fun <K, V, M :
MutableMap<in K, in V>> Iterable<Pair<K, V>>.toMap(destination: M): M =\n  destination.apply {
putAll(this@toMap) }\n\n/**\n * Returns a new map containing all key-value pairs from the given array of pairs.\n
*\n * The returned map preserves the entry iteration order of the original array.\n * If any of two pairs would have
the same key the last one gets added to the map.\n */\npublic fun <K, V> Array<out Pair<K, V>>.toMap(): Map<K,
V> = when (size) {\n  0 -> emptyMap()\n  1 -> mapOf(this[0])\n  else -> toMap(LinkedHashMap<K,
V>(mapCapacity(size)))\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs
from the given array of pairs.\n */\npublic fun <K, V, M : MutableMap<in K, in V>> Array<out Pair<K,

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`V>>.toMap(destination: M): M =\n destination.apply { putAll(this@toMap) }\n\n/**\n * Returns a new map containing all key-value pairs from the given sequence of pairs.\n *\n * The returned map preserves the entry iteration order of the original sequence.\n *\n * If any of two pairs would have the same key the last one gets added to the map.\n */\npublic fun <K, V> Sequence<Pair<K, V>>.toMap(): Map<K, V> = toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs from the given sequence of pairs.\n */\npublic fun <K, V, M : MutableMap<in K, in V>> Sequence<Pair<K, V>>.toMap(destination: M): M =\n destination.apply { putAll(this@toMap) }\n\n/**\n * Returns a new read-only map containing all key-value pairs from the original map.\n *\n * The returned map preserves the entry iteration order of the original map.\n */\n\n@SinceKotlin("1.1")\npublic fun <K, V> Map<out K, V>.toMap(): Map<K, V> = when (size) {\n 0 -> emptyMap()\n 1 -> singletonMap()\n else -> toMutableMap()\n}\n\n/**\n * Returns a new mutable map containing all key-value pairs from the original map.\n *\n * The returned map preserves the entry iteration order of the original map.\n */\n\n@SinceKotlin("1.1")\npublic fun <K, V> Map<out K, V>.toMutableMap(): MutableMap<K, V> = LinkedHashMap(this)\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs from the given map.\n */\n\n@SinceKotlin("1.1")\npublic fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.toMap(destination: M): M =\n destination.apply { putAll(this@toMap) }\n\n/**\n * Creates a new read-only map by replacing or adding an entry to this map from a given key-value [pair].\n *\n * The returned map preserves the entry iteration order of the original map.\n * The [pair] is iterated in the end if it has a unique key.\n */\n\npublic operator fun <K, V> Map<out K, V>.plus(pair: Pair<K, V>): Map<K, V> =\n if (this.isEmpty()) mapOf(pair) else LinkedHashMap(this).apply { put(pair.first, pair.second) }\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from a given collection of key-value [pairs].\n *\n * The returned map preserves the entry iteration order of the original map.\n * Those [pairs] with unique keys are iterated in the end in the order of [pairs] collection.\n */\n\npublic operator fun <K, V> Map<out K, V>.plus(pairs: Iterable<Pair<K, V>>): Map<K, V> =\n if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply { putAll(pairs) }\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from a given array of key-value [pairs].\n *\n * The returned map preserves the entry iteration order of the original map.\n * Those [pairs] with unique keys are iterated in the end in the order of [pairs] array.\n */\n\npublic operator fun <K, V> Map<out K, V>.plus(pairs: Array<out Pair<K, V>>): Map<K, V> =\n if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply { putAll(pairs) }\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from a given sequence of key-value [pairs].\n *\n * The returned map preserves the entry iteration order of the original map.\n * Those [pairs] with unique keys are iterated in the end in the order of [pairs] sequence.\n */\n\npublic operator fun <K, V> Map<out K, V>.plus(pairs: Sequence<Pair<K, V>>): Map<K, V> =\n LinkedHashMap(this).apply { putAll(pairs) }.optimizeReadOnlyMap()\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from another [map].\n *\n * The returned map preserves the entry iteration order of the original map.\n * Those entries of another [map] that are missing in this map are iterated in the end in the order of that [map].\n */\n\npublic operator fun <K, V> Map<out K, V>.plus(map: Map<out K, V>): Map<K, V> =\n LinkedHashMap(this).apply { putAll(map) }\n\n/**\n * Appends or replaces the given [pair] in this mutable map.\n */\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pair: Pair<K, V>) {\n put(pair.first, pair.second)\n}\n\n/**\n * Appends or replaces all pairs from the given collection of [pairs] in this mutable map.\n */\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Iterable<Pair<K, V>>) {\n putAll(pairs)\n}\n\n/**\n * Appends or replaces all pairs from the given array of [pairs] in this mutable map.\n */\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Array<out Pair<K, V>>) {\n putAll(pairs)\n}\n\n/**\n * Appends or replaces all pairs from the given sequence of [pairs] in this mutable map.\n */\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Sequence<Pair<K, V>>) {\n putAll(pairs)\n}\n\n/**\n * Appends or replaces all entries from the given [map] in this mutable map.\n */\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(map: Map<K, V>) {\n putAll(map)\n}\n\n/**\n * Returns a map containing all entries of the original map except the entry with the given [key].\n *\n * The returned map preserves`

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the entry iteration order of the original map.\n */\n@SinceKotlin("1.1")\npublic operator fun <K, V> Map<out K,
V>.minus(key: K): Map<K, V> =\n    this.toMutableMap().apply { minusAssign(key)
}.\noptimizeReadOnlyMap()\n\n/**\n * Returns a map containing all entries of the original map except those entries\n * the keys of which are contained in the given [keys] collection.\n */\n * The returned map preserves the entry
iteration order of the original map.\n */\n@SinceKotlin("1.1")\npublic operator fun <K, V> Map<out K,
V>.minus(keys: Iterable<K>): Map<K, V> =\n    this.toMutableMap().apply { minusAssign(keys)
}.\noptimizeReadOnlyMap()\n\n/**\n * Returns a map containing all entries of the original map except those entries\n * the keys of which are contained in the given [keys] array.\n */\n * The returned map preserves the entry iteration
order of the original map.\n */\n@SinceKotlin("1.1")\npublic operator fun <K, V> Map<out K, V>.minus(keys:
Array<out K>): Map<K, V> =\n    this.toMutableMap().apply { minusAssign(keys)
}.\noptimizeReadOnlyMap()\n\n/**\n * Returns a map containing all entries of the original map except those entries\n * the keys of which are contained in the given [keys] sequence.\n */\n * The returned map preserves the entry
iteration order of the original map.\n */\n@SinceKotlin("1.1")\npublic operator fun <K, V> Map<out K,
V>.minus(keys: Sequence<K>): Map<K, V> =\n    this.toMutableMap().apply { minusAssign(keys)
}.\noptimizeReadOnlyMap()\n\n/**\n * Removes the entry with the given [key] from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K,
V>.minusAssign(key: K) {\n    remove(key)\n}\n\n/**\n * Removes all entries the keys of which are contained in
the given [keys] collection from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K,
V>.minusAssign(keys: Iterable<K>) {\n    this.keys.removeAll(keys)\n}\n\n/**\n * Removes all entries the keys of
which are contained in the given [keys] array from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K,
V>.minusAssign(keys: Array<out K>) {\n    this.keys.removeAll(keys)\n}\n\n/**\n * Removes all entries from the
keys of which are contained in the given [keys] sequence from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K,
V>.minusAssign(keys: Sequence<K>) {\n    this.keys.removeAll(keys)\n}\n\n\n// do not expose for now
@PublishedApi\ninternal fun <K, V> Map<K, V>.optimizeReadOnlyMap() = when (size) {\n    0 -> emptyMap()\n    1 -> toSingletonMapOrSelf()\n    else -> this\n}\n\n"/\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n\n\n*/\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SetsKt")\n@file:OptIn(kotlin.experimenta
l.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\n\ninternal object
EmptySet : Set<Nothing>, Serializable {\n    private const val serialVersionUID: Long =
3406603774387020532\n\n    override fun equals(other: Any?): Boolean = other is Set<*> && other.isEmpty()\n\n
override fun hashCode(): Int = 0\n\n    override fun toString(): String = "[]"\n\n    override val size: Int get() = 0\n\n
override fun isEmpty(): Boolean = true\n\n    override fun contains(element: Nothing): Boolean = false\n\n    override
fun containsAll(elements: Collection<Nothing>): Boolean = elements.isEmpty()\n\n    override fun iterator():
Iterator<Nothing> = EmptyIterator\n\n    private fun readResolve(): Any = EmptySet\n}\n\n\n/**\n * Returns an
empty read-only set. The returned set is serializable (JVM).\n */\n * @sample
samples.collections.Collections.Sets.emptyReadOnlySet\n\n */\npublic fun <T> emptySet(): Set<T> =
EmptySet\n\n\n/**\n * Returns a new read-only set with the given elements.\n * Elements of the set are iterated in the
order they were specified.\n * The returned set is serializable (JVM).\n */\n * @sample
samples.collections.Collections.Sets.readOnlySet\n\n */\npublic fun <T> setOf(vararg elements: T): Set<T> = if
(elements.size > 0) elements.toSet() else emptySet()\n\n\n/**\n * Returns an empty read-only set. The returned set is
serializable (JVM).\n */\n * @sample samples.collections.Collections.Sets.emptyReadOnlySet\n\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> setOf(): Set<T> = emptySet()\n\n\n/**\n * Returns an empty
new [MutableSet].\n */\n * The returned set preserves the element iteration order.\n */\n * @sample
samples.collections.Collections.Sets.emptyMutableSet\n

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*\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic inline fun <T> mutableSetOf(): MutableSet<T> =
LinkedHashSet()\/n\/n**\/n * Returns a new [MutableSet] with the given elements.\/n * Elements of the set are
iterated in the order they were specified.\/n * @sample samples.collections.Collections.Sets.mutableSet\/n *\/npublic
fun <T> mutableSetOf(vararg elements: T): MutableSet<T> =
elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))\/n\/n**\/n Returns an empty new [HashSet].
*\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic inline fun <T> hashSetOf(): HashSet<T> =
HashSet()\/n\/n**\/n Returns a new [HashSet] with the given elements. *\/npublic fun <T> hashSetOf(vararg elements:
T): HashSet<T> = elements.toCollection(HashSet(mapCapacity(elements.size)))\/n\/n**\/n * Returns an empty new
[LinkedHashSet].\/n * @sample samples.collections.Collections.Sets.emptyLinkedHashSet\/n
*\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic inline fun <T> linkedSetOf(): LinkedHashSet<T>
= LinkedHashSet()\/n\/n**\/n * Returns a new [LinkedHashSet] with the given elements.\/n * Elements of the set are
iterated in the order they were specified.\/n * @sample samples.collections.Collections.Sets.linkedHashSet\/n
*\/npublic fun <T> linkedSetOf(vararg elements: T): LinkedHashSet<T> =
elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))\/n\/n**\/n * Returns a new read-only set either
with single given element, if it is not null, or empty set if the element is null.\/n * The returned set is serializable
(JVM).\/n * @sample samples.collections.Collections.Sets.setOfNotNull\/n *\/n@SinceKotlin("1.4")\/npublic fun <T
: Any> setOfNotNull(element: T?): Set<T> = if (element != null) setOf(element) else emptySet()\/n\/n**\/n * Returns
a new read-only set only with those given elements, that are not null.\/n * Elements of the set are iterated in the order
they were specified.\/n * The returned set is serializable (JVM).\/n * @sample
samples.collections.Collections.Sets.setOfNotNull\/n *\/n@SinceKotlin("1.4")\/npublic fun <T : Any>
setOfNotNull(vararg elements: T?): Set<T> {\/n    return elements.filterNotNullTo(LinkedHashSet())\/n}\/n\/n**\/n *
Builds a new read-only [Set] by populating a [MutableSet] using the given [builderAction]\/n * and returning a read-
only set with the same elements.\/n *\/n * The set passed as a receiver to the [builderAction] is valid only inside that
function.\/n * Using it outside of the function produces an unspecified behavior.\/n *\/n * Elements of the set are
iterated in the order they were added by the [builderAction].\/n *\/n * The returned set is serializable (JVM).\/n *\/n *
@sample samples.collections.Builders.Sets.buildSetSample\/n
*\/n@SinceKotlin("1.6")\/n@WasExperimental(ExperimentalStdlibApi::class)\/n@kotlin.internal.InlineOnly\/npublic
inline fun <E> buildSet(@BuilderInference builderAction: MutableSet<E>().-> Unit): Set<E> {\/n    contract {
callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\/n    return
buildSetInternal(builderAction)\/n}\/n\/n@PublishedApi\/n@SinceKotlin("1.3")\/n@kotlin.internal.InlineOnly\/ninternal
expect inline fun <E> buildSetInternal(builderAction: MutableSet<E>().-> Unit): Set<E>\/n\/n**\/n * Builds a
new read-only [Set] by populating a [MutableSet] using the given [builderAction]\/n * and returning a read-only set
with the same elements.\/n *\/n * The set passed as a receiver to the [builderAction] is valid only inside that
function.\/n * Using it outside of the function produces an unspecified behavior.\/n *\/n * [capacity] is used to hint the
expected number of elements added in the [builderAction].\/n *\/n * Elements of the set are iterated in the order they
were added by the [builderAction].\/n *\/n * The returned set is serializable (JVM).\/n *\/n * @throws
IllegalArgumentException if the given [capacity] is negative.\/n *\/n * @sample
samples.collections.Builders.Sets.buildSetSample\/n
*\/n@SinceKotlin("1.6")\/n@WasExperimental(ExperimentalStdlibApi::class)\/n@kotlin.internal.InlineOnly\/npublic
inline fun <E> buildSet(capacity: Int, @BuilderInference builderAction: MutableSet<E>().-> Unit): Set<E> {\/n
contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\/n    return buildSetInternal(capacity,
builderAction)\/n}\/n\/n@PublishedApi\/n@SinceKotlin("1.3")\/n@kotlin.internal.InlineOnly\/ninternal expect inline
fun <E> buildSetInternal(capacity: Int, builderAction: MutableSet<E>().-> Unit): Set<E>\/n\/n**\/n Returns this Set
if it's not `null` and the empty set otherwise. *\/n@kotlin.internal.InlineOnly\/npublic inline fun <T>
Set<T>?.orEmpty(): Set<T> = this ?: emptySet()\/n\/ninternal fun <T> Set<T>.optimizeReadOnlySet() = when (size)
{\/n    0 -> emptySet()\/n    1 -> setOf(iterator().next())\/n    else -> this}\/n}\/n**\/n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\/n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\/n

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*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("\StringsKt")\n@file:Suppress("\PLATFORM
M_CLASS_MAPPED_TO_KOTLIN")\n\npackage kotlin.text\n\n/**\n * Parses the string as a signed [Byte]
number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n\n@SinceKotlin("1.1")\n\npublic fun String.toByteArrayOrNull(): Byte? = toByteOrNull(radix = 10)\n\n/**\n * Parses
the string as a signed [Byte] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number
conversion.\n *\n\n@SinceKotlin("1.1")\n\npublic fun String.toByteArrayOrNull(radix: Int): Byte? {\n    val int =
this.toIntOrNull(radix) ?: return null\n    if (int < Byte.MIN_VALUE || int > Byte.MAX_VALUE) return null\n
return int.toByteArray()\n}\n\n/**\n * Parses the string as a [Short] number and returns the result\n * or `null` if the string
is not a valid representation of a number.\n *\n\n@SinceKotlin("1.1")\n\npublic fun String.toShortOrNull(): Short? =
toShortOrNull(radix = 10)\n\n/**\n * Parses the string as a [Short] number and returns the result\n * or `null` if the
string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a
valid radix for string to number conversion.\n *\n\n@SinceKotlin("1.1")\n\npublic fun String.toShortOrNull(radix:
Int): Short? {\n    val int = this.toIntOrNull(radix) ?: return null\n    if (int < Short.MIN_VALUE || int >
Short.MAX_VALUE) return null\n    return int.toShort()\n}\n\n/**\n * Parses the string as an [Int] number and
returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n\n@SinceKotlin("1.1")\n\npublic fun String.toIntOrNull(): Int? = toIntOrNull(radix = 10)\n\n/**\n * Parses the
string as an [Int] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n\n@SinceKotlin("1.1")\n\npublic fun String.toIntOrNull(radix: Int): Int? {\n    checkRadix(radix)\n\n    val length
= this.length\n    if (length == 0) return null\n\n    val start: Int\n    val isNegative: Boolean\n    val limit: Int\n    val
firstChar = this[0]\n    if (firstChar < '0') { // Possible leading sign\n        if (length == 1) return null // non-digit
(possible sign) only, no digits after\n\n        start = 1\n\n        if (firstChar == '-') {\n            isNegative = true\n
limit = Int.MIN_VALUE\n        } else if (firstChar == '+') {\n            isNegative = false\n            limit = -
Int.MAX_VALUE\n        } else\n            return null\n    } else {\n        start = 0\n        isNegative = false\n        limit
= -Int.MAX_VALUE\n    }\n\n    val limitForMaxRadix = (-Int.MAX_VALUE) / 36\n    var limitBeforeMul =
limitForMaxRadix\n    var result = 0\n    for (i in start until length) {\n        val digit = digitOf(this[i], radix)\n\n
if (digit < 0) return null\n        if (result < limitBeforeMul) {\n            if (limitBeforeMul == limitForMaxRadix) {\n
                limitBeforeMul = limit / radix\n\n                if (result < limitBeforeMul) {\n                    return null\n
                }\n            } else {\n                return null\n            }\n        }\n        result *= radix\n\n        if (result < limit + digit)
return null\n\n        result -= digit\n    }\n\n    return if (isNegative) result else -result\n}\n\n/**\n * Parses the string
as a [Long] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n\n@SinceKotlin("1.1")\n\npublic fun String.toLongOrNull(): Long? = toLongOrNull(radix = 10)\n\n/**\n * Parses
the string as a [Long] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number
conversion.\n *\n\n@SinceKotlin("1.1")\n\npublic fun String.toLongOrNull(radix: Int): Long? {\n
checkRadix(radix)\n\n    val length = this.length\n    if (length == 0) return null\n\n    val start: Int\n    val isNegative:
Boolean\n    val limit: Long\n    val firstChar = this[0]\n    if (firstChar < '0') { // Possible leading sign\n        if
(length == 1) return null // non-digit (possible sign) only, no digits after\n\n        start = 1\n\n        if (firstChar == '-')
{\n            isNegative = true\n            limit = Long.MIN_VALUE\n        } else if (firstChar == '+') {\n           
isNegative = false\n            limit = -Long.MAX_VALUE\n        } else\n            return null\n    } else {\n        start =
0\n        isNegative = false\n        limit = -Long.MAX_VALUE\n    }\n\n    val limitForMaxRadix = (-
Long.MAX_VALUE) / 36\n    var limitBeforeMul = limitForMaxRadix\n    var result = 0L\n    for (i in start until
length) {\n        val digit = digitOf(this[i], radix)\n\n        if (digit < 0) return null\n        if (result < limitBeforeMul)
{\n            if (limitBeforeMul == limitForMaxRadix) {\n                limitBeforeMul = limit / radix\n\n                if
(result < limitBeforeMul) {\n                    return null\n                }\n            } else {\n                return null\n
            }\n        }\n        result *= radix\n\n        if (result < limit + digit) return null\n\n        result -= digit\n    }\n
return if (isNegative) result else -result\n}\n\n\ninternal fun numberFormatError(input: String): Nothing = throw

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NumberFormatException("Invalid number format: '$input')\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\nimport kotlin.contracts.*\nimport
kotlin.jvm.JvmInline\nimport kotlin.math.*\n\n/**\n * Represents the amount of time one instant of time is away
from another instant.\n * A negative duration is possible in a situation when the second instant is earlier than the
first one.\n * The type can store duration values up to 146 years with nanosecond precision,\n * and up to 146
million years with millisecond precision.\n * If a duration-returning operation provided in `kotlin.time`
produces a duration value that doesn't fit into the above range,\n * the returned `Duration` is infinite.\n * An
infinite duration value [Duration.INFINITE] can be used to represent infinite timeouts.\n * To construct a
duration use either the extension function [toDuration],\n * or the extension properties [hours], [minutes], [seconds],
and so on,\n * available on [Int], [Long], and [Double] numeric types.\n * To get the value of this duration
expressed in a particular [duration units][DurationUnit]\n * use the functions [toInt], [toLong], and [toDouble]\n * or
the properties [inWholeHours], [inWholeMinutes], [inWholeSeconds], [inWholeNanoseconds], and so on.\n
*/\n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\n@JvmInline\npublic value class
Duration internal constructor(private val rawValue: Long) : Comparable<Duration> {\n\n    private val value: Long
get() = rawValue shr 1\n\n    private inline val unitDiscriminator: Int get() = rawValue.toInt() and 1\n\n    private fun
isInNanos() = unitDiscriminator == 0\n\n    private fun isInMillis() = unitDiscriminator == 1\n\n    private val
storageUnit get() = if (isInNanos()) DurationUnit.NANOSECONDS else DurationUnit.MILLISECONDS\n\n    init
{\n\n        if (durationAssertionsEnabled) {\n\n            if (isInNanos()) {\n\n                if (value !in -
MAX_NANOS..MAX_NANOS) throw AssertionError("$value ns is out of nanoseconds range")\n\n            } else
{\n\n                if (value !in -MAX_MILLIS..MAX_MILLIS) throw AssertionError("$value ms is out of milliseconds
range")\n\n                if (value in -MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) throw
AssertionError("$value ms is denormalized")\n\n            }\n\n        }\n\n        companion object {\n\n            /** The
duration equal to exactly 0 seconds. */\n\n            public val ZERO: Duration = Duration(0L)\n\n            /** The duration
whose value is positive infinity. It is useful for representing timeouts that should never expire. */\n\n            public val
INFINITE: Duration = durationOfMillis(MAX_MILLIS)\n\n            internal val NEG_INFINITE: Duration =
durationOfMillis(-MAX_MILLIS)\n\n            /** Converts the given time duration [value] expressed in the specified
[sourceUnit] into the specified [targetUnit]. */\n\n            @ExperimentalTime\n            public fun convert(value: Double,
sourceUnit: DurationUnit, targetUnit: DurationUnit): Double =\n                convertDurationUnit(value, sourceUnit,
targetUnit)\n\n            // Duration construction extension properties in Duration companion scope\n\n            /** Returns a
[Duration] equal to this [Int] number of nanoseconds. */\n\n            @kotlin.internal.InlineOnly\n            public inline val
Int.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n            /** Returns a [Duration] equal to this
[Long] number of nanoseconds. */\n\n            @kotlin.internal.InlineOnly\n            public inline val Long.nanoseconds
get() = toDuration(DurationUnit.NANOSECONDS)\n\n            /**\n             * Returns a [Duration] equal to this
[Double] number of nanoseconds.\n             *\n             * Depending on its magnitude, the value is rounded to an integer
number of nanoseconds or milliseconds.\n             *\n             * @throws IllegalArgumentException if this [Double]
value is `NaN`.\n             */\n\n            @kotlin.internal.InlineOnly\n            public inline val Double.nanoseconds get() =
toDuration(DurationUnit.NANOSECONDS)\n\n            /** Returns a [Duration] equal to this [Int] number of
microseconds. */\n\n            @kotlin.internal.InlineOnly\n            public inline val Int.microseconds get() =
toDuration(DurationUnit.MICROSECONDS)\n\n            /** Returns a [Duration] equal to this [Long] number of
microseconds. */\n\n            @kotlin.internal.InlineOnly\n            public inline val Long.microseconds get() =
toDuration(DurationUnit.MICROSECONDS)\n\n            /**\n             * Returns a [Duration] equal to this [Double]
number of microseconds.\n             *\n             * Depending on its magnitude, the value is rounded to an integer number
of nanoseconds or milliseconds.\n             *\n             * @throws IllegalArgumentException if this [Double] value is
`NaN`.\n             */\n\n            @kotlin.internal.InlineOnly\n            public inline val Double.microseconds get() =
toDuration(DurationUnit.MICROSECONDS)\n\n            /** Returns a [Duration] equal to this [Int] number of
milliseconds. */\n\n            @kotlin.internal.InlineOnly\n            public inline val Int.milliseconds get() =
toDuration(DurationUnit.MILLISECONDS)\n\n            /** Returns a [Duration] equal to this [Long] number of

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milliseconds. *^/n    @kotlin.internal.InlineOnly/n    public inline val Long.milliseconds get() =
toDuration(DurationUnit.MILLISECONDS)\n    /**\n    * Returns a [Duration] equal to this [Double]
number of milliseconds.\n    *\n    * Depending on its magnitude, the value is rounded to an integer number of
nanoseconds or milliseconds.\n    *\n    * @throws IllegalArgumentException if this [Double] value is
`NaN`.\n    */\n    @kotlin.internal.InlineOnly/n    public inline val Double.milliseconds get() =
toDuration(DurationUnit.MILLISECONDS)\n\n    /** Returns a [Duration] equal to this [Int] number of
seconds. */\n    @kotlin.internal.InlineOnly/n    public inline val Int.seconds get() =
toDuration(DurationUnit.SECONDS)\n\n    /** Returns a [Duration] equal to this [Long] number of seconds. */\n
    @kotlin.internal.InlineOnly/n    public inline val Long.seconds get() =
toDuration(DurationUnit.SECONDS)\n\n    /**\n    * Returns a [Duration] equal to this [Double] number of
seconds.\n    *\n    * Depending on its magnitude, the value is rounded to an integer number of nanoseconds or
milliseconds.\n    *\n    * @throws IllegalArgumentException if this [Double] value is `NaN`.\n    */\n
    @kotlin.internal.InlineOnly/n    public inline val Double.seconds get() =
toDuration(DurationUnit.SECONDS)\n\n\n    /** Returns a [Duration] equal to this [Int] number of minutes. */\n
    @kotlin.internal.InlineOnly/n    public inline val Int.minutes get() = toDuration(DurationUnit.MINUTES)\n\n
    /** Returns a [Duration] equal to this [Long] number of minutes. */\n    @kotlin.internal.InlineOnly/n
public inline val Long.minutes get() = toDuration(DurationUnit.MINUTES)\n\n    /**\n    * Returns a
[Duration] equal to this [Double] number of minutes.\n    *\n    * Depending on its magnitude, the value is
rounded to an integer number of nanoseconds or milliseconds.\n    *\n    * @throws IllegalArgumentException
if this [Double] value is `NaN`.\n    */\n    @kotlin.internal.InlineOnly/n    public inline val Double.minutes
get() = toDuration(DurationUnit.MINUTES)\n\n\n    /** Returns a [Duration] equal to this [Int] number of hours.
*/\n    @kotlin.internal.InlineOnly/n    public inline val Int.hours get() = toDuration(DurationUnit.HOURS)\n\n
    /** Returns a [Duration] equal to this [Long] number of hours. */\n    @kotlin.internal.InlineOnly/n    public
inline val Long.hours get() = toDuration(DurationUnit.HOURS)\n\n    /**\n    * Returns a [Duration] equal to
this [Double] number of hours.\n    *\n    * Depending on its magnitude, the value is rounded to an integer
number of nanoseconds or milliseconds.\n    *\n    * @throws IllegalArgumentException if this [Double]
value is `NaN`.\n    */\n    @kotlin.internal.InlineOnly/n    public inline val Double.hours get() =
toDuration(DurationUnit.HOURS)\n\n\n    /** Returns a [Duration] equal to this [Int] number of days. */\n
    @kotlin.internal.InlineOnly/n    public inline val Int.days get() = toDuration(DurationUnit.DAYS)\n\n    /**
Returns a [Duration] equal to this [Long] number of days. */\n    @kotlin.internal.InlineOnly/n    public inline
val Long.days get() = toDuration(DurationUnit.DAYS)\n\n    /**\n    * Returns a [Duration] equal to this
[Double] number of days.\n    *\n    * Depending on its magnitude, the value is rounded to an integer number
of nanoseconds or milliseconds.\n    *\n    * @throws IllegalArgumentException if this [Double] value is
`NaN`.\n    */\n    @kotlin.internal.InlineOnly/n    public inline val Double.days get() =
toDuration(DurationUnit.DAYS)\n\n\n    // deprecated static factory functions\n    /** Returns a [Duration]
representing the specified [value] number of nanoseconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Int.nanoseconds' extension property from Duration.Companion
instead.", ReplaceWith("value.nanoseconds", "kotlin.time.Duration.Companion.nanoseconds"))\n
    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun nanoseconds(value: Int): Duration =
value.toDuration(DurationUnit.NANOSECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of nanoseconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Long.nanoseconds' extension property from Duration.Companion
instead.", ReplaceWith("value.nanoseconds", "kotlin.time.Duration.Companion.nanoseconds"))\n
    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun nanoseconds(value: Long): Duration =
value.toDuration(DurationUnit.NANOSECONDS)\n\n    /**\n    * Returns a [Duration] representing the
specified [value] number of nanoseconds.\n    *\n    * @throws IllegalArgumentException if the provided
`Double` [value] is `NaN`.\n    */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Double.nanoseconds' extension property from Duration.Companion
instead.",

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ReplaceWith("value.nanoseconds", "kotlin.time.Duration.Companion.nanoseconds"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun nanoseconds(value: Double): Duration =
value.toDuration(DurationUnit.NANOSECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of microseconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n@Deprecated("Use 'Int.microseconds' extension property from Duration.Companion instead."),
ReplaceWith("value.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun microseconds(value: Int): Duration =
value.toDuration(DurationUnit.MICROSECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of microseconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n@Deprecated("Use 'Long.microseconds' extension property from Duration.Companion instead."),
ReplaceWith("value.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun microseconds(value: Long): Duration =
value.toDuration(DurationUnit.MICROSECONDS)\n\n    /**\n    * Returns a [Duration] representing the
specified [value] number of microseconds.\n    *\n    * @throws IllegalArgumentException if the provided
`Double` [value] is `NaN`.\n    */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n@Deprecated("Use 'Double.microseconds' extension property from Duration.Companion instead."),
ReplaceWith("value.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun microseconds(value: Double): Duration =
value.toDuration(DurationUnit.MICROSECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of milliseconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n@Deprecated("Use 'Int.milliseconds' extension property from Duration.Companion instead."),
ReplaceWith("value.milliseconds", "kotlin.time.Duration.Companion.milliseconds"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun milliseconds(value: Int): Duration =
value.toDuration(DurationUnit.MILLISECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of milliseconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n@Deprecated("Use 'Long.milliseconds' extension property from Duration.Companion instead."),
ReplaceWith("value.milliseconds", "kotlin.time.Duration.Companion.milliseconds"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun milliseconds(value: Long): Duration =
value.toDuration(DurationUnit.MILLISECONDS)\n\n    /**\n    * Returns a [Duration] representing the
specified [value] number of milliseconds.\n    *\n    * @throws IllegalArgumentException if the provided
`Double` [value] is `NaN`.\n    */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n@Deprecated("Use 'Double.milliseconds' extension property from Duration.Companion instead."),
ReplaceWith("value.milliseconds", "kotlin.time.Duration.Companion.milliseconds"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun milliseconds(value: Double): Duration =
value.toDuration(DurationUnit.MILLISECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of seconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use
'Int.seconds' extension property from Duration.Companion instead.", ReplaceWith("value.seconds",
"kotlin.time.Duration.Companion.seconds"))\n    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public
fun seconds(value: Int): Duration = value.toDuration(DurationUnit.SECONDS)\n\n    /** Returns a [Duration]
representing the specified [value] number of seconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Long.seconds' extension property from Duration.Companion instead."),
ReplaceWith("value.seconds", "kotlin.time.Duration.Companion.seconds"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun seconds(value: Long): Duration =
value.toDuration(DurationUnit.SECONDS)\n\n    /**\n    * Returns a [Duration] representing the specified
[value] number of seconds.\n    *\n    * @throws IllegalArgumentException if the provided `Double` [value] is
`NaN`.\n    */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use
'Double.seconds' extension property from Duration.Companion instead.", ReplaceWith("value.seconds",
"kotlin.time.Duration.Companion.seconds"))\n    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public

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fun seconds(value: Double): Duration = value.toDuration(DurationUnit.SECONDS)\n\n    /** Returns a
[Duration] representing the specified [value] number of minutes. *\n    @SinceKotlin("1.5")\n
@ExperimentalTime\n    @Deprecated("Use 'Int.minutes' extension property from Duration.Companion
instead.", ReplaceWith("value.minutes", "kotlin.time.Duration.Companion.minutes"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun minutes(value: Int): Duration =
value.toDuration(DurationUnit.MINUTES)\n\n    /** Returns a [Duration] representing the specified [value]
number of minutes. *\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use
'Long.minutes' extension property from Duration.Companion instead.", ReplaceWith("value.minutes",
"kotlin.time.Duration.Companion.minutes"))\n    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public
fun minutes(value: Long): Duration = value.toDuration(DurationUnit.MINUTES)\n\n    /**\n    * Returns a
[Duration] representing the specified [value] number of minutes.\n    *\n    * @throws
IllegalArgumentException if the provided `Double` [value] is `NaN`.\n    *\n    @SinceKotlin("1.5")\n
@ExperimentalTime\n    @Deprecated("Use 'Double.minutes' extension property from Duration.Companion
instead.", ReplaceWith("value.minutes", "kotlin.time.Duration.Companion.minutes"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun minutes(value: Double): Duration =
value.toDuration(DurationUnit.MINUTES)\n\n\n    /** Returns a [Duration] representing the specified [value]
number of hours. *\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Int.hours'
extension property from Duration.Companion instead.", ReplaceWith("value.hours",
"kotlin.time.Duration.Companion.hours"))\n    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public
fun hours(value: Int): Duration = value.toDuration(DurationUnit.HOURS)\n\n    /** Returns a [Duration]
representing the specified [value] number of hours. *\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n
@Deprecated("Use 'Long.hours' extension property from Duration.Companion instead.",
ReplaceWith("value.hours", "kotlin.time.Duration.Companion.hours"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun hours(value: Long): Duration =
value.toDuration(DurationUnit.HOURS)\n\n    /**\n    * Returns a [Duration] representing the specified
[value] number of hours.\n    *\n    * @throws IllegalArgumentException if the provided `Double` [value] is
`NaN`.\n    *\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Double.hours'
extension property from Duration.Companion instead.", ReplaceWith("value.hours",
"kotlin.time.Duration.Companion.hours"))\n    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public
fun hours(value: Double): Duration = value.toDuration(DurationUnit.HOURS)\n\n\n    /** Returns a [Duration]
representing the specified [value] number of days. *\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n
@Deprecated("Use 'Int.days' extension property from Duration.Companion instead.", ReplaceWith("value.days",
"kotlin.time.Duration.Companion.days"))\n    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public
fun days(value: Int): Duration = value.toDuration(DurationUnit.DAYS)\n\n    /** Returns a [Duration]
representing the specified [value] number of days. *\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n
@Deprecated("Use 'Long.days' extension property from Duration.Companion instead.",
ReplaceWith("value.days", "kotlin.time.Duration.Companion.days"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun days(value: Long): Duration =
value.toDuration(DurationUnit.DAYS)\n\n    /**\n    * Returns a [Duration] representing the specified [value]
number of days.\n    *\n    * @throws IllegalArgumentException if the provided `Double` [value] is `NaN`.\n
*\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Double.days' extension
property from Duration.Companion instead.", ReplaceWith("value.days",
"kotlin.time.Duration.Companion.days"))\n    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public
fun days(value: Double): Duration = value.toDuration(DurationUnit.DAYS)\n\n    /**\n    * Parses a string that
represents a duration and returns the parsed [Duration] value.\n    *\n    * The following formats are
accepted:\n    *\n    * - ISO-8601 Duration format, e.g. `P1DT2H3M4.058S`, see [toIsoString] and
[parseIsoString].\n    * - The format of string returned by the default [Duration.toString] and `toString` in a
specific unit,\n    * e.g. `10s`, `1h 30m` or `-(1h 30m)`.\n    *\n    * @throws IllegalArgumentException if

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the string doesn't represent a duration in any of the supported formats.\n
    * @sample
samples.time.Durations.parse\n
    *^{\n
    public fun parse(value: String): Duration = try {\n
    parseDuration(value, strictIso = false)\n
    } catch (e: IllegalArgumentException) {\n
    throw
IllegalArgumentException("Invalid duration string format: '$value'.", e)\n
    }\n\n
    /**\n
    * Parses a
string that represents a duration in ISO-8601 format and returns the parsed [Duration] value.\n
    *\n
    *
    @throws IllegalArgumentException if the string doesn't represent a duration in ISO-8601 format.\n
    * @sample
samples.time.Durations.parseIsoString\n
    *^{\n
    public fun parseIsoString(value: String): Duration = try {\n
    parseDuration(value, strictIso = true)\n
    } catch (e: IllegalArgumentException) {\n
    throw
IllegalArgumentException("Invalid ISO duration string format: '$value'.", e)\n
    }\n\n
    /**\n
    * Parses a
string that represents a duration and returns the parsed [Duration] value,\n
    * or `null` if the string doesn't
represent a duration in any of the supported formats.\n
    *\n
    * The following formats are accepted:\n
    *\n
    * - ISO-8601 Duration format, e.g. `P1DT2H3M4.058S`, see [toIsoString] and [parseIsoString].\n
    * -
The format of string returned by the default [Duration.toString] and `toString` in a specific unit,\n
    * e.g. `10s`,
`1h 30m` or `-(1h 30m)`.\n
    * @sample samples.time.Durations.parse\n
    *^{\n
    public fun
parseOrNull(value: String): Duration? = try {\n
    parseDuration(value, strictIso = false)\n
    } catch (e:
IllegalArgumentException) {\n
    null\n
    }\n\n
    /**\n
    * Parses a string that represents a duration in
ISO-8601 format and returns the parsed [Duration] value,\n
    * or `null` if the string doesn't represent a duration
in ISO-8601 format.\n
    * @sample samples.time.Durations.parseIsoString\n
    *^{\n
    public fun
parseIsoStringOrNull(value: String): Duration? = try {\n
    parseDuration(value, strictIso = true)\n
    } catch
(e: IllegalArgumentException) {\n
    null\n
    }\n\n
    // arithmetic operators\n\n
    /** Returns the
negative of this value. *\n
    public operator fun unaryMinus(): Duration = durationOf(-value,
unitDiscriminator)\n\n
    /**\n
    * Returns a duration whose value is the sum of this and [other] duration values.\n
    *\n
    * @throws IllegalArgumentException if the operation results in an undefined value for the given arguments,\n
    * e.g. when adding infinite durations of different sign.\n
    *\n
    public operator fun plus(other: Duration):
Duration {\n
    when {\n
    this.isInfinite() -> {\n
    if (other.isFinite() || (this.rawValue xor
other.rawValue >= 0))\n
    return this\n
    else\n
    throw
IllegalArgumentException("Summing infinite durations of different signs yields an undefined result.")\n
    }\n
    other.isInfinite() -> return other\n
    }\n\n
    return when {\n
    this.unitDiscriminator ==
other.unitDiscriminator -> {\n
    val result = this.value + other.value // never overflows long, but can
overflow long63\n
    when {\n
    isInNanos() ->\n
durationOfNanosNormalized(result)\n
    else ->\n
durationOfMillisNormalized(result)\n
    }\n
    }\n
    this.isInMillis() ->\n
addValuesMixedRanges(this.value, other.value)\n
    else ->\n
addValuesMixedRanges(other.value, this.value)\n
    }\n\n
    private fun
addValuesMixedRanges(thisMillis: Long, otherNanos: Long): Duration {\n
    val otherMillis =
nanosToMillis(otherNanos)\n
    val resultMillis = thisMillis + otherMillis\n
    return if (resultMillis in -
MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) {\n
    val otherNanoRemainder = otherNanos -
millisToNanos(otherMillis)\n
    durationOfNanos(millisToNanos(resultMillis) + otherNanoRemainder)\n
    }
else {\n
    durationOfMillis(resultMillis.coerceIn(-MAX_MILLIS, MAX_MILLIS))\n
    }\n\n
    /**\n
    * Returns a duration whose value is the difference between this and [other] duration values.\n
    *\n
    * @throws
IllegalArgumentException if the operation results in an undefined value for the given arguments,\n
    * e.g. when
subtracting infinite durations of the same sign.\n
    *\n
    public operator fun minus(other: Duration): Duration =
this + (-other)\n\n
    /**\n
    * Returns a duration whose value is this duration value multiplied by the given [scale]
number.\n
    *\n
    * @throws IllegalArgumentException if the operation results in an undefined value for the given
arguments,\n
    * e.g. when multiplying an infinite duration by zero.\n
    *\n
    public operator fun times(scale: Int):
Duration {\n
    if (isInfinite()) {\n
    return when {\n
    scale == 0 -> throw
IllegalArgumentException("Multiplying infinite duration by zero yields an undefined result.")\n
    scale > 0
-> this\n
    else -> -this\n
    }\n
    }\n
    if (scale == 0) return ZERO\n\n
    val value = value\n
    val result = value * scale\n
    return if (isInNanos()) {\n
    if (value in (MAX_NANOS /

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Int.MIN_VALUE)..(-MAX_NANOS / Int.MIN_VALUE)) {\n          // can't overflow nanos range for any
scale\n          durationOfNanos(result)\n          } else {\n          if (result / scale == value) {\n
durationOfNanosNormalized(result)\n          } else {\n          val millis = nanosToMillis(value)\n
val remNanos = value - millisToNanos(millis)\n          val resultMillis = millis * scale\n          val
totalMillis = resultMillis + nanosToMillis(remNanos * scale)\n          if (resultMillis / scale == millis &&
totalMillis xor resultMillis >= 0) {\n          durationOfMillis(totalMillis.coerceIn(-
MAX_MILLIS..MAX_MILLIS))\n          } else {\n          if (value.sign * scale.sign > 0) INFINITE
else NEG_INFIMATE\n          }\n          }\n          } else {\n          if (result / scale == value) {\n
durationOfMillis(result.coerceIn(-MAX_MILLIS..MAX_MILLIS))\n          } else {\n          if (value.sign
* scale.sign > 0) INFINITE else NEG_INFIMATE\n          }\n          }\n          }\n          /**\n          * Returns a duration whose
value is this duration value multiplied by the given [scale] number.\n          *\n          * The operation may involve rounding
when the result cannot be represented exactly with a [Double] number.\n          *\n          * @throws
IllegalArgumentException if the operation results in an undefined value for the given arguments,\n          * e.g. when
multiplying an infinite duration by zero.\n          */\n          public operator fun times(scale: Double): Duration {\n          val
intScale = scale.roundToInt()\n          if (intScale.toDouble() == scale) {\n          return times(intScale)\n          }\n
val unit = storageUnit\n          val result = toDouble(unit) * scale\n          return result.toDuration(unit)\n          }\n
/**\n          * Returns a duration whose value is this duration value divided by the given [scale] number.\n          *\n          *
@throws IllegalArgumentException if the operation results in an undefined value for the given arguments,\n          *
e.g. when dividing zero duration by zero.\n          */\n          public operator fun div(scale: Int): Duration {\n          if (scale ==
0) {\n          return when {\n          isPositive() -> INFINITE\n          isNegative() -> NEG_INFIMATE\n
else -> throw IllegalArgumentException("Dividing zero duration by zero yields an undefined result.")\n          }\n          }\n
if (isInNanos()) {\n          return durationOfNanos(value / scale)\n          } else {\n          if
(isInfinite())\n          return this * scale.sign\n          val result = value / scale\n          if (result in -
MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) {\n          val rem = millisToNanos(value - (result *
scale)) / scale\n          return durationOfNanos(millisToNanos(result) + rem)\n          }\n          return
durationOfMillis(result)\n          }\n          }\n          /**\n          * Returns a duration whose value is this duration value divided
by the given [scale] number.\n          *\n          * @throws IllegalArgumentException if the operation results in an
undefined value for the given arguments,\n          * e.g. when dividing an infinite duration by infinity or zero duration
by zero.\n          */\n          public operator fun div(scale: Double): Duration {\n          val intScale = scale.roundToInt()\n
if (intScale.toDouble() == scale && intScale != 0) {\n          return div(intScale)\n          }\n          val unit =
storageUnit\n          val result = toDouble(unit) / scale\n          return result.toDuration(unit)\n          }\n          /** Returns a
number that is the ratio of this and [other] duration values. *\n          public operator fun div(other: Duration): Double
{\n          val coarserUnit = maxOf(this.storageUnit, other.storageUnit)\n          return this.toDouble(coarserUnit) /
other.toDouble(coarserUnit)\n          }\n          /** Returns true, if the duration value is less than zero. *\n          public fun
isNegative(): Boolean = rawValue < 0\n          /** Returns true, if the duration value is greater than zero. *\n          public fun
isPositive(): Boolean = rawValue > 0\n          /** Returns true, if the duration value is infinite. *\n          public fun
isInfinite(): Boolean = rawValue == INFINITE.rawValue || rawValue == NEG_INFIMATE.rawValue\n          /**
Returns true, if the duration value is finite. *\n          public fun isFinite(): Boolean = !isInfinite()\n          /** Returns the
absolute value of this value. The returned value is always non-negative. *\n          public val absoluteValue: Duration
get() = if (isNegative()) -this else this\n          override fun compareTo(other: Duration): Int {\n          val compareBits =
this.rawValue xor other.rawValue\n          if (compareBits < 0 || compareBits.toInt() and 1 == 0) // different signs or
same sign/same range\n          return this.rawValue.compareTo(other.rawValue)\n          // same sign/different
ranges\n          val r = this.unitDiscriminator - other.unitDiscriminator // compare ranges\n          return if (isNegative())
-r else r\n          }\n          /**\n          * Splits this duration into days, hours, minutes,
seconds, and nanoseconds and executes the given [action] with these components.\n          * The result of [action] is
returned as the result of this function.\n          *\n          * - `nanoseconds` represents the whole number of nanoseconds in
this duration, and its absolute value is less than 1_000_000_000;\n          * - `seconds` represents the whole number of
seconds in this duration, and its absolute value is less than 60;\n          * - `minutes` represents the whole number of

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minutes in this duration, and its absolute value is less than 60;\n
 * - `hours` represents the whole number of hours
in this duration, and its absolute value is less than 24;\n
 * - `days` represents the whole number of days in this
duration.\n
 * Infinite durations are represented as either [Long.MAX_VALUE] days, or
[Long.MIN_VALUE] days (depending on the sign of infinity),\n
 * and zeroes in the lower components.\n
 * public inline fun <T> toComponents(action: (days: Long, hours: Int, minutes: Int, seconds: Int, nanoseconds: Int) -
> T): T {\n
    contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE) }\n
    return
action(inWholeDays, hoursComponent, minutesComponent, secondsComponent, nanosecondsComponent)\n
}\n\n
/**\n
 * Splits this duration into hours, minutes, seconds, and nanoseconds and executes the given [action] with
these components.\n
 * The result of [action] is returned as the result of this function.\n
 * - `nanoseconds`
represents the whole number of nanoseconds in this duration, and its absolute value is less than 1_000_000_000;\n
 * - `seconds` represents the whole number of seconds in this duration, and its absolute value is less than 60;\n
 * -
`minutes` represents the whole number of minutes in this duration, and its absolute value is less than 60;\n
 * -
`hours` represents the whole number of hours in this duration.\n
 * Infinite durations are represented as
either [Long.MAX_VALUE] hours, or [Long.MIN_VALUE] hours (depending on the sign of infinity),\n
 * and
zeroes in the lower components.\n
 * public inline fun <T> toComponents(action: (hours: Long, minutes: Int,
seconds: Int, nanoseconds: Int) -> T): T {\n
    contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE)
}\n
    return action(inWholeHours, minutesComponent, secondsComponent, nanosecondsComponent)\n
}\n\n
/**\n
 * Splits this duration into minutes, seconds, and nanoseconds and executes the given [action] with these
components.\n
 * The result of [action] is returned as the result of this function.\n
 * - `nanoseconds`
represents the whole number of nanoseconds in this duration, and its absolute value is less than 1_000_000_000;\n
 * - `seconds` represents the whole number of seconds in this duration, and its absolute value is less than 60;\n
 * -
`minutes` represents the whole number of minutes in this duration.\n
 * Infinite durations are represented as
either [Long.MAX_VALUE] minutes, or [Long.MIN_VALUE] minutes (depending on the sign of infinity),\n
 *
and zeroes in the lower components.\n
 * public inline fun <T> toComponents(action: (minutes: Long,
seconds: Int, nanoseconds: Int) -> T): T {\n
    contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE)
}\n
    return action(inWholeMinutes, secondsComponent, nanosecondsComponent)\n
}\n\n
/**\n
 * Splits
this duration into seconds, and nanoseconds and executes the given [action] with these components.\n
 * The result
of [action] is returned as the result of this function.\n
 * - `nanoseconds` represents the whole number of
nanoseconds in this duration, and its absolute value is less than 1_000_000_000;\n
 * - `seconds` represents the
whole number of seconds in this duration.\n
 * Infinite durations are represented as either
[Long.MAX_VALUE] seconds, or [Long.MIN_VALUE] seconds (depending on the sign of infinity),\n
 * and
zero nanoseconds.\n
 * public inline fun <T> toComponents(action: (seconds: Long, nanoseconds: Int) -> T):
T {\n
    contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE) }\n
    return
action(inWholeSeconds, nanosecondsComponent)\n
}\n\n
@PublishedApi\n
internal val hoursComponent:
Int\n
    get() = if (isInfinite()) 0 else (inWholeHours % 24).toInt()\n\n
@PublishedApi\n
internal val
minutesComponent: Int\n
    get() = if (isInfinite()) 0 else (inWholeMinutes % 60).toInt()\n\n
@PublishedApi\n
internal val secondsComponent: Int\n
    get() = if (isInfinite()) 0 else (inWholeSeconds % 60).toInt()\n\n
@PublishedApi\n
internal val nanosecondsComponent: Int\n
    get() = when {\n
        isInfinite() -> 0\n
        isInMillis() -> millisToNanos(value % 1_000).toInt()\n
        else -> (value % 1_000_000_000).toInt()\n
    }\n\n
// conversion to units\n\n
/**\n
 * Returns the value of this duration expressed as a [Double] number of
the specified [unit].\n
 * The operation may involve rounding when the result cannot be represented exactly
with a [Double] number.\n
 * An infinite duration value is converted either to
[Double.POSITIVE_INFINITY] or [Double.NEGATIVE_INFINITY] depending on its sign.\n
 * public fun
toDouble(unit: DurationUnit): Double {\n
    return when (rawValue) {\n
        INFINITE.rawValue ->
Double.POSITIVE_INFINITY\n
        NEG_INFINITE.rawValue -> Double.NEGATIVE_INFINITY\n
        else -> {\n
            // TODO: whether it's ok to convert to Double before scaling\n
            convertDurationUnit(value.toDouble(), storageUnit, unit)\n
        }\n
    }\n
}\n\n
/**\n
 * Returns the value
of this duration expressed as a [Long] number of the specified [unit].\n
 * If the result doesn't fit in the range

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of [Long] type, it is coerced into that range:\n    * - [Long.MIN_VALUE] is returned if it's less than
`Long.MIN_VALUE`,\n    * - [Long.MAX_VALUE] is returned if it's greater than `Long.MAX_VALUE`.\n    *\n    * An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on
its sign.\n    */\n    public fun toLong(unit: DurationUnit): Long {\n        return when (rawValue) {\n            INFINITE.rawValue -> Long.MAX_VALUE\n            NEG_INFINITE.rawValue -> Long.MIN_VALUE\n            else -> convertDurationUnit(value, storageUnit, unit)\n        }\n    }\n    /**\n     * Returns the value of this
duration expressed as an [Int] number of the specified [unit].\n     *\n     * If the result doesn't fit in the range of [Int]
type, it is coerced into that range:\n     * - [Int.MIN_VALUE] is returned if it's less than `Int.MIN_VALUE`,\n     * -
[Int.MAX_VALUE] is returned if it's greater than `Int.MAX_VALUE`.\n     *\n     * An infinite duration value is
converted either to [Int.MAX_VALUE] or [Int.MIN_VALUE] depending on its sign.\n     */\n    public fun
toInt(unit: DurationUnit): Int =\n        toLong(unit).coerceIn(Int.MIN_VALUE.toInt(),
Int.MAX_VALUE.toInt()).toInt()\n    /**\n     * The value of this duration expressed as a [Double] number of days.
*\n     * @ExperimentalTime\n     * @Deprecated("Use inWholeDays property instead or convert toDouble(DAYS) if a
double value is required.", ReplaceWith("toDouble(DurationUnit.DAYS)"))\n     */\n    public val inDays: Double get() =
toDouble(DurationUnit.DAYS)\n    /**\n     * The value of this duration expressed as a [Double] number of hours. *\n
     * @ExperimentalTime\n     * @Deprecated("Use inWholeHours property instead or convert toDouble(HOURS) if a
double value is required.", ReplaceWith("toDouble(DurationUnit.HOURS)"))\n     */\n    public val inHours: Double
get() = toDouble(DurationUnit.HOURS)\n    /**\n     * The value of this duration expressed as a [Double] number of
minutes. *\n     * @ExperimentalTime\n     * @Deprecated("Use inWholeMinutes property instead or convert
toDouble(MINUTES) if a double value is required.", ReplaceWith("toDouble(DurationUnit.MINUTES)"))\n     */\n
    public val inMinutes: Double get() = toDouble(DurationUnit.MINUTES)\n    /**\n     * The value of this duration
expressed as a [Double] number of seconds. *\n     * @ExperimentalTime\n     * @Deprecated("Use inWholeSeconds
property instead or convert toDouble(SECONDS) if a double value is required.",
ReplaceWith("toDouble(DurationUnit.SECONDS)"))\n     */\n    public val inSeconds: Double get() =
toDouble(DurationUnit.SECONDS)\n    /**\n     * The value of this duration expressed as a [Double] number of
milliseconds. *\n     * @ExperimentalTime\n     * @Deprecated("Use inWholeMilliseconds property instead or convert
toDouble(MILLISECONDS) if a double value is required.",
ReplaceWith("toDouble(DurationUnit.MILLISECONDS)"))\n     */\n    public val inMilliseconds: Double get() =
toDouble(DurationUnit.MILLISECONDS)\n    /**\n     * The value of this duration expressed as a [Double] number of
microseconds. *\n     * @ExperimentalTime\n     * @Deprecated("Use inWholeMicroseconds property instead or
convert toDouble(MICROSECONDS) if a double value is required.",
ReplaceWith("toDouble(DurationUnit.MICROSECONDS)"))\n     */\n    public val inMicroseconds: Double get() =
toDouble(DurationUnit.MICROSECONDS)\n    /**\n     * The value of this duration expressed as a [Double] number of
nanoseconds. *\n     * @ExperimentalTime\n     * @Deprecated("Use inWholeNanoseconds property instead or convert
toDouble(NANOSECONDS) if a double value is required.",
ReplaceWith("toDouble(DurationUnit.NANOSECONDS)"))\n     */\n    public val inNanoseconds: Double get() =
toDouble(DurationUnit.NANOSECONDS)\n    /**\n     *\n     * The value of this duration expressed as a [Long]
number of days.\n     *\n     * An infinite duration value is converted either to [Long.MAX_VALUE] or
[Long.MIN_VALUE] depending on its sign.\n     */\n    public val inWholeDays: Long\n        get() =
toLong(DurationUnit.DAYS)\n    /**\n     *\n     * The value of this duration expressed as a [Long] number of hours.\n
     *\n     * An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending
on its sign.\n     */\n    public val inWholeHours: Long\n        get() = toLong(DurationUnit.HOURS)\n    /**\n
     *\n     * The value of this duration expressed as a [Long] number of minutes.\n     *\n     * An infinite duration value is
converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n     */\n    public val
inWholeMinutes: Long\n        get() = toLong(DurationUnit.MINUTES)\n    /**\n     *\n     * The value of this duration
expressed as a [Long] number of seconds.\n     *\n     * An infinite duration value is converted either to
[Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n     */\n    public val inWholeSeconds:
Long\n        get() = toLong(DurationUnit.SECONDS)\n    /**\n     *\n     * The value of this duration expressed as a

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[Long] number of milliseconds.\n
 * An infinite duration value is converted either to [Long.MAX_VALUE]
or [Long.MIN_VALUE] depending on its sign.\n
 * public val inWholeMilliseconds: Long\n
    get() {\n
        return if (isInMillis() && isFinite()) value else toLong(DurationUnit.MILLISECONDS)\n
    }\n
    /**\n
 * The value of this duration expressed as a [Long] number of microseconds.\n
 * If the result doesn't fit in the
range of [Long] type, it is coerced into that range:\n
 * - [Long.MIN_VALUE] is returned if it's less than
`Long.MIN_VALUE`,\n
 * - [Long.MAX_VALUE] is returned if it's greater than `Long.MAX_VALUE`.\n
 * An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on
its sign.\n
 * public val inWholeMicroseconds: Long\n
    get() =
toLong(DurationUnit.MICROSECONDS)\n
    /**\n
 * The value of this duration expressed as a [Long] number
of nanoseconds.\n
 * If the result doesn't fit in the range of [Long] type, it is coerced into that range:\n
 * -
[Long.MIN_VALUE] is returned if it's less than `Long.MIN_VALUE`,\n
 * - [Long.MAX_VALUE] is returned if
it's greater than `Long.MAX_VALUE`.\n
 * An infinite duration value is converted either to
[Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n
 * public val inWholeNanoseconds:
Long\n
    get() {\n
        val value = value\n
        return when {\n
            isInNanos() -> value\n
            value > Long.MAX_VALUE / NANOS_IN_MILLIS -> Long.MAX_VALUE\n
            value <
Long.MIN_VALUE / NANOS_IN_MILLIS -> Long.MIN_VALUE\n
            else -> millisToNanos(value)\n
        }\n
    }\n
    // shortcuts\n
    /**\n
 * Returns the value of this duration expressed as a [Long] number of
nanoseconds.\n
 * If the value doesn't fit in the range of [Long] type, it is coerced into that range, see the
conversion [Double.toLong] for details.\n
 * The range of durations that can be expressed as a `Long`
number of nanoseconds is approximately \u00b1292 years.\n
 * @ExperimentalTime\n
 * @Deprecated("Use
inWholeNanoseconds property instead.", ReplaceWith("this.inWholeNanoseconds"))\n
    public fun
toLongNanoseconds(): Long = inWholeNanoseconds\n
    /**\n
 * Returns the value of this duration expressed as
a [Long] number of milliseconds.\n
 * The value is coerced to the range of [Long] type, if it doesn't fit in
that range, see the conversion [Double.toLong] for details.\n
 * The range of durations that can be expressed
as a `Long` number of milliseconds is approximately \u00b1292 million years.\n
 * @ExperimentalTime\n
 * @Deprecated("Use inWholeMilliseconds property instead.", ReplaceWith("this.inWholeMilliseconds"))\n
    public fun toLongMilliseconds(): Long = inWholeMilliseconds\n
    /**\n
 * Returns a string representation of
this duration value\n
 * expressed as a combination of numeric components, each in its own unit.\n
 * Each
component is a number followed by the unit abbreviated name: `d`, `h`, `m`, `s`:\n
 * `5h`, `1d 12h`, `1h 0m
30.340s`.\n
 * The last component, usually seconds, can be a number with a fractional part.\n
 * If the
duration is less than a second, it is represented as a single number\n
 * with one of sub-second units: `ms`
(milliseconds), `us` (microseconds), or `ns` (nanoseconds):\n
 * `140.884ms`, `500us`, `24ns`.\n
 * A
negative duration is prefixed with `-` sign and, if it consists of multiple components, surrounded with parentheses:\n
 * `-12m` and `-(1h 30m)`.\n
 * Special cases:\n
 * - an infinite duration is formatted as `Infinity` or
`-Infinity` without a unit.\n
 * It's recommended to use [toIsoString] that uses more strict ISO-8601
format instead of this `toString` when you want to convert a duration to a string in cases of serialization,
interchange, etc.\n
 * @sample samples.time.Durations.toStringDefault\n
 * override fun toString():
String = when (rawValue) {\n
    0L -> "0s"\n
    INFINITE.rawValue -> "Infinity"\n
    NEG_INFINITE.rawValue -> "-Infinity"\n
    else -> {\n
        val isNegative = isNegative()\n
        buildString {\n
            if (isNegative) append('-')\n
            absoluteValue.toComponents { days, hours, minutes,
seconds, nanoseconds ->{\n
                val hasDays = days != 0L\n
                val hasHours = hours != 0\n
                val hasMinutes = minutes != 0\n
                val hasSeconds = seconds != 0 || nanoseconds != 0\n
                var
components = 0\n
                if (hasDays) {\n
                    append(days).append('d')\n
                    components++\n
                }\n
                if (hasHours || (hasDays && (hasMinutes || hasSeconds))) {\n
                    if (components++ > 0) append(' ')\n
                    append(hours).append('h')\n
                    }\n
                    if
(hasMinutes || (hasSeconds && (hasHours || hasDays))) {\n
                        if (components++ > 0) append(' ')\n
                        append(minutes).append('m')\n
                        }\n
                        if (hasSeconds) {\n
                            if
(components++ > 0) append(' ')\n
                            when {\n
                                seconds != 0 || hasDays || hasHours ||

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hasMinutes ->\n                appendFractional(seconds, nanoseconds, 9, \"s\", isoZeroes = false)\n
    nanoseconds >= 1_000_000 ->\n                appendFractional(nanoseconds / 1_000_000, nanoseconds\n
% 1_000_000, 6, \"ms\", isoZeroes = false)\n                nanoseconds >= 1_000 ->\n
appendFractional(nanoseconds / 1_000, nanoseconds % 1_000, 3, \"us\", isoZeroes = false)\n                else -\n
->\n                append(nanoseconds).append(\"ns\")\n                }\n                }\n                if\n
(isNegative && components > 1) insert(1, '(').append('))\n                }\n                }\n                }\n                private fun\n
StringBuilder.appendFractional(whole: Int, fractional: Int, fractionalSize: Int, unit: String, isoZeroes: Boolean) {\n
    append(whole)\n    if (fractional != 0) {\n        append('.')\n        val fracString =\n
fractional.toString().padStart(fractionalSize, '0')\n        val nonZeroDigits = fracString.indexOfLast { it != '0' } +\n
1\n        when {\n            !isoZeroes && nonZeroDigits < 3 -> appendRange(fracString, 0, nonZeroDigits)\n
            else -> appendRange(fracString, 0, ((nonZeroDigits + 2) / 3) * 3)\n        }\n        append(unit)\n
}\n\n /**\n * Returns a string representation of this duration value expressed in the given [unit]\n * and\n
formatted with the specified [decimals] number of digits after decimal point.\n * \n * Special cases:\n * - an\n
infinite duration is formatted as `\"Infinity\"` or `\"-Infinity\"` without a unit.\n * \n * @param decimals the\n
number of digits after decimal point to show. The value must be non-negative.\n * \n * No more than 12 decimals will\n
be shown, even if a larger number is requested.\n * \n * @return the value of duration in the specified [unit]\n
followed by that unit abbreviated name: `d`, `h`, `m`, `s`, `ms`, `us`, or `ns`.\n * \n * @throws\n
IllegalArgumentException if [decimals] is less than zero.\n * \n * @sample\n
samples.time.Durations.toStringDecimals\n * \n public fun toString(unit: DurationUnit, decimals: Int = 0):\n
String {\n    require(decimals >= 0) { \"decimals must be not negative, but was $decimals\" }\n    val number =\n
toDouble(unit)\n    if (number.isInfinite()) return number.toString()\n    return formatToExactDecimals(number,\n
decimals.coerceAtMost(12)) + unit.shortName()\n }\n\n /**\n * Returns an ISO-8601 based string\n
representation of this duration.\n * \n * The returned value is presented in the format `PThHmMs.fS`, where `h`,\n
`m`, `s` are the integer components of this duration (see [toComponents])\n * and `f` is a fractional part of second.\n
Depending on the roundness of the value the fractional part can be formatted with either\n * 0, 3, 6, or 9 decimal\n
digits.\n * \n * The infinite duration is represented as `\"PT9999999999999999H\"` which is larger than any\n
possible finite duration in Kotlin.\n * \n * Negative durations are indicated with the sign `-` in the beginning of\n
the returned string, for example, `\"-PT5M30S\"`.\n * \n * @sample samples.time.Durations.toIsoString\n
*\n public fun toIsoString(): String = buildString {\n    if (isNegative()) append('-')\n    append(\"PT\")\n
this@Duration.absoluteValue.toComponents { hours, minutes, seconds, nanoseconds ->\n
@Suppress(\"NAME_SHADOWING\")\n        var hours = hours\n        if (isInfinite()) {\n            // use large\n
enough value instead of Long.MAX_VALUE\n            hours = 9_999_999_999_999\n        }\n        val\n
hasHours = hours != 0L\n        val hasSeconds = seconds != 0 || nanoseconds != 0\n        val hasMinutes =\n
minutes != 0 || (hasSeconds && hasHours)\n        if (hasHours) {\n            append(hours).append('H')\n
}\n        if (hasMinutes) {\n            append(minutes).append('M')\n        }\n        if (hasSeconds ||\n
(!hasHours && !hasMinutes)) {\n            appendFractional(seconds, nanoseconds, 9, \"S\", isoZeroes = true)\n
}\n        }\n        }\n        }\n        }\n        }\n        }\n        }\n        }\n        }\n        }\n        }\n
}\n\n // constructing from number of units\n // extension functions\n /** Returns a [Duration]\n
equal to this [Int] number of the specified [unit].\n
*\n @SinceKotlin(\"1.6\")\n @WasExperimental(ExperimentalTime::class)\n public fun Int.toDuration(unit:\n
DurationUnit): Duration {\n    return if (unit <= DurationUnit.SECONDS) {\n\n
durationOfNanos(convertDurationUnitOverflow(this.toLong(), unit, DurationUnit.NANOSECONDS))\n    } else\n
toLong().toDuration(unit)\n }\n\n /** Returns a [Duration] equal to this [Long] number of the specified [unit].\n
*\n @SinceKotlin(\"1.6\")\n @WasExperimental(ExperimentalTime::class)\n public fun Long.toDuration(unit:\n
DurationUnit): Duration {\n    val maxNsInUnit = convertDurationUnitOverflow(MAX_NANOS,\n
DurationUnit.NANOSECONDS, unit)\n    if (this in -maxNsInUnit..maxNsInUnit) {\n        return\n
durationOfNanos(convertDurationUnitOverflow(this, unit, DurationUnit.NANOSECONDS))\n    } else {\n        val\n
millis = convertDurationUnit(this, unit, DurationUnit.MILLISECONDS)\n        return\n
durationOfMillis(millis.coerceIn(-MAX_MILLIS, MAX_MILLIS))\n    }\n }\n\n /** Returns a [Duration] equal

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to this [Double] number of the specified [unit].\n * Depending on its magnitude, the value is rounded to an integer number of nanoseconds or milliseconds.\n * @throws IllegalArgumentException if this `Double` value is `NaN`.\n * \n @SinceKotlin("1.6")\n @WasExperimental(ExperimentalTime::class)\n public fun Double.toDuration(unit: DurationUnit): Duration {\n val valueInNs = convertDurationUnit(this, unit, DurationUnit.NANOSECONDS)\n require(!valueInNs.isNaN()) { "Duration value cannot be NaN." }\n val nanos = valueInNs.roundToLong()\n return if (nanos in -MAX_NANOS..MAX_NANOS) {\n durationOfNanos(nanos)\n } else {\n val millis = convertDurationUnit(this, unit, DurationUnit.MILLISECONDS).roundToLong()\n durationOfMillisNormalized(millis)\n }\n }\n\n// constructing from number of units\n// deprecated extension properties\n\n/** Returns a [Duration] equal to this [Int] number of nanoseconds. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Int.nanoseconds' extension property from Duration.Companion instead.", ReplaceWith("this.nanoseconds", "kotlin.time.Duration.Companion.nanoseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val Int.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n/** Returns a [Duration] equal to this [Long] number of nanoseconds. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Long.nanoseconds' extension property from Duration.Companion instead.", ReplaceWith("this.nanoseconds", "kotlin.time.Duration.Companion.nanoseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val Long.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n**\n * Returns a [Duration] equal to this [Double] number of nanoseconds.\n * \n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n * \n * \n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Double.nanoseconds' extension property from Duration.Companion instead.", ReplaceWith("this.nanoseconds", "kotlin.time.Duration.Companion.nanoseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val Double.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n**\n\n/** Returns a [Duration] equal to this [Int] number of microseconds. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Int.microseconds' extension property from Duration.Companion instead.", ReplaceWith("this.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val Int.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n**\n\n/** Returns a [Duration] equal to this [Long] number of microseconds. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Long.microseconds' extension property from Duration.Companion instead.", ReplaceWith("this.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val Long.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n**\n\n**\n * Returns a [Duration] equal to this [Double] number of microseconds.\n * \n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n * \n * \n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Double.microseconds' extension property from Duration.Companion instead.", ReplaceWith("this.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val Double.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n**\n\n/** Returns a [Duration] equal to this [Int] number of milliseconds. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Int.milliseconds' extension property from Duration.Companion instead.", ReplaceWith("this.milliseconds", "kotlin.time.Duration.Companion.milliseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val Int.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n**\n\n/** Returns a [Duration] equal to this [Long] number of milliseconds. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Long.milliseconds' extension property from Duration.Companion instead.", ReplaceWith("this.milliseconds", "kotlin.time.Duration.Companion.milliseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val Long.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n**\n\n**\n * Returns a [Duration] equal to this [Double] number of milliseconds.\n * \n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n * \n * \n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Double.milliseconds' extension property from Duration.Companion instead.", ReplaceWith("this.milliseconds", "kotlin.time.Duration.Companion.milliseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val Double.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n**\n\n**\n * Returns a [Duration] equal to this

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[Int] number of seconds. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Int.seconds'
extension property from Duration.Companion instead.", ReplaceWith("this.seconds"),
"\kotlin.time.Duration.Companion.seconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Int.seconds get() = toDuration(DurationUnit.SECONDS)\n\n/** Returns a [Duration] equal to this [Long] number of
seconds. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Long.seconds' extension property
from Duration.Companion instead.", ReplaceWith("this.seconds"),
"\kotlin.time.Duration.Companion.seconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Long.seconds get() = toDuration(DurationUnit.SECONDS)\n\n/**\n * Returns a [Duration] equal to this [Double]
number of seconds.\n * \n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Double.seconds' extension property from
Duration.Companion instead.", ReplaceWith("this.seconds"),
"\kotlin.time.Duration.Companion.seconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Double.seconds get() = toDuration(DurationUnit.SECONDS)\n\n/** Returns a [Duration] equal to this [Int]
number of minutes. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Int.minutes' extension
property from Duration.Companion instead.", ReplaceWith("this.minutes"),
"\kotlin.time.Duration.Companion.minutes"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Int.minutes get() = toDuration(DurationUnit.MINUTES)\n\n/** Returns a [Duration] equal to this [Long] number of
minutes. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Long.minutes' extension property
from Duration.Companion instead.", ReplaceWith("this.minutes"),
"\kotlin.time.Duration.Companion.minutes"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Long.minutes get() = toDuration(DurationUnit.MINUTES)\n\n/**\n * Returns a [Duration] equal to this [Double]
number of minutes.\n * \n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Double.minutes' extension property from
Duration.Companion instead.", ReplaceWith("this.minutes"),
"\kotlin.time.Duration.Companion.minutes"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Double.minutes get() = toDuration(DurationUnit.MINUTES)\n\n/** Returns a [Duration] equal to this [Int]
number of hours. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Int.hours' extension
property from Duration.Companion instead.", ReplaceWith("this.hours"),
"\kotlin.time.Duration.Companion.hours"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Int.hours get() = toDuration(DurationUnit.HOURS)\n\n/** Returns a [Duration] equal to this [Long] number of
hours. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Long.hours' extension property from
Duration.Companion instead.", ReplaceWith("this.hours"),
"\kotlin.time.Duration.Companion.hours"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Long.hours get() = toDuration(DurationUnit.HOURS)\n\n/**\n * Returns a [Duration] equal to this [Double]
number of hours.\n * \n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Double.hours' extension property from
Duration.Companion instead.", ReplaceWith("this.hours"),
"\kotlin.time.Duration.Companion.hours"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Double.hours get() = toDuration(DurationUnit.HOURS)\n\n/** Returns a [Duration] equal to this [Int] number of
days. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Int.days' extension property from
Duration.Companion instead.", ReplaceWith("this.days"),
"\kotlin.time.Duration.Companion.days"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val Int.days
get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a [Duration] equal to this [Long] number of days.
*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Long.days' extension property from
Duration.Companion instead.", ReplaceWith("this.days"),
"\kotlin.time.Duration.Companion.days"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Long.days get() = toDuration(DurationUnit.DAYS)\n\n/**\n * Returns a [Duration] equal to this [Double] number
of days.\n * \n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Double.days' extension property from
Duration.Companion instead.", ReplaceWith("this.days"),
"kotlin.time.Duration.Companion.days")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Double.days get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a duration whose value is the specified
[duration] value multiplied by this number.
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\n@kotlin.internal.InlineOnly\npublic
inline operator fun Int.times(duration: Duration): Duration = duration * this\n\n/** Returns a duration whose
value is the specified [duration] value multiplied by this number.\n * The operation may involve rounding when
the result cannot be represented exactly with a [Double] number.\n * @throws IllegalArgumentException if the
operation results in a `NaN` value.\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\n@kotlin.internal.InlineOnly\npublic
inline operator fun Double.times(duration: Duration): Duration = duration * this\n\n\nprivate fun
parseDuration(value: String, strictIso: Boolean): Duration {\n    var length = value.length\n    if (length == 0) throw
IllegalArgumentException("The string is empty")\n    var index = 0\n    var result = Duration.ZERO\n    val
infinityString = "Infinity"\n    when (value[index]) {\n        '+', '-' -> index++\n    }\n    val hasSign = index > 0\n    val
isNegative = hasSign && value.startsWith('-')\n    when {\n        length <= index ->\n            throw
IllegalArgumentException("No components")\n        value[index] == 'P' -> {\n            if (++index == length) throw
IllegalArgumentException()\n            val nonDigitSymbols = "+-." \n            var isTimeComponent = false\n            var
prevUnit: DurationUnit? = null\n            while (index < length) {\n                if (value[index] == 'T') {\n                    if (isTimeComponent || ++index == length) throw
IllegalArgumentException()\n                    isTimeComponent =
true\n                    continue\n                }\n                val component = value.substringWhile(index) { it in '0'..'9' || it in
nonDigitSymbols }\n                if (component.isEmpty()) throw
IllegalArgumentException()\n                index +=
component.length\n                val unitChar = value.getOrElse(index) { throw
IllegalArgumentException("Missing unit for value $component") }\n                index++\n                val unit = durationUnitByIsoChar(unitChar,
isTimeComponent)\n                if (prevUnit != null && prevUnit <= unit) throw
IllegalArgumentException("Unexpected order of duration components")\n                prevUnit = unit\n                val
dotIndex = component.indexOf('.')\n                if (unit == DurationUnit.SECONDS && dotIndex > 0) {\n                    val
whole = component.substring(0, dotIndex)\n                    result +=
parseOverLongIsoComponent(whole).toDuration(unit)\n                    result +=
component.substring(dotIndex).toDouble().toDuration(unit)\n                } else {\n                    result +=
parseOverLongIsoComponent(component).toDuration(unit)\n                }\n                }\n                }\n                strictIso ->\n                throw
IllegalArgumentException()\n                value.regionMatches(index, infinityString, 0, length = maxOf(length -
index, infinityString.length), ignoreCase = true) -> {\n                    result = Duration.INFINITE\n                }\n                else -> {\n                    // parse default string format\n                    var prevUnit: DurationUnit? = null\n                    var afterFirst = false\n                    var allowSpaces = !hasSign\n                    if (hasSign && value[index] == '(' && value.last() == ')') {\n                        allowSpaces = true\n                        if (++index == --length) throw
IllegalArgumentException("No components")\n                    }\n                    while (index < length) {\n                        if (afterFirst && allowSpaces) {\n                            index =
value.skipWhile(index) { it == ' ' }\n                        }\n                        afterFirst = true\n                        val component =
value.substringWhile(index) { it in '0'..'9' || it == '.' }\n                        if (component.isEmpty()) throw
IllegalArgumentException()\n                        index += component.length\n                        val unitName =
value.substringWhile(index) { it in 'a'..'z' }\n                        index += unitName.length\n                        val unit =
durationUnitByShortName(unitName)\n                        if (prevUnit != null && prevUnit <= unit) throw
IllegalArgumentException("Unexpected order of duration components")\n                        prevUnit = unit\n                        val
dotIndex = component.indexOf('.')\n                        if (dotIndex > 0) {\n                            val whole = component.substring(0,
dotIndex)\n                            result += whole.toLong().toDuration(unit)\n                            result +=
component.substring(dotIndex).toDouble().toDuration(unit)\n                        }\n                        if (index < length) throw
IllegalArgumentException("Fractional component must be last")\n                        } else {\n                            result +=
component.toLong().toDuration(unit)\n                        }\n                    }\n                    }\n                    }\n                    return if (isNegative) -result else

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result\n}\n\nprivate fun parseOverLongIsoComponent(value: String): Long {\n    val length = value.length\n    var
startIndex = 0\n    if (length > 0 && value[0] in '"+-') startIndex++\n    if ((length - startIndex) > 16 &&
(startIndex..value.lastIndex).all { value[it] in '0'..'9' }) {\n        // all chars are digits, but more than
ceiling(log10(MAX_MILLIS / 1000)) of them\n        return if (value[0] == '-') Long.MIN_VALUE else
Long.MAX_VALUE\n    }\n    // TODO: replace with just toLong after min JDK becomes 8\n    return if
(value.startsWith('+')) value.drop(1).toLong() else value.toLong()\n}\n\nprivate inline fun
String.substringWhile(startIndex: Int, predicate: (Char) -> Boolean): String =\n    substring(startIndex,
skipWhile(startIndex, predicate))\n\nprivate inline fun String.skipWhile(startIndex: Int, predicate: (Char) ->
Boolean): Int {\n    var i = startIndex\n    while (i < length && predicate(this[i])) i++\n    return i\n}\n\n\n\n\n//
The ranges are chosen so that they are:\n// - symmetric relative to zero: this greatly simplifies operations with sign,
e.g. unaryMinus and minus.\n// - non-overlapping, but adjacent: the first value that doesn't fit in nanos range, can be
exactly represented in millis.\n\ninternal const val NANOS_IN_MILLIS = 1_000_000\n// maximum number
duration can store in nanosecond range\ninternal const val MAX_NANOS = Long.MAX_VALUE / 2 /
NANOS_IN_MILLIS * NANOS_IN_MILLIS - 1 // ends in ..._999_999\n// maximum number duration can store in
millisecond range, also encodes an infinite value\ninternal const val MAX_MILLIS = Long.MAX_VALUE / 2\n//
MAX_NANOS expressed in milliseconds\nprivate const val MAX_NANOS_IN_MILLIS = MAX_NANOS /
NANOS_IN_MILLIS\n\nprivate fun nanosToMillis(nanos: Long): Long = nanos / NANOS_IN_MILLIS\nprivate
fun millisToNanos(millis: Long): Long = millis * NANOS_IN_MILLIS\n\nprivate fun
durationOfNanos(normalNanos: Long) = Duration(normalNanos shl 1)\nprivate fun durationOfMillis(normalMillis:
Long) = Duration((normalMillis shl 1) + 1)\nprivate fun durationOf(normalValue: Long, unitDiscriminator: Int) =
Duration((normalValue shl 1) + unitDiscriminator)\nprivate fun durationOfNanosNormalized(nanos: Long) =\n    if
(nanos in -MAX_NANOS..MAX_NANOS) {\n        durationOfNanos(nanos)\n    } else {\n
durationOfMillis(nanosToMillis(nanos))\n    }\n\nprivate fun durationOfMillisNormalized(millis: Long) =\n    if
(millis in -MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) {\n
durationOfNanos(millisToNanos(millis))\n    } else {\n        durationOfMillis(millis.coerceIn(-MAX_MILLIS,
MAX_MILLIS))\n    }\n\ninternal expect val durationAssertionsEnabled: Boolean\n\ninternal expect fun
formatToExactDecimals(value: Double, decimals: Int): String\n\ninternal expect fun formatUpToDecimals(value:
Double, decimals: Int): String", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n@file:kotlin.jvm.JvmName("UnsignedKt")\n\npackage
kotlin\n\n@PublishedApi\n\ninternal fun uintCompare(v1: Int, v2: Int): Int = (v1 xor
Int.MIN_VALUE).compareTo(v2 xor Int.MIN_VALUE)\n\n@PublishedApi\n\ninternal fun ulongCompare(v1: Long,
v2: Long): Int = (v1 xor Long.MIN_VALUE).compareTo(v2 xor Long.MIN_VALUE)\n\n@PublishedApi\n\ninternal
fun uintDivide(v1: UInt, v2: UInt): UInt = (v1.toLong() / v2.toLong()).toUInt()\n\n@PublishedApi\n\ninternal fun
uintRemainder(v1: UInt, v2: UInt): UInt = (v1.toLong() % v2.toLong()).toUInt()\n\n// Division and remainder are
based on Guava's UnsignedLongs implementation\n// Copyright 2011 The Guava
Authors\n\n@PublishedApi\n\ninternal fun ulongDivide(v1: ULong, v2: ULong): ULong {\n    val dividend =
v1.toLong()\n    val divisor = v2.toLong()\n    if (divisor < 0) { // i.e., divisor >= 2^63:\n        return if (v1 < v2)
ULong(0) else ULong(1)\n    }\n\n    // Optimization - use signed division if both dividend and divisor < 2^63\n    if
(dividend >= 0) {\n        return ULong(dividend / divisor)\n    }\n\n    // Otherwise, approximate the quotient, check,
and correct if necessary.\n    val quotient = ((dividend ushr 1) / divisor) shl 1\n    val rem = dividend - quotient *
divisor\n    return ULong(quotient + if (ULong(rem) >= ULong(divisor)) 1 else 0)\n}\n\n@PublishedApi\n\ninternal
fun ulongRemainder(v1: ULong, v2: ULong): ULong {\n    val dividend = v1.toLong()\n    val divisor =
v2.toLong()\n    if (divisor < 0) { // i.e., divisor >= 2^63:\n        return if (v1 < v2) {\n            v1 // dividend <
divisor\n        } else {\n            v1 - v2 // dividend >= divisor\n        }\n    }\n\n    // Optimization - use signed
modulus if both dividend and divisor < 2^63\n    if (dividend >= 0) {\n        return ULong(dividend % divisor)\n
    }\n\n    // Otherwise, approximate the quotient, check, and correct if necessary.\n    val quotient = ((dividend ushr 1)
/ divisor) shl 1\n    val rem = dividend - quotient * divisor\n    return ULong(rem - if (ULong(rem) >=

```



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ULong(divisor)) divisor else 0)\n}\n\n@PublishedApi\ninternal fun doubleToUInt(v: Double): UInt = when {\n
v.isNaN() -> 0u\n v <= UInt.MIN_VALUE.toDouble() -> UInt.MIN_VALUE\n v >=
UInt.MAX_VALUE.toDouble() -> UInt.MAX_VALUE\n v <= Int.MAX_VALUE -> v.toInt().toUInt()\n else -
> (v - Int.MAX_VALUE).toInt().toUInt() + Int.MAX_VALUE.toUInt() // Int.MAX_VALUE < v <
UInt.MAX_VALUE\n}\n\n@PublishedApi\ninternal fun doubleToULong(v: Double): ULong = when {\n
v.isNaN() -> 0u\n v <= ULong.MIN_VALUE.toDouble() -> ULong.MIN_VALUE\n v >=
ULong.MAX_VALUE.toDouble() -> ULong.MAX_VALUE\n v < Long.MAX_VALUE ->
v.toLong().toULong()\n\n // Real values from Long.MAX_VALUE to (Long.MAX_VALUE + 1) are not
representable in Double, so don't handle them.\n else -> (v - 9223372036854775808.0).toLong().toULong() +
9223372036854775808uL // Long.MAX_VALUE + 1 < v <
ULong.MAX_VALUE\n}\n\n\n@PublishedApi\ninternal fun uintToDouble(v: Int): Double = (v and
Int.MAX_VALUE).toDouble() + (v ushr 31 shl 30).toDouble() * 2\n\n@PublishedApi\ninternal fun
ulongToDouble(v: Long): Double = (v ushr 11).toDouble() * 2048 + (v and 2047)\n\n\ninternal fun
ulongToString(v: Long): String = ulongToString(v, 10)\n\n\ninternal fun ulongToString(v: Long, base: Int): String {\n
if (v >= 0) return v.toString(base)\n\n var quotient = ((v ushr 1) / base) shl 1\n var rem = v - quotient * base\n
if (rem >= base) {\n rem -= base\n quotient += 1\n }\n return quotient.toString(base) +
rem.toString(base)\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\n/**\n * Given an [iterator] function constructs an [Iterable] instance that returns values through
the [Iterator]\n * provided by that function.\n * @sample samples.collections.Iterables.Building.iterable\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable(crossinline iterator: () -> Iterator<T>): Iterable<T>
= object : Iterable<T> {\n override fun iterator(): Iterator<T> = iterator()\n}\n\n/**\n * A wrapper over another
[Iterable] (or any other object that can produce an [Iterator]) that returns\n * an indexing iterator.\n */\n\ninternal class
IndexingIterable<out T>(private val iteratorFactory: () -> Iterator<T>) : Iterable<IndexedValue<T>> {\n override
fun iterator(): Iterator<IndexedValue<T>> = IndexingIterator(iteratorFactory())\n}\n\n\n/**\n * Returns the size of
this iterable if it is known, or `null` otherwise.\n */\n\n@PublishedApi\ninternal fun <T>
Iterable<T>.collectionSizeOrNull(): Int? = if (this is Collection<*>) this.size else null\n\n\n/**\n * Returns the size of
this iterable if it is known, or the specified [default] value otherwise.\n */\n\n@PublishedApi\ninternal fun <T>
Iterable<T>.collectionSizeOrDefault(default: Int): Int = if (this is Collection<*>) this.size else default\n\n\n\n/**\n *
Returns a single list of all elements from all collections in the given collection.\n * @sample
samples.collections.Iterables.Operations.flattenIterable\n */\n\npublic fun <T> Iterable<Iterable<T>>.flatten():
List<T> {\n val result = ArrayList<T>()\n for (element in this) {\n result.addAll(element)\n }\n return
result\n}\n\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from the first values of each pair from this
collection,\n * *second* list is built from the second values of each pair from this collection.\n * @sample
samples.collections.Iterables.Operations.unzipIterable\n */\n\npublic fun <T, R> Iterable<Pair<T, R>>.unzip():
Pair<List<T>, List<R>> {\n val expectedSize = collectionSizeOrDefault(10)\n val listT =
ArrayList<T>(expectedSize)\n val listR = ArrayList<R>(expectedSize)\n for (pair in this) {\n
listT.add(pair.first)\n listR.add(pair.second)\n }\n return listT to listR\n}\n\n", "/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SequencesKt")\n\npackage
kotlin.sequences\n\nimport kotlin.random.Random\n\n\n/**\n * Given an [iterator] function constructs a [Sequence]
that returns values through the [Iterator]\n * provided by that function.\n * The values are evaluated lazily, and the
sequence is potentially infinite.\n */\n * @sample samples.collections.Sequences.Building.sequenceFromIterator\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence(crossinline iterator: () -> Iterator<T>):
Sequence<T> = object : Sequence<T> {\n override fun iterator(): Iterator<T> = iterator()\n}\n\n\n/**\n * Creates a

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sequence that returns all elements from this iterator. The sequence is constrained to be iterated only once.
@sample samples.collections.Sequences.Building.sequenceFromIterator
public fun <T>
Iterator<T>.asSequence(): Sequence<T> = Sequence { this }.constrainOnce()
Creates a sequence that returns the specified values.
@sample samples.collections.Sequences.Building.sequenceOfValues
public fun <T> sequenceOf(vararg elements: T): Sequence<T> = if (elements.isEmpty()) emptySequence() else
elements.asSequence()
Returns an empty sequence.
public fun <T> emptySequence():
Sequence<T> = EmptySequence
private object EmptySequence : Sequence<Nothing>,
DropTakeSequence<Nothing> {
    override fun iterator(): Iterator<Nothing> = EmptyIterator
    override fun
drop(n: Int) = EmptySequence
    override fun take(n: Int) = EmptySequence
Returns this sequence if it's not `null` and the empty sequence otherwise.
@sample
samples.collections.Sequences.Usage.sequenceOrElseEmpty
public inline fun <T> Sequence<T>?.orElseEmpty():
Sequence<T> = this ?: emptySequence()
Returns a sequence that iterates through the elements either of this sequence or, if this sequence turns out to be empty, of the sequence returned by [defaultValue] function.
@sample samples.collections.Sequences.Usage.sequenceIfEmpty
public inline fun
<T> Sequence<T>.ifEmpty(defaultValue: () -> Sequence<T>): Sequence<T> = sequence {
    val iterator =
this@ifEmpty.iterator()
    if (iterator.hasNext()) {
        yieldAll(iterator)
    } else {
        yieldAll(defaultValue())
    }
}
Returns a sequence of all elements from all sequences in this
sequence.
The operation is _intermediate_ and _stateless_.
@sample
samples.collections.Sequences.Transformations.flattenSequenceOfSequences
public fun <T>
Sequence<Sequence<T>>.flatten(): Sequence<T> = flatten { it.iterator() }
Returns a sequence of all
elements from all iterables in this sequence.
The operation is _intermediate_ and _stateless_.
@sample samples.collections.Sequences.Transformations.flattenSequenceOfLists
public fun <T> Sequence<Iterable<T>>.flatten():
Sequence<T> = flatten { it.iterator() }
private fun <T, R> Sequence<T>.flatten(iterator: (T) -> Iterator<R>):
Sequence<R> {
    if (this is TransformingSequence<*, *>) {
        return (this as TransformingSequence<*,
T>).flatten(iterator)
    }
    return FlatteningSequence(this, { it }, iterator)
}
Returns a pair of lists,
where `first` list is built from the first values of each pair from this sequence, `second` list is built from the
second values of each pair from this sequence.
The operation is _terminal_.
@sample
samples.collections.Sequences.Transformations.unzip
public fun <T, R> Sequence<Pair<T, R>>.unzip():
Pair<List<T>, List<R>> {
    val listT = ArrayList<T>()
    val listR = ArrayList<R>()
    for (pair in this) {
        listT.add(pair.first)
        listR.add(pair.second)
    }
    return listT to listR
}
Returns a sequence that
yields elements of this sequence randomly shuffled.
Note that every iteration of the sequence returns
elements in a different order.
The operation is _intermediate_ and _stateful_.
public inline fun <T> Sequence<T>.shuffled(): Sequence<T> = shuffled(Random)
Returns a sequence that yields elements of this sequence randomly shuffled using the specified [random]
instance as the source of randomness.
Note that every iteration of the sequence returns elements in a
different order.
The operation is _intermediate_ and _stateful_.
public inline fun <T>
Sequence<T>.shuffled(random: Random): Sequence<T> = sequence<T> {
    val buffer = toMutableList()
    while (buffer.isNotEmpty()) {
        val j = random.nextInt(buffer.size)
        val last = buffer.removeLast()
        val value = if (j < buffer.size) buffer.set(j, last) else last
        yield(value)
    }
}
A sequence that
returns the values from the underlying [sequence] that either match or do not match the specified [predicate].
@param sendWhen If `true`, values for which the predicate returns `true` are returned. Otherwise, values
for which the predicate returns `false` are returned.
internal class FilteringSequence<T> {
    private val
sequence: Sequence<T>,
    private val sendWhen: Boolean = true,
    private val predicate: (T) -> Boolean
}:
Sequence<T> {
    override fun iterator(): Iterator<T> = object : Iterator<T> {
        val iterator =
sequence.iterator()
        var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue
        var nextItem: T?
= null
        private fun calcNext() {
            while (iterator.hasNext()) {
                val item = iterator.next()

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    if (predicate(item) == sendWhen) {\n        nextItem = item\n        nextState = 1\n    }\n    return\n    }\n    }\n    nextState = 0\n    }\n    override fun next(): T {\n        if (nextState == -1)\n            calcNext()\n            if (nextState == 0)\n                throw NoSuchElementException()\n                val result = nextItem\n                nextItem = null\n                nextState = -1\n                @Suppress("UNCHECKED_CAST")\n                return result as T\n            }\n            override fun hasNext(): Boolean {\n                if (nextState == -1)\n                    calcNext()\n                    return nextState == 1\n                }\n            }\n        }\n        *\n        A sequence which returns the results of applying the given [transformer] function to the values\n        * in the underlying [sequence].\n        *\n        internal class TransformingSequence<T, R>\n        constructor(private val sequence: Sequence<T>, private val transformer: (T) -> R) : Sequence<R> {\n            override fun iterator(): Iterator<R> = object : Iterator<R> {\n                val iterator = sequence.iterator()\n                override fun next(): R {\n                    return transformer(iterator.next())\n                }\n            }\n            override fun hasNext(): Boolean {\n                return iterator.hasNext()\n            }\n        }\n        *\n        internal fun <E> flatten(iterator: (R) -> Iterator<E>): Sequence<E> {\n            return FlatteningSequence<T, R, E>(sequence, transformer, iterator)\n        }\n        *\n        A sequence which returns the results of applying the given [transformer] function to the values\n        * in the underlying [sequence], where the transformer function takes the index of the value in the underlying\n        * sequence along with the value itself.\n        *\n        internal class TransformingIndexedSequence<T, R>\n        constructor(private val sequence: Sequence<T>, private val transformer: (Int, T) -> R) : Sequence<R> {\n            override fun iterator(): Iterator<R> = object : Iterator<R> {\n                val iterator = sequence.iterator()\n                var index = 0\n                override fun next(): R {\n                    return transformer(checkIndexOverflow(index++), iterator.next())\n                }\n            }\n            override fun hasNext(): Boolean {\n                return iterator.hasNext()\n            }\n        }\n        *\n        A sequence which combines values from the underlying [sequence] with their indices and returns them as\n        * [IndexedValue] objects.\n        *\n        internal class IndexingSequence<T>\n        constructor(private val sequence: Sequence<T>) : Sequence<IndexedValue<T>> {\n            override fun iterator(): Iterator<IndexedValue<T>> = object : Iterator<IndexedValue<T>> {\n                val iterator = sequence.iterator()\n                var index = 0\n                override fun next(): IndexedValue<T> {\n                    return IndexedValue(checkIndexOverflow(index++), iterator.next())\n                }\n            }\n            override fun hasNext(): Boolean {\n                return iterator.hasNext()\n            }\n        }\n        *\n        A sequence which takes the values from two parallel underlying sequences, passes them to the given\n        * [transform] function and returns the values returned by that function. The sequence stops returning\n        * values as soon as one of the underlying sequences stops returning values.\n        *\n        internal class MergingSequence<T1, T2, V>\n        constructor(\n            private val sequence1: Sequence<T1>,\n            private val sequence2: Sequence<T2>,\n            private val transform: (T1, T2) -> V\n        ) : Sequence<V> {\n            override fun iterator(): Iterator<V> = object : Iterator<V> {\n                val iterator1 = sequence1.iterator()\n                val iterator2 = sequence2.iterator()\n                override fun next(): V {\n                    return transform(iterator1.next(), iterator2.next())\n                }\n                override fun hasNext(): Boolean {\n                    return iterator1.hasNext() && iterator2.hasNext()\n                }\n            }\n        }\n        *\n        internal class FlatteningSequence<T, R, E>\n        constructor(\n            private val sequence: Sequence<T>,\n            private val transformer: (T) -> R,\n            private val iterator: (R) -> Iterator<E>\n        ) : Sequence<E> {\n            override fun iterator(): Iterator<E> = object : Iterator<E> {\n                val iterator = sequence.iterator()\n                var itemIterator: Iterator<E>? = null\n                override fun next(): E {\n                    if (!ensureItemIterator())\n                        throw NoSuchElementException()\n                        return itemIterator!!.next()\n                    }\n                    override fun hasNext(): Boolean {\n                        return ensureItemIterator()\n                    }\n                    private fun ensureItemIterator(): Boolean {\n                        if (itemIterator?.hasNext() == false)\n                            itemIterator = null\n                            while (itemIterator == null) {\n                                if (!iterator.hasNext())\n                                    return false\n                                } else {\n                                    val element = iterator.next()\n                                    val nextItemIterator = iterator(transformer(element))\n                                }\n                            }\n                            if (nextItemIterator.hasNext())\n                                itemIterator = nextItemIterator\n                                return true\n                            }\n                        }\n                    }\n                }\n                return true\n            }\n        }\n        *\n        internal fun <T, C, R> flatMapIndexed(source: Sequence<T>, transform: (Int, T) -> C, iterator: (C) -> Iterator<R>): Sequence<R> =\n        sequence {\n            var index = 0\n            for (element in source) {\n                val result = transform(checkIndexOverflow(index++), element)\n                yieldAll(iterator(result))\n            }\n        }\n        *\n        A sequence that supports drop(n) and take(n) operations\n        *\n        internal interface DropTakeSequence<T> : Sequence<T> {\n            fun drop(n: Int): Sequence<T>\n            fun take(n: Int): Sequence<T>\n        }\n        *\n        A sequence that skips [startIndex] values from the underlying [sequence]\n        * and

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stops returning values right before [endIndex], i.e. stops at `endIndex - 1`
internal class SubSequence<T>(\n
private val sequence: Sequence<T>,\n
private val startIndex: Int,\n
private val endIndex: Int)\n
): Sequence<T>,\n
DropTakeSequence<T> {\n
init {\n
require(startIndex >= 0) { \"startIndex should be non-negative, but is\n
$startIndex\" }\n
require(endIndex >= 0) { \"endIndex should be non-negative, but is\n
$endIndex\" }\n
require(endIndex >= startIndex) { \"endIndex should be not less than\n
startIndex, but was $endIndex < $startIndex\" }\n
}\n
}\n
private val count: Int get() = endIndex - startIndex\n
override fun drop(n: Int): Sequence<T> = if (n >= count) emptySequence()\n
else SubSequence(sequence, startIndex + n, endIndex)\n
override fun take(n: Int): Sequence<T> = if (n >= count) this else\n
SubSequence(sequence, startIndex, startIndex + n)\n
override fun iterator(): object : Iterator<T> {\n
val iterator = sequence.iterator()\n
var position = 0\n
// Shouldn't be called from constructor to avoid premature iteration\n
private fun drop() {\n
while (position < startIndex && iterator.hasNext()) {\n
iterator.next()\n
position++\n
}\n
}\n
override fun hasNext(): Boolean {\n
drop()\n
return (position < endIndex) && iterator.hasNext()\n
}\n
override fun next(): T {\n
drop()\n
if (position >= endIndex) throw NoSuchElementException()\n
position++\n
return iterator.next()\n
}\n
}\n
}\n
} * A sequence that returns at most [count] values from the underlying [sequence],\n
and stops returning values as soon as that count is reached.
internal class TakeSequence<T>(\n
private val sequence: Sequence<T>,\n
private val count: Int)\n
): Sequence<T>,\n
DropTakeSequence<T> {\n
init {\n
require(count >= 0) { \"count must be non-negative, but was $count.\" }\n
}\n
}\n
override fun drop(n: Int): Sequence<T> = if (n >= count) emptySequence()\n
else\n
SubSequence(sequence, n, count)\n
override fun take(n: Int): Sequence<T> = if (n >= count) this else\n
TakeSequence(sequence, n)\n
override fun iterator(): Iterator<T> = object : Iterator<T> {\n
var left = count\n
val iterator = sequence.iterator()\n
override fun next(): T {\n
if (left == 0) throw NoSuchElementException()\n
left--\n
return iterator.next()\n
}\n
}\n
}\n
}\n
} * A sequence that returns values from the underlying [sequence] while the\n
[predicate] function returns `true`, and stops returning values once the\n
function returns `false` for the next element.
internal class TakeWhileSequence<T>(\n
private val sequence: Sequence<T>,\n
private val predicate: (T) -> Boolean)\n
): Sequence<T> {\n
override fun iterator(): Iterator<T> = object : Iterator<T> {\n
val iterator = sequence.iterator()\n
var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue\n
var nextItem: T? = null\n
private fun calcNext() {\n
if (iterator.hasNext()) {\n
val item = iterator.next()\n
if (predicate(item)) {\n
nextState = 1\n
nextItem = item\n
return\n
}\n
nextState = 0\n
}\n
}\n
override fun next(): T {\n
if (nextState == -1) calcNext() // will change nextState\n
if (nextState == 0) throw NoSuchElementException()\n
@Suppress(\"UNCHECKED_CAST\")\n
val result = nextItem as T\n
// Clean next to avoid keeping reference on yielded instance\n
nextItem = null\n
nextState = -1\n
return result\n
}\n
}\n
}\n
}\n
} * A sequence that skips the specified number of values from the underlying\n
[sequence] and returns all values after that.
internal class DropSequence<T>(\n
private val sequence: Sequence<T>,\n
private val count: Int)\n
): Sequence<T>,\n
DropTakeSequence<T> {\n
init {\n
require(count >= 0) { \"count must be non-negative, but was $count.\" }\n
}\n
}\n
override fun drop(n: Int): Sequence<T> = (count + n).let { n1 -> if (n1 < 0)\n
DropSequence(this, n) else DropSequence(sequence, n1) }\n
override fun take(n: Int): Sequence<T> = (count + n).let { n1 -> if (n1 < 0)\n
TakeSequence(this, n) else SubSequence(sequence, count, n1) }\n
}\n
}\n
}\n
}\n
} * A sequence that skips the values from the underlying [sequence] while the\n
given [predicate] returns `true` and returns all values after that.
internal class

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DropWhileSequence<T>\nconstructor(\n    private val sequence: Sequence<T>,\n    private val predicate: (T) ->
Boolean)\n): Sequence<T> {\n\n    override fun iterator(): Iterator<T> = object : Iterator<T> {\n        val iterator =
sequence.iterator()\n        var dropState: Int = -1 // -1 for not dropping, 1 for nextItem, 0 for normal iteration\n
var nextItem: T? = null\n\n        private fun drop() {\n            while (iterator.hasNext()) {\n                val item =
iterator.next()\n                if (!predicate(item)) {\n                    nextItem = item\n                    dropState = 1\n
return\n                }\n            }\n            dropState = 0\n        }\n\n        override fun next(): T {\n            if
(dropState == -1)\n                drop()\n            if (dropState == 1) {\n                @Suppress("UNCHECKED_CAST")\n                val result = nextItem as T\n                nextItem = null\n
dropState = 0\n                return result\n            }\n            return iterator.next()\n        }\n\n        override fun
hasNext(): Boolean {\n            if (dropState == -1)\n                drop()\n            return dropState == 1 ||
iterator.hasNext()\n        }\n    }\n}\n\ninternal class DistinctSequence<T, K>(private val source: Sequence<T>,\nprivate val keySelector: (T) -> K) : Sequence<T> {\n    override fun iterator(): Iterator<T> =
DistinctIterator(source.iterator(), keySelector)\n}\n\nprivate class DistinctIterator<T, K>(private val source:
Iterator<T>,\nprivate val keySelector: (T) -> K) : AbstractIterator<T>() {\n    private val observed =
HashSet<K>()\n    override fun computeNext() {\n        while (source.hasNext()) {\n            val next =
source.next()\n            val key = keySelector(next)\n            if (observed.add(key)) {\n                setNext(next)\n
return\n            }\n        }\n        done()\n    }\n}\n\nprivate class GeneratorSequence<T : Any>(private val
getInitialValue: () -> T?,\nprivate val getNextValue: (T) -> T?) : Sequence<T> {\n    override fun iterator():
Iterator<T> = object : Iterator<T> {\n        var nextItem: T? = null\n        var nextState: Int = -2 // -2 for initial
unknown, -1 for next unknown, 0 for done, 1 for continue\n\n        private fun calcNext() {\n            nextItem = if
(nextState == -2) getInitialValue() else getNextValue(nextItem!!)\n            nextState = if (nextItem == null) 0 else
1\n        }\n\n        override fun next(): T {\n            if (nextState < 0)\n                calcNext()\n            if (nextState
== 0)\n                throw NoSuchElementException()\n            val result = nextItem as T\n            // Do not clean
nextItem (to avoid keeping reference on yielded instance) -- need to keep state for getNextValue\n            nextState
= -1\n            return result\n        }\n\n        override fun hasNext(): Boolean {\n            if (nextState < 0)\n
calcNext()\n            return nextState == 1\n        }\n    }\n}\n\n/**\n * Returns a wrapper sequence that provides
values of this sequence, but ensures it can be iterated only one time.\n * The operation is _intermediate_ and
_stateless_.\n * [IllegalStateException] is thrown on iterating the returned sequence for the second time and the
following times.\n */\n\npublic fun <T> Sequence<T>.constrainOnce(): Sequence<T> {\n    // as? does not work
in js\n    //return this as? ConstrainedOnceSequence<T> ?: ConstrainedOnceSequence(this)\n    return if (this is
ConstrainedOnceSequence<T>) this else ConstrainedOnceSequence(this)\n}\n\n/**\n * Returns a sequence which
invokes the function to calculate the next value on each iteration until the function returns `null`.\n * The
returned sequence is constrained to be iterated only once.\n * @see constrainOnce\n */\n\n@see
kotlin.sequences.sequence\n\n@sample samples.collections.Sequences.Building.generateSequence\n\npublic
fun <T : Any> generateSequence(nextFunction: () -> T?): Sequence<T> {\n    return
GeneratorSequence(nextFunction, { nextFunction() }).constrainOnce()\n}\n\n/**\n * Returns a sequence defined by
the starting value [seed] and the function [nextFunction],\n * which is invoked to calculate the next value based on
the previous one on each iteration.\n * The sequence produces values until it encounters first `null` value.\n * If
[seed] is `null`, an empty sequence is produced.\n * The sequence can be iterated multiple times, each time
starting with [seed].\n * @see kotlin.sequences.sequence\n * @sample
samples.collections.Sequences.Building.generateSequenceWithSeed\n
*/\n\n@kotlin.internal.LowPriorityInOverloadResolution\n\npublic fun <T : Any> generateSequence(seed: T?,
nextFunction: (T) -> T?): Sequence<T> =\n    if (seed == null)\n        EmptySequence\n    else\n        GeneratorSequence({ seed }, nextFunction)\n}\n\n/**\n * Returns a sequence defined by the function [seedFunction],
which is invoked to produce the starting value,\n * and the [nextFunction], which is invoked to calculate the next
value based on the previous one on each iteration.\n * The sequence produces values until it encounters first
`null` value.\n * If [seedFunction] returns `null`, an empty sequence is produced.\n * The sequence can be
iterated multiple times.\n * @see kotlin.sequences.sequence\n * @sample

```

```

samples.collections.Sequences.Building.generateSequenceWithLazySeed\n *^\npublic fun <T : Any>
generateSequence(seedFunction: () -> T?, nextFunction: (T) -> T?): Sequence<T> =\n
GeneratorSequence(seedFunction, nextFunction)\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("\PreconditionsKt")\n\npackage
kotlin\n\nimport kotlin.contracts.contract\n\n/**\n * Throws an [IllegalArgumentException] if the [value] is false.\n
*/\n * @sample samples.misc.Preconditions.failRequireWithLazyMessage\n *^\n@kotlin.internal.InlineOnly\n\npublic
inline fun require(value: Boolean): Unit {\n contract {\n returns() implies value\n }\n require(value) {\n
"Failed requirement." }\n}\n\n/**\n * Throws an [IllegalArgumentException] with the result of calling
[lazyMessage] if the [value] is false.\n
*/\n * @sample samples.misc.Preconditions.failRequireWithLazyMessage\n
*/\n@kotlin.internal.InlineOnly\n\npublic inline fun require(value: Boolean, lazyMessage: () -> Any): Unit {\n
contract {\n returns() implies value\n }\n if (!value) {\n val message = lazyMessage()\n throw
IllegalArgumentException(message.toString())\n }\n}\n\n/**\n * Throws an [IllegalArgumentException] if the
[value] is null. Otherwise returns the not null value.\n
*/\n@kotlin.internal.InlineOnly\n\npublic inline fun <T : Any>
requireNotNull(value: T?): T {\n contract {\n returns() implies (value != null)\n }\n return
requireNotNull(value) {"Required value was null." }\n}\n\n/**\n * Throws an [IllegalArgumentException] with
the result of calling [lazyMessage] if the [value] is null. Otherwise\n * returns the not null value.\n
*/\n * @sample
samples.misc.Preconditions.failRequireNotNullWithLazyMessage\n *^\n@kotlin.internal.InlineOnly\n\npublic inline
fun <T : Any> requireNotNull(value: T?, lazyMessage: () -> Any): T {\n contract {\n returns() implies (value
!= null)\n }\n\n if (value == null) {\n val message = lazyMessage()\n throw
IllegalArgumentException(message.toString())\n } else {\n return value\n }\n}\n\n/**\n * Throws an
[IllegalStateException] if the [value] is false.\n
*/\n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n *^\n@kotlin.internal.InlineOnly\n\npublic inline fun
check(value: Boolean): Unit {\n contract {\n returns() implies value\n }\n check(value) {"Check failed."
}\n}\n\n/**\n * Throws an [IllegalStateException] with the result of calling [lazyMessage] if the [value] is false.\n
*/\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n *^\n@kotlin.internal.InlineOnly\n\npublic
inline fun check(value: Boolean, lazyMessage: () -> Any): Unit {\n contract {\n returns() implies value\n }\n
if (!value) {\n val message = lazyMessage()\n throw IllegalStateException(message.toString())\n
}\n}\n\n/**\n * Throws an [IllegalStateException] if the [value] is null. Otherwise\n * returns the not null value.\n
*/\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n *^\n@kotlin.internal.InlineOnly\n\npublic
inline fun <T : Any> checkNotNull(value: T?): T {\n contract {\n returns() implies (value != null)\n }\n
return checkNotNull(value) {"Required value was null." }\n}\n\n/**\n * Throws an [IllegalStateException] with
the result of calling [lazyMessage] if the [value] is null. Otherwise\n * returns the not null value.\n
*/\n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n *^\n@kotlin.internal.InlineOnly\n\npublic inline fun <T :
Any> checkNotNull(value: T?, lazyMessage: () -> Any): T {\n contract {\n returns() implies (value != null)\n
}\n\n if (value == null) {\n val message = lazyMessage()\n throw
IllegalStateException(message.toString())\n } else {\n return value\n }\n}\n\n/**\n * Throws an
[IllegalStateException] with the given [message].\n
*/\n * @sample samples.misc.Preconditions.failWithError\n
*/\n@kotlin.internal.InlineOnly\n\npublic inline fun error(message: Any): Nothing = throw
IllegalStateException(message.toString())\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*/\n\npackage kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED
by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport
kotlin.js.*\nimport primitiveArrayConcat\nimport withType\nimport kotlin.ranges.contains\nimport
kotlin.ranges.reversed\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n
*/\n * @sample
samples.collections.Collections.Elements.elementAt\n *^\npublic actual fun <T> Array<out T>.elementAt(index:

```

```

Int): T { \n  return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size}")
} \n} \n \n /** \n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array. \n * \n * @sample samples.collections.Collections.Elements.elementAt \n * \n public
actual fun ByteArray.elementAt(index: Int): Byte { \n  return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size") } \n} \n \n /** \n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array. \n * \n * @sample
samples.collections.Collections.Elements.elementAt \n * \n public actual fun ShortArray.elementAt(index: Int): Short
{ \n  return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size")
} \n} \n \n /** \n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array. \n * \n * @sample samples.collections.Collections.Elements.elementAt \n * \n public
actual fun IntArray.elementAt(index: Int): Int { \n  return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size") } \n} \n \n /** \n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array. \n * \n * @sample
samples.collections.Collections.Elements.elementAt \n * \n public actual fun LongArray.elementAt(index: Int): Long
{ \n  return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size")
} \n} \n \n /** \n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array. \n * \n * @sample samples.collections.Collections.Elements.elementAt \n * \n public
actual fun FloatArray.elementAt(index: Int): Float { \n  return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size") } \n} \n \n /** \n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array. \n * \n * @sample
samples.collections.Collections.Elements.elementAt \n * \n public actual fun DoubleArray.elementAt(index: Int):
Double { \n  return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size")
} \n} \n \n /** \n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array. \n * \n * @sample samples.collections.Collections.Elements.elementAt \n * \n public
actual fun BooleanArray.elementAt(index: Int): Boolean { \n  return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size") } \n} \n \n /** \n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array. \n * \n * @sample
samples.collections.Collections.Elements.elementAt \n * \n public actual fun CharArray.elementAt(index: Int): Char
{ \n  return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size")
} \n} \n \n /** \n * Returns a [List] that wraps the original array. \n * \n public actual fun <T> Array<out T>.asList():
List<T> { \n  return ArrayList<T>(this.unsafeCast<Array<Any?>>()) \n} \n \n /** \n * Returns a [List] that wraps the
original array. \n * \n @kotlin.internal.InlineOnly \n public actual inline fun ByteArray.asList(): List<Byte> { \n
return this.unsafeCast<Array<Byte>>().asList() \n} \n \n /** \n * Returns a [List] that wraps the original array. \n
* \n @kotlin.internal.InlineOnly \n public actual inline fun ShortArray.asList(): List<Short> { \n  return
this.unsafeCast<Array<Short>>().asList() \n} \n \n /** \n * Returns a [List] that wraps the original array. \n
* \n @kotlin.internal.InlineOnly \n public actual inline fun IntArray.asList(): List<Int> { \n  return
this.unsafeCast<Array<Int>>().asList() \n} \n \n /** \n * Returns a [List] that wraps the original array. \n
* \n @kotlin.internal.InlineOnly \n public actual inline fun LongArray.asList(): List<Long> { \n  return
this.unsafeCast<Array<Long>>().asList() \n} \n \n /** \n * Returns a [List] that wraps the original array. \n
* \n @kotlin.internal.InlineOnly \n public actual inline fun FloatArray.asList(): List<Float> { \n  return
this.unsafeCast<Array<Float>>().asList() \n} \n \n /** \n * Returns a [List] that wraps the original array. \n
* \n @kotlin.internal.InlineOnly \n public actual inline fun DoubleArray.asList(): List<Double> { \n  return
this.unsafeCast<Array<Double>>().asList() \n} \n \n /** \n * Returns a [List] that wraps the original array. \n
* \n @kotlin.internal.InlineOnly \n public actual inline fun BooleanArray.asList(): List<Boolean> { \n  return
this.unsafeCast<Array<Boolean>>().asList() \n} \n \n /** \n * Returns a [List] that wraps the original array. \n
* \n public actual fun CharArray.asList(): List<Char> { \n  return object : AbstractList<Char>(), RandomAccess { \n
override val size: Int get() = this@asList.size \n      override fun isEmpty(): Boolean = this@asList.isEmpty() \n
override fun contains(element: Char): Boolean = this@asList.contains(element) \n      override fun get(index: Int):

```

```

Char {
    AbstractList.checkElementIndex(index, size) return this@asList[index]
}
override fun indexOf(element: Char): Int {
    @Suppress("USELESS_CAST") if ((element as Any?) !is Char) return -1
    return this@asList.indexOf(element)
}
override fun lastIndexOf(element: Char): Int {
    @Suppress("USELESS_CAST") if ((element as Any?) !is Char) return -1
    return this@asList.lastIndexOf(element)
}
}

/** Returns `true` if the two specified arrays are *deeply* equal to one another, i.e. contain the same number of the same elements in the same order. If two corresponding elements are nested arrays, they are also compared deeply. If any of arrays contains itself on any nesting level the behavior is undefined. The elements of other types are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
 */
@SinceKotlin("1.1")@kotlin.internal.LowPriorityInOverloadResolution public actual infix fun <T> Array<out T>.contentDeepEquals(other: Array<out T>): Boolean {
    return this.contentDeepEquals(other)
}

/** Returns `true` if the two specified arrays are *deeply* equal to one another, i.e. contain the same number of the same elements in the same order. The specified arrays are also considered deeply equal if both are `null`. If two corresponding elements are nested arrays, they are also compared deeply. If any of arrays contains itself on any nesting level the behavior is undefined. The elements of other types are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
 */
@SinceKotlin("1.4")@library("arrayDeepEquals") public actual infix fun <T> Array<out T>?.contentDeepEquals(other: Array<out T>?): Boolean {
    definedExternally
}

/** Returns a hash code based on the contents of this array as if it is [List]. Nested arrays are treated as lists too. If any of arrays contains itself on any nesting level the behavior is undefined.
 */
@SinceKotlin("1.1")@kotlin.internal.LowPriorityInOverloadResolution public actual fun <T> Array<out T>.contentDeepHashCode(): Int {
    return this.contentDeepHashCode()
}

/** Returns a hash code based on the contents of this array as if it is [List]. Nested arrays are treated as lists too. If any of arrays contains itself on any nesting level the behavior is undefined.
 */
@SinceKotlin("1.4")@library("arrayDeepHashCode") public actual fun <T> Array<out T>?.contentDeepHashCode(): Int {
    definedExternally
}

/** Returns a string representation of the contents of this array as if it is a [List]. Nested arrays are treated as lists too. If any of arrays contains itself on any nesting level that reference is rendered as `[...]` to prevent recursion.
 @sample samples.collections.Arrays.ContentOperations.contentDeepToString
 */
@SinceKotlin("1.1")@kotlin.internal.LowPriorityInOverloadResolution public actual fun <T> Array<out T>.contentDeepToString(): String {
    return this.contentDeepToString()
}

/** Returns a string representation of the contents of this array as if it is a [List]. Nested arrays are treated as lists too. If any of arrays contains itself on any nesting level that reference is rendered as `[...]` to prevent recursion.
 @sample samples.collections.Arrays.ContentOperations.contentDeepToString
 */
@SinceKotlin("1.4")@library("arrayDeepToString") public actual fun <T> Array<out T>?.contentDeepToString(): String {
    definedExternally
}

/** Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order. The elements are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
 @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")
 @SinceKotlin("1.1")@DeprecatedSinceKotlin(hiddenSince = "1.4") public actual infix fun <T> Array<out T>.contentEquals(other: Array<out T>): Boolean {
    return this.contentEquals(other)
}

/** Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order. The elements are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
 @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")
 @SinceKotlin("1.1")@DeprecatedSinceKotlin(hiddenSince = "1.4") public actual infix fun

```



```

ByteArray.contentEquals(other: ByteArray): Boolean {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are *structurally* equal to one another,
 * i.e. contain the same number of the same elements in the same order.
 * The elements are compared for equality with the [equals][Any.equals]
 * function.
 * For floating point numbers it means that `NaN` is equal to itself and
 * `-0.0` is not equal to `0.0`.
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")
@SinceKotlin("1.1")
@DeprecatedSinceKotlin(hiddenSince = "1.4")
public actual infix fun
ShortArray.contentEquals(other: ShortArray): Boolean {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are *structurally* equal to one another,
 * i.e. contain the same number of the same elements in the same order.
 * The elements are compared for equality with the [equals][Any.equals]
 * function.
 * For floating point numbers it means that `NaN` is equal to itself and
 * `-0.0` is not equal to `0.0`.
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")
@SinceKotlin("1.1")
@DeprecatedSinceKotlin(hiddenSince = "1.4")
public actual infix fun
IntArray.contentEquals(other: IntArray): Boolean {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are *structurally* equal to one another,
 * i.e. contain the same number of the same elements in the same order.
 * The elements are compared for equality with the [equals][Any.equals]
 * function.
 * For floating point numbers it means that `NaN` is equal to itself and
 * `-0.0` is not equal to `0.0`.
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")
@SinceKotlin("1.1")
@DeprecatedSinceKotlin(hiddenSince = "1.4")
public actual infix fun
LongArray.contentEquals(other: LongArray): Boolean {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are *structurally* equal to one another,
 * i.e. contain the same number of the same elements in the same order.
 * The elements are compared for equality with the [equals][Any.equals]
 * function.
 * For floating point numbers it means that `NaN` is equal to itself and
 * `-0.0` is not equal to `0.0`.
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")
@SinceKotlin("1.1")
@DeprecatedSinceKotlin(hiddenSince = "1.4")
public actual infix fun
FloatArray.contentEquals(other: FloatArray): Boolean {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are *structurally* equal to one another,
 * i.e. contain the same number of the same elements in the same order.
 * The elements are compared for equality with the [equals][Any.equals]
 * function.
 * For floating point numbers it means that `NaN` is equal to itself and
 * `-0.0` is not equal to `0.0`.
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")
@SinceKotlin("1.1")
@DeprecatedSinceKotlin(hiddenSince = "1.4")
public actual infix fun
DoubleArray.contentEquals(other: DoubleArray): Boolean {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are *structurally* equal to one another,
 * i.e. contain the same number of the same elements in the same order.
 * The elements are compared for equality with the [equals][Any.equals]
 * function.
 * For floating point numbers it means that `NaN` is equal to itself and
 * `-0.0` is not equal to `0.0`.
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")
@SinceKotlin("1.1")
@DeprecatedSinceKotlin(hiddenSince = "1.4")
public actual infix fun
BooleanArray.contentEquals(other: BooleanArray): Boolean {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are *structurally* equal to one another,
 * i.e. contain the same number of the same elements in the same order.
 * The elements are compared for equality with the [equals][Any.equals]
 * function.
 * For floating point numbers it means that `NaN` is equal to itself and
 * `-0.0` is not equal to `0.0`.
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")
@SinceKotlin("1.1")
@DeprecatedSinceKotlin(hiddenSince = "1.4")
public actual infix fun
CharArray.contentEquals(other: CharArray): Boolean {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are *structurally* equal to one another,
 * i.e. contain the same number of the same elements in the same order.
 * The elements are compared for equality with the [equals][Any.equals]
 * function.
 * For floating point numbers it means that `NaN` is equal to itself and
 * `-0.0` is not equal to `0.0`.
 */
@SinceKotlin("1.4")
@library("arrayEquals")
public actual infix fun <T> Array<out
T>?.contentEquals(other: Array<out T>?): Boolean {
    definedExternally
}

/**
 * Returns `true` if the two

```

specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order. The elements are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

```
*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun ByteArray?.contentEquals(other: ByteArray?): Boolean {\n    definedExternally\n}\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another, i.e. contain the same number of the same elements in the same order.\n * The elements are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
```

```
*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun ShortArray?.contentEquals(other: ShortArray?): Boolean {\n    definedExternally\n}\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another, i.e. contain the same number of the same elements in the same order.\n * The elements are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
```

```
*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun IntArray?.contentEquals(other: IntArray?): Boolean {\n    definedExternally\n}\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another, i.e. contain the same number of the same elements in the same order.\n * The elements are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
```

```
*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun LongArray?.contentEquals(other: LongArray?): Boolean {\n    definedExternally\n}\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another, i.e. contain the same number of the same elements in the same order.\n * The elements are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
```

```
*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun FloatArray?.contentEquals(other: FloatArray?): Boolean {\n    definedExternally\n}\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another, i.e. contain the same number of the same elements in the same order.\n * The elements are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
```

```
*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun DoubleArray?.contentEquals(other: DoubleArray?): Boolean {\n    definedExternally\n}\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another, i.e. contain the same number of the same elements in the same order.\n * The elements are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
```

```
*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun BooleanArray?.contentEquals(other: BooleanArray?): Boolean {\n    definedExternally\n}\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another, i.e. contain the same number of the same elements in the same order.\n * The elements are compared for equality with the [equals][Any.equals] function. For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
```

```
*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun CharArray?.contentEquals(other: CharArray?): Boolean {\n    definedExternally\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation\nwarning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun
```

```
<T>\nArray<out T>.contentHashCode(): Int {\n    return this.contentHashCode()\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation\nwarning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun
```

```
ByteArray.contentHashCode(): Int {\n    return this.contentHashCode()\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation\nwarning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun
```

ShortArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun

IntArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun

LongArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun

FloatArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun

DoubleArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun

BooleanArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun

CharArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun

<T> Array<out T>?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun

ByteArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun

ShortArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun

IntArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun

LongArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun

FloatArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun

DoubleArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun

BooleanArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun

CharArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n */\n\n * @sample

samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun

<T> Array<out T>.contentToString(): String {\n return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n */\n\n * @sample

samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun

ByteArray.contentToString(): String {\n return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n */\n\n * @sample

samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic

```

actual fun ShortArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun IntArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun LongArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun FloatArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun DoubleArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun BooleanArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun CharArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun <T> Array<out T>?.contentToString():
String {\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun ByteArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun ShortArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun IntArray?.contentToString(): String {\n
definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun LongArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun FloatArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun DoubleArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n

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*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun BooleanArray?.contentToString():
String {\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun CharArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that
array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it
overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset
the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of
the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this
array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex]
or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws
IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified
[destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the
[destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset:
Int = 0, startIndex: Int = 0, endIndex: Int = size): Array<T> {\n  arrayCopy(this, destination, destinationOffset,
startIndex, endIndex)\n  return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination]
array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the
subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n *
@param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the
beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the
subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices
range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun ByteArray.copyInto(destination: ByteArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): ByteArray {\n  arrayCopy(this.unsafeCast<Array<Byte>>(),
destination.unsafeCast<Array<Byte>>(), destinationOffset, startIndex, endIndex)\n  return destination\n}\n\n/**\n
* Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass
the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n
* \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination]
array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by
default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n
* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range
of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange
doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int =
0, startIndex: Int = 0, endIndex: Int = size): ShortArray {\n  arrayCopy(this.unsafeCast<Array<Short>>(),
destination.unsafeCast<Array<Short>>(), destinationOffset, startIndex, endIndex)\n  return destination\n}\n\n/**\n
* Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass
the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n
* \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination]
array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by
default.\n *

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@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n

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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): IntArray {\n    arrayCopy(this.unsafeCast<Array<Int>>(),
destination.unsafeCast<Array<Int>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): LongArray {\n    arrayCopy(this.unsafeCast<Array<Long>>(),
destination.unsafeCast<Array<Long>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): FloatArray {\n    arrayCopy(this.unsafeCast<Array<Float>>(),
destination.unsafeCast<Array<Float>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun DoubleArray.copyInto(destination: DoubleArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): DoubleArray {\n    arrayCopy(this.unsafeCast<Array<Double>>(),
destination.unsafeCast<Array<Double>>(), destinationOffset, startIndex, endIndex)\n    return

```

destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n

```
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun BooleanArray.copyInto(destination: BooleanArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): BooleanArray {\n
```

```
arrayCopy(this.unsafeCast<Array<Boolean>>(), destination.unsafeCast<Array<Boolean>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

```
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun CharArray.copyInto(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): CharArray {\n
```

```
arrayCopy(this.unsafeCast<Array<Char>>(), destination.unsafeCast<Array<Char>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline fun <T> Array<out T>.copyOf(): Array<T> {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun ByteArray.copyOfOf(): ByteArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun ShortArray.copyOfOf(): ShortArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun IntArray.copyOfOf(): IntArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
```

```
*\npublic actual fun LongArray.copyOfOf(): LongArray {\n return withType("LongArray", this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun FloatArray.copyOfOf(): FloatArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun DoubleArray.copyOfOf(): DoubleArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
```

```

samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\npublic actual fun BooleanArray.copyOf():
BooleanArray {\n  return withType(\n"BooleanArray\n", this.asDynamic().slice())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\npublic actual fun CharArray.copyOf(): CharArray {\n  return withType(\n"CharArray\n",
this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given
[newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize]
is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater
than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual fun
ByteArray.copyOf(newSize: Int): ByteArray {\n  require(newSize >= 0) { \n"Invalid new array size: $newSize.\n"
}\n  return fillFrom(this, ByteArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original
array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if
necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
[newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
*\npublic actual fun ShortArray.copyOf(newSize: Int): ShortArray {\n  require(newSize >= 0) { \n"Invalid new
array size: $newSize.\n" }\n  return fillFrom(this, ShortArray(newSize))\n}\n\n/**\n * Returns new array which is a
copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with
zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated
to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array
are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual fun
IntArray.copyOf(newSize: Int): IntArray {\n  require(newSize >= 0) { \n"Invalid new array size: $newSize.\n" }\n
return fillFrom(this, IntArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array,
resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n
* \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If
[newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero
values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual
fun LongArray.copyOf(newSize: Int): LongArray {\n  require(newSize >= 0) { \n"Invalid new array size:
$newSize.\n" }\n  return withType(\n"LongArray\n", arrayCopyResize(this, newSize, 0L))\n}\n\n/**\n * Returns new
array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded
at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy
array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements
in the copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual fun
FloatArray.copyOf(newSize: Int): FloatArray {\n  require(newSize >= 0) { \n"Invalid new array size: $newSize.\n"
}\n  return fillFrom(this, FloatArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original
array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if
necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
[newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
*\npublic actual fun DoubleArray.copyOf(newSize: Int): DoubleArray {\n  require(newSize >= 0) { \n"Invalid new
array size: $newSize.\n" }\n  return fillFrom(this, DoubleArray(newSize))\n}\n\n/**\n * Returns new array which is
a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end
with `false` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is
truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the
copy array are filled with `false` values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual fun

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BooleanArray.copyOf(newSize: Int): BooleanArray {\n  require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n  return withType(\"BooleanArray\", arrayCopyResize(this, newSize, false))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with null char (`\\u0000`) values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with null char (`\\u0000`) values.\n * \n * @sample\n samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\n\npublic actual fun\n\nCharArray.copyOf(newSize: Int): CharArray {\n  require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n  return withType(\"CharArray\", fillFrom(this, CharArray(newSize)))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with `null` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `null` values.\n * \n * @sample\n samples.collections.Arrays.CopyOfOperations.resizingCopyOf\n */\n\n@Suppress(\"ACTUAL_WITHOUT_EXPECT\")\npublic actual fun <T> Array<out T>.copyOf(newSize: Int): Array<T?> {\n  require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n  return arrayCopyResize(this, newSize, null)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\n@Suppress(\"ACTUAL_WITHOUT_EXPECT\")\npublic actual fun <T> Array<out T>.copyOfRange(fromIndex: Int, toIndex: Int): Array<T> {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\npublic actual fun\n\nByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\npublic actual fun\n\nShortArray.copyOfRange(fromIndex: Int, toIndex: Int): ShortArray {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\npublic actual fun\n\nIntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\npublic actual fun\n\nLongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return withType(\"LongArray\", this.asDynamic().slice(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified

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range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\npublic actual fun FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\npublic actual fun DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\npublic actual fun BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return withType("BooleanArray", this.asDynamic().slice(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\npublic actual fun CharArray.copyOfRange(fromIndex: Int, toIndex: Int): CharArray {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return withType("CharArray", this.asDynamic().slice(fromIndex, toIndex))\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun <T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun ByteArray.fill(element: Byte, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun ShortArray.fill(element: Short, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param

fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n

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*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic\nactual fun IntArray.fill(element: Int, fromIndex: Int = 0, toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
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*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic\nactual fun LongArray.fill(element: Long, fromIndex: Int = 0, toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
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*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic\nactual fun FloatArray.fill(element: Float, fromIndex: Int = 0, toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
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*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic\nactual fun DoubleArray.fill(element: Double, fromIndex: Int = 0, toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
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*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic\nactual fun BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
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*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic\nactual fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n
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*\n@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline operator
fun <T> Array<out T>.plus(element: T): Array<T> {\n    return
this.asDynamic().concat(arrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original
array and then the given [element].\n */\n*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator
fun ByteArray.plus(element: Byte): ByteArray {\n    return plus(byteArrayOf(element))\n}\n\n/**\n * Returns an
array containing all elements of the original array and then the given [element].\n */\n*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun ShortArray.plus(element: Short):
ShortArray {\n    return plus(shortArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the
original array and then the given [element].\n */\n*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline
operator fun IntArray.plus(element: Int): IntArray {\n    return plus(intArrayOf(element))\n}\n\n/**\n * Returns an
array containing all elements of the original array and then the given [element].\n */\n*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun LongArray.plus(element: Long):
LongArray {\n    return plus(longArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the
original array and then the given [element].\n */\n*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline
operator fun FloatArray.plus(element: Float): FloatArray {\n    return plus(floatArrayOf(element))\n}\n\n/**\n *
Returns an array containing all elements of the original array and then the given [element].\n */\n*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun DoubleArray.plus(element:
Double): DoubleArray {\n    return plus(doubleArrayOf(element))\n}\n\n/**\n * Returns an array containing all
elements of the original array and then the given [element].\n */\n*\n@Suppress("NOTHING_TO_INLINE")\npublic
actual inline operator fun BooleanArray.plus(element: Boolean): BooleanArray {\n    return
plus(booleanArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original array and then
the given [element].\n */\n*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun
CharArray.plus(element: Char): CharArray {\n    return plus(charArrayOf(element))\n}\n\n/**\n * Returns an array
containing all elements of the original array and then all elements of the given [elements] collection.\n */\n*\n@Suppress("ACTUAL_WITHOUT_EXPECT")\npublic actual operator fun <T> Array<out T>.plus(elements:
Collection<T>): Array<T> {\n    return arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array
containing all elements of the original array and then all elements of the given [elements] collection.\n */\n*\npublic
actual operator fun ByteArray.plus(elements: Collection<Byte>): ByteArray {\n    return
fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then all elements of the given [elements] collection.\n */\n*\npublic actual
operator fun ShortArray.plus(elements: Collection<Short>): ShortArray {\n    return
fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then all elements of the given [elements] collection.\n */\n*\npublic actual
operator fun IntArray.plus(elements: Collection<Int>): IntArray {\n    return fillFromCollection(this.copyOf(size +
elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and
then all elements of the given [elements] collection.\n */\n*\npublic actual operator fun LongArray.plus(elements:
Collection<Long>): LongArray {\n    return arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array
containing all elements of the original array and then all elements of the given [elements] collection.\n */\n*\npublic
actual operator fun FloatArray.plus(elements: Collection<Float>): FloatArray {\n    return
fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then all elements of the given [elements] collection.\n */\n*\npublic actual
operator fun DoubleArray.plus(elements: Collection<Double>): DoubleArray {\n    return
fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then all elements of the given [elements] collection.\n */\n*\npublic actual
operator fun BooleanArray.plus(elements: Collection<Boolean>): BooleanArray {\n    return
arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and
then all elements of the given [elements] collection.\n */\n*\npublic actual operator fun CharArray.plus(elements:
Collection<Char>): CharArray {\n    return fillFromCollection(this.copyOf(size + elements.size), this.size,

```

elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n\n@Suppress(\n"ACTUAL_WITHOUT_EXPECT",\n\n"NOTHING_TO_INLINE")\n\npublic actual inline operator fun <T> Array<out T>.plus(elements: Array<out T>): Array<T> {\n\n return this.asDynamic().concat(elements)\n}\n\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n\n@Suppress(\n"NOTHING_TO_INLINE")\n\npublic actual inline operator fun ByteArray.plus(elements: ByteArray): ByteArray {\n\n return primitiveArrayConcat(this, elements)\n}\n\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n\n@Suppress(\n"NOTHING_TO_INLINE")\n\npublic actual inline operator fun ShortArray.plus(elements: ShortArray): ShortArray {\n\n return primitiveArrayConcat(this, elements)\n}\n\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n\n@Suppress(\n"NOTHING_TO_INLINE")\n\npublic actual inline operator fun IntArray.plus(elements: IntArray): IntArray {\n\n return primitiveArrayConcat(this, elements)\n}\n\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n\n@Suppress(\n"NOTHING_TO_INLINE")\n\npublic actual inline operator fun LongArray.plus(elements: LongArray): LongArray {\n\n return primitiveArrayConcat(this, elements)\n}\n\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n\n@Suppress(\n"NOTHING_TO_INLINE")\n\npublic actual inline operator fun FloatArray.plus(elements: FloatArray): FloatArray {\n\n return primitiveArrayConcat(this, elements)\n}\n\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n\n@Suppress(\n"NOTHING_TO_INLINE")\n\npublic actual inline operator fun DoubleArray.plus(elements: DoubleArray): DoubleArray {\n\n return primitiveArrayConcat(this, elements)\n}\n\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n\n@Suppress(\n"NOTHING_TO_INLINE")\n\npublic actual inline operator fun BooleanArray.plus(elements: BooleanArray): BooleanArray {\n\n return primitiveArrayConcat(this, elements)\n}\n\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n\n@Suppress(\n"NOTHING_TO_INLINE")\n\npublic actual inline operator fun CharArray.plus(elements: CharArray): CharArray {\n\n return primitiveArrayConcat(this, elements)\n}\n\n\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n\n@Suppress(\n"ACTUAL_WITHOUT_EXPECT",\n\n"NOTHING_TO_INLINE")\n\npublic actual inline fun <T> Array<out T>.plusElement(element: T): Array<T> {\n\n return\n\n this.asDynamic().concat(arrayOf(element))\n}\n\n\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample\n\nsamples.collections.Arrays.Sorting.sortArray\n\n@library(\n"primitiveArraySort")\n\npublic actual fun\n\nIntArray.sort(): Unit {\n\n definedExternally\n}\n\n\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample\n\nsamples.collections.Arrays.Sorting.sortArray\n\n@public actual fun\n\nLongArray.sort(): Unit {\n\n @Suppress(\n"DEPRECATION")\n\n if (size > 1) sort { a: Long, b: Long -> a.compareTo(b) }\n}\n\n\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample\n\nsamples.collections.Arrays.Sorting.sortArray\n\n@library(\n"primitiveArraySort")\n\npublic actual fun\n\nByteArray.sort(): Unit {\n\n definedExternally\n}\n\n\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample\n\nsamples.collections.Arrays.Sorting.sortArray\n\n@library(\n"primitiveArraySort")\n\npublic actual fun\n\nShortArray.sort(): Unit {\n\n definedExternally\n}\n\n\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample\n\nsamples.collections.Arrays.Sorting.sortArray\n\n@library(\n"primitiveArraySort")\n\npublic actual fun\n\nDoubleArray.sort(): Unit {\n\n definedExternally\n}\n\n\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample\n\nsamples.collections.Arrays.Sorting.sortArray\n\n@library(\n"primitiveArraySort")\n\npublic actual fun\n\nFloatArray.sort(): Unit {\n\n definedExternally\n}\n\n\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample\n\nsamples.collections.Arrays.Sorting.sortArray\n\n@library(\n"primitiveArraySort")\n\npublic actual fun\n\nCharArray.sort(): Unit {\n\n definedExternally\n}\n\n\n\n/**\n * Sorts the array in-place according to the natural order of its elements.\n */\n\n * @sample\n\n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other

```

after sorting.\n * \n * @sample samples.collections.Arrays.Sorting.sortArrayOfComparable\n */\npublic actual fun
<T : Comparable<T>> Array<out T>.sort(): Unit {\n    if (size > 1) sortArray(this)\n}\n\n/**\n * Sorts the array in-
place according to the order specified by the given [comparison] function.\n * \n * The sort is _stable_. It means that
equal elements preserve their order relative to each other after sorting.\n */\n@Deprecated("Use sortWith instead",
ReplaceWith("this.sortWith(Comparator(comparison))"))\n@DeprecatedSinceKotlin(warningSince =
"1.6")\npublic fun <T> Array<out T>.sort(comparison: (a: T, b: T) -> Int): Unit {\n    if (size > 1)
sortArrayWith(this, comparison)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * The sort is _stable_. It
means that equal elements preserve their order relative to each other after sorting.\n * \n * @param fromIndex the
start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size
of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
[toIndex].\n */\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArrayOfComparable\n
*/\n\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun <T : Comparable<T>> Array<out T>.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArrayWith(this, fromIndex, toIndex,
naturalOrder())\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range
(inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n * \n *
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*/\n\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun ByteArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<ByteArray>()\n    subarray.sort()\n}\n\n/**\n * Sorts a
range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n *
@param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is greater than [toIndex].\n */\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*/\n\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun ShortArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<ShortArray>()\n    subarray.sort()\n}\n\n/**\n * Sorts a
range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n *
@param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is greater than [toIndex].\n */\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*/\n\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun IntArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<IntArray>()\n    subarray.sort()\n}\n\n/**\n * Sorts a
range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n *
@param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is greater than [toIndex].\n */\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*/\n\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic

```

```

actual fun LongArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    sortArrayWith(this.unsafeCast<Array<Long>>(),
        fromIndex, toIndex, naturalOrder())
}

/**
 * Sorts a range in the array in-place.
 * @param fromIndex the start of the range (inclusive) to sort, 0 by default.
 * @param toIndex the end of the range (exclusive) to sort,
 * size of this array by default.
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or
 * [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than
 * [toIndex].
 * @sample samples.collections.Arrays.Sorting.sortRangeOfArray
 */
@SinceKotlin("1.4")
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun FloatArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    val subarray =
        this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<FloatArray>()
    subarray.sort()
}

/**
 * Sorts a
 * range in the array in-place.
 * @param fromIndex the start of the range (inclusive) to sort, 0 by default.
 * @param toIndex the end of the range (exclusive) to sort, size of this array by default.
 * @throws
 * IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 * @sample
 * samples.collections.Arrays.Sorting.sortRangeOfArray
 */
@SinceKotlin("1.4")
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun DoubleArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    val subarray =
        this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<DoubleArray>()
    subarray.sort()
}

/**
 * Sorts a
 * range in the array in-place.
 * @param fromIndex the start of the range (inclusive) to sort, 0 by default.
 * @param toIndex the end of the range (exclusive) to sort, size of this array by default.
 * @throws
 * IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 * @sample
 * samples.collections.Arrays.Sorting.sortRangeOfArray
 */
@SinceKotlin("1.4")
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun CharArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    val subarray =
        this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<CharArray>()
    subarray.sort()
}

/**
 * Sorts the
 * array in-place according to the order specified by the given [comparison] function.
 * @Deprecated("Use other
 * sorting functions from the Standard Library")
 * @DeprecatedSinceKotlin(warningSince =
 * "1.6")
 * @kotlin.internal.InlineOnly
 * public inline fun ByteArray.sort(noinline comparison: (a: Byte, b: Byte) ->
 * Int): Unit {
    asDynamic().sort(comparison)
}

/**
 * Sorts the array in-place according to the order specified
 * by the given [comparison] function.
 * @Deprecated("Use other sorting functions from the Standard
 * Library")
 * @DeprecatedSinceKotlin(warningSince = "1.6")
 * @kotlin.internal.InlineOnly
 * public inline fun
 * ShortArray.sort(noinline comparison: (a: Short, b: Short) -> Int): Unit {
    asDynamic().sort(comparison)
}

/**
 * Sorts the array in-place according to the order specified by the given
 * [comparison] function.
 * @Deprecated("Use other sorting functions from the Standard
 * Library")
 * @DeprecatedSinceKotlin(warningSince = "1.6")
 * @kotlin.internal.InlineOnly
 * public inline fun
 * IntArray.sort(noinline comparison: (a: Int, b: Int) -> Int): Unit {
    asDynamic().sort(comparison)
}

/**
 * Sorts the array in-place according to the order specified by the given [comparison] function.
 * @Deprecated("Use other sorting functions from the Standard
 * Library")
 * @DeprecatedSinceKotlin(warningSince = "1.6")
 * @kotlin.internal.InlineOnly
 * public inline fun
 * LongArray.sort(noinline comparison: (a: Long, b: Long) -> Int): Unit {
    asDynamic().sort(comparison)
}

/**
 * Sorts the array in-place according to the order specified by the given
 * [comparison] function.
 * @Deprecated("Use other sorting functions from the Standard
 * Library")
 * @DeprecatedSinceKotlin(warningSince = "1.6")
 * @kotlin.internal.InlineOnly
 * public inline fun
 * FloatArray.sort(noinline comparison: (a: Float, b: Float) -> Int): Unit {

```

```

asDynamic().sort(comparison)\n\n\n * Sorts the array in-place according to the order specified by the given
[comparison] function.\n * \n @Deprecated("Use other sorting functions from the Standard
Library")\n @DeprecatedSinceKotlin(warningSince = "1.6")\n @kotlin.internal.InlineOnly\n public inline fun
DoubleArray.sort(noinline comparison: (a: Double, b: Double) -> Int): Unit {\n
asDynamic().sort(comparison)\n\n\n * Sorts the array in-place according to the order specified by the given
[comparison] function.\n * \n @Deprecated("Use other sorting functions from the Standard
Library")\n @DeprecatedSinceKotlin(warningSince = "1.6")\n @kotlin.internal.InlineOnly\n public inline fun
CharArray.sort(noinline comparison: (a: Char, b: Char) -> Int): Unit {\n
asDynamic().sort(comparison)\n\n\n * Sorts the array in-place according to the order specified by the given
[comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n * \n public actual fun <T> Array<out T>.sortWith(comparator: Comparator<in T>): Unit {\n   if
(size > 1) sortArrayWith(this, comparator)\n\n\n\n * Sorts a range in the array in-place with the given
[comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex
the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException
if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
 * \n @SinceKotlin("1.4")\n @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public
actual fun <T> Array<out T>.sortWith(comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size):
Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   sortArrayWith(this, fromIndex, toIndex,
comparator)\n\n\n\n * Returns a *typed* object array containing all of the elements of this primitive array.\n
 * \n public actual fun ByteArray.toTypedArray(): Array<Byte> {\n   return js("[]").slice.call(this)\n\n\n\n *
Returns a *typed* object array containing all of the elements of this primitive array.\n * \n public actual fun
ShortArray.toTypedArray(): Array<Short> {\n   return js("[]").slice.call(this)\n\n\n\n * Returns a *typed*
object array containing all of the elements of this primitive array.\n * \n public actual fun IntArray.toTypedArray():
Array<Int> {\n   return js("[]").slice.call(this)\n\n\n\n * Returns a *typed* object array containing all of the
elements of this primitive array.\n * \n public actual fun LongArray.toTypedArray(): Array<Long> {\n   return
js("[]").slice.call(this)\n\n\n\n * Returns a *typed* object array containing all of the elements of this primitive
array.\n * \n public actual fun FloatArray.toTypedArray(): Array<Float> {\n   return
js("[]").slice.call(this)\n\n\n\n * Returns a *typed* object array containing all of the elements of this primitive
array.\n * \n public actual fun DoubleArray.toTypedArray(): Array<Double> {\n   return
js("[]").slice.call(this)\n\n\n\n * Returns a *typed* object array containing all of the elements of this primitive
array.\n * \n public actual fun BooleanArray.toTypedArray(): Array<Boolean> {\n   return
js("[]").slice.call(this)\n\n\n\n * Returns a *typed* object array containing all of the elements of this primitive
array.\n * \n public actual fun CharArray.toTypedArray(): Array<Char> {\n   return Array(size) { index ->
this[index] }\n\n\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
 * \n @file:kotlin.jvm.JvmName("ComparisonsKt")\n @file:kotlin.jvm.JvmMultifileClass\n @package
kotlin.comparisons\n\n\n\n * Compares two values using the specified functions [selectors] to calculate the result
of the comparison.\n * The functions are called sequentially, receive the given values [a] and [b] and return
[Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for [a] and [b] values do
not\n * compare as equal, the result of that comparison is returned.\n * \n * @sample
samples.comparisons.Comparisons.compareValuesByWithSelectors\n * \n public fun <T> compareValuesBy(a: T,
b: T, vararg selectors: (T) -> Comparable<*>?): Int {\n   require(selectors.size > 0)\n   return
compareValuesByImpl(a, b, selectors)\n\n\n\n private fun <T> compareValuesByImpl(a: T, b: T, selectors:
Array<out (T) -> Comparable<*>?): Int {\n   for (fn in selectors) {\n     val v1 = fn(a)\n     val v2 = fn(b)\n     val
diff = compareValues(v1, v2)\n     if (diff != 0) return diff\n   }\n   return 0\n\n\n\n\n * Compares two

```


values using the specified [selector] function to calculate the result of the comparison.

* The function is applied to the given values [a] and [b] and return [Comparable] objects.

* The result of comparison of these [Comparable] instances is returned.

```

@sample samples.comparisons.Comparisons.compareValuesByWithSingleSelector
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareValuesBy(a: T, b: T, selector: (T) ->
Comparable<*>?): Int { \n    return compareValues(selector(a), selector(b))\n}\n\n/**\n * Compares two values
using the specified [selector] function to calculate the result of the comparison.\n * The function is applied to the
given values [a] and [b] and return objects of type K which are then being\n * compared with the given
[comparator].\n * \n * @sample samples.comparisons.Comparisons.compareValuesByWithComparator\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareValuesBy(a: T, b: T, comparator: Comparator<in
K>, selector: (T) -> K): Int { \n    return comparator.compare(selector(a), selector(b))\n}\n\n//// Not so useful without
type inference for receiver of expression\n//// compareValuesWith(v1, v2, compareBy { it.prop1 }
thenByDescending { it.prop2 })\n\n/**\n * Compares two values using the specified [comparator].\n//
*/\n// @Suppress("NOTHING_TO_INLINE")\n// public inline fun <T> compareValuesWith(a: T, b: T, comparator:
Comparator<T>): Int = comparator.compare(a, b)\n// \n\n/**\n * Compares two nullable [Comparable] values. Null
is considered less than any value.\n * \n * @sample samples.comparisons.Comparisons.compareValues\n */\npublic
fun <T : Comparable<*>> compareValues(a: T?, b: T?): Int { \n    if (a === b) return 0\n    if (a == null) return -1\n
if (b == null) return 1\n    @Suppress("UNCHECKED_CAST")\n    return (a as
Comparable<Any>).compareTo(b)\n}\n\n/**\n * Creates a comparator using the sequence of functions to calculate a
result of comparison.\n * The functions are called sequentially, receive the given values `a` and `b` and return
[Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for `a` and `b` values do
not\n * compare as equal, the result of that comparison is returned from the [Comparator].\n * \n * @sample
samples.comparisons.Comparisons.compareByWithSelectors\n */\npublic fun <T> compareBy(vararg selectors: (T)
-> Comparable<*>?): Comparator<T> { \n    require(selectors.size > 0)\n    return Comparator { a, b ->
compareValuesByImpl(a, b, selectors) }\n}\n\n/**\n * Creates a comparator using the function to transform value
to a [Comparable] instance for comparison.\n * \n * @sample
samples.comparisons.Comparisons.compareByWithSingleSelector\n */\n@kotlin.internal.InlineOnly\npublic inline
fun <T> compareBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n    Comparator { a, b ->
compareValuesBy(a, b, selector) }\n\n/**\n * Creates a comparator using the [selector] function to transform values
being compared and then applying\n * the specified [comparator] to compare transformed values.\n * \n * @sample
samples.comparisons.Comparisons.compareByWithComparator\n */\n@kotlin.internal.InlineOnly\npublic inline
fun <T, K> compareBy(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =\n    Comparator { a, b -> compareValuesBy(a, b, comparator, selector) }\n\n/**\n * Creates a descending comparator
using the function to transform value to a [Comparable] instance for comparison.\n * \n * @sample
samples.comparisons.Comparisons.compareByDescendingWithSingleSelector\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareByDescending(crossinline selector: (T) ->
Comparable<*>?): Comparator<T> =\n    Comparator { a, b -> compareValuesBy(b, a, selector) }\n\n/**\n *
Creates a descending comparator using the [selector] function to transform values being compared and then
applying\n * the specified [comparator] to compare transformed values.\n * \n * Note that an order of [comparator] is
reversed by this wrapper.\n * \n * @sample
samples.comparisons.Comparisons.compareByDescendingWithComparator\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareByDescending(comparator: Comparator<in K>,
crossinline selector: (T) -> K): Comparator<T> =\n    Comparator { a, b -> compareValuesBy(b, a, comparator,
selector) }\n\n/**\n * Creates a comparator comparing values after the primary comparator defined them equal. It
uses\n * the function to transform value to a [Comparable] instance for comparison.\n * \n * @sample
samples.comparisons.Comparisons.thenBy\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Comparator<T>.thenBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n    Comparator { a, b -
>\n        val previousCompare = this@thenBy.compare(a, b)\n        if (previousCompare != 0) previousCompare else
compareValuesBy(a, b, selector)\n    }\n}\n\n/**\n * Creates a comparator comparing values after the primary

```

comparator defined them equal. It uses the [selector] function to transform values and then compares them with the given [comparator].

```

@sample samples.comparisons.Comparisons.thenByWithComparator
*/@kotlin.internal.InlineOnly
public inline fun <T, K> Comparator<T>.thenBy(comparator: Comparator<in K>,
crossinline selector: (T) -> K): Comparator<T> =
    Comparator { a, b ->
        val previousCompare =
this@thenBy.compare(a, b)
        if (previousCompare != 0) previousCompare else compareValuesBy(a, b,
comparator, selector)
    }

```

Creates a descending comparator using the primary comparator and the function to transform value to a [Comparable] instance for comparison.

```

@sample
samples.comparisons.Comparisons.thenByDescending
*/@kotlin.internal.InlineOnly
public inline fun <T>
Comparator<T>.thenByDescending(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =
    Comparator { a, b ->
        val previousCompare = this@thenByDescending.compare(a, b)
        if
(previousCompare != 0) previousCompare else compareValuesBy(b, a, selector)
    }

```

Creates a descending comparator comparing values after the primary comparator defined them equal. It uses the [selector] function to transform values and then compares them with the given [comparator].

```

@sample
samples.comparisons.Comparisons.thenByDescendingWithComparator
*/@kotlin.internal.InlineOnly
public
inline fun <T, K> Comparator<T>.thenByDescending(comparator: Comparator<in K>, crossinline selector: (T) ->
K): Comparator<T> =
    Comparator { a, b ->
        val previousCompare = this@thenByDescending.compare(a,
b)
        if (previousCompare != 0) previousCompare else compareValuesBy(b, a, comparator, selector)
    }

```

Creates a comparator using the primary comparator and function to calculate a result of comparison.

```

@sample samples.comparisons.Comparisons.thenComparator
*/@kotlin.internal.InlineOnly
public inline
fun <T> Comparator<T>.thenComparator(crossinline comparison: (a: T, b: T) -> Int): Comparator<T> =
    Comparator { a, b ->
        val previousCompare = this@thenComparator.compare(a, b)
        if (previousCompare
!= 0) previousCompare else comparison(a, b)
    }

```

Combines this comparator and the given [comparator] such that the latter is applied only when the former considered values equal.

```

@sample
samples.comparisons.Comparisons.then
*/@kotlin.internal.InlineOnly
public infix fun <T> Comparator<T>.then(comparator:
Comparator<in T>): Comparator<T> =
    Comparator { a, b ->
        val previousCompare =
this@then.compare(a, b)
        if (previousCompare != 0) previousCompare else comparator.compare(a, b)
    }

```

Combines this comparator and the given [comparator] such that the latter is applied only when the former considered values equal.

```

@sample samples.comparisons.Comparisons.thenDescending
*/@kotlin.internal.InlineOnly
public
infix fun <T> Comparator<T>.thenDescending(comparator: Comparator<in T>): Comparator<T> =
    Comparator<T> { a, b ->
        val previousCompare = this@thenDescending.compare(a, b)
        if
(previousCompare != 0) previousCompare else comparator.compare(b, a)
    }

```

Not so useful without type inference for receiver of expression

```

*/@kotlin.internal.InlineOnly
public fun <T> Comparator<T>.nullsFirstLastWithComparator
*/@kotlin.internal.InlineOnly
public fun <T : Any>
nullsFirst(comparator: Comparator<in T>): Comparator<T?> =
    Comparator { a, b ->
        when {
            a
=== b -> 0
            a == null -> -1
            b == null -> 1
            else -> comparator.compare(a, b)
        }
    }

```

Provides a comparator of nullable [Comparable] values considering `null` value less than any other value.

```

@sample samples.comparisons.Comparisons.nullsFirstLastComparator
*/@kotlin.internal.InlineOnly
public inline fun <T : Comparable<T>> nullsFirst(): Comparator<T?> =
nullsFirst(naturalOrder())

```

Extends the given [comparator] of non-nullable values to a comparator of nullable values considering `null` value greater than any other value.

```

@sample
samples.comparisons.Comparisons.nullsFirstLastWithComparator
*/@kotlin.internal.InlineOnly
public fun <T : Any>
nullsLast(comparator: Comparator<in T>): Comparator<T?> =
    Comparator { a, b ->
        when {
            a
=== b -> 0
            a == null -> 1
            b == null -> -1
            else -> comparator.compare(a, b)
        }
    }

```

Provides a comparator of nullable [Comparable] values considering `null` value greater than any other value.

```

@sample samples.comparisons.Comparisons.nullsFirstLastComparator
*/@kotlin.internal.InlineOnly
public inline fun <T : Comparable<T>> nullsLast(): Comparator<T?> =
nullsLast(naturalOrder())

```

Returns a comparator that compares [Comparable] objects in natural order.

```

*\n * @sample samples.comparisons.Comparisons.naturalOrderComparator\n * \npublic fun <T : Comparable<T>>
naturalOrder(): Comparator<T> = @Suppress("UNCHECKED_CAST") (NaturalOrderComparator as
Comparator<T>)\n\n**\n * Returns a comparator that compares [Comparable] objects in reversed natural order.\n
*\n * @sample samples.comparisons.Comparisons.nullsFirstLastWithComparator\n * \npublic fun <T :
Comparable<T>> reverseOrder(): Comparator<T> = @Suppress("UNCHECKED_CAST")
(ReverseOrderComparator as Comparator<T>)\n\n**\n * Returns a comparator that imposes the reverse ordering
of this comparator.\n *\n * @sample samples.comparisons.Comparisons.reversed\n
*\n\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\npublic fun <T> Comparator<T>.reversed():
Comparator<T> = when (this) {\n    is ReversedComparator -> this.comparator\n    NaturalOrderComparator ->
@Suppress("UNCHECKED_CAST") (ReverseOrderComparator as Comparator<T>)\n
ReverseOrderComparator -> @Suppress("UNCHECKED_CAST") (NaturalOrderComparator as
Comparator<T>)\n    else -> ReversedComparator(this)\n}\n\nprivate class ReversedComparator<T>(public val
comparator: Comparator<T>) : Comparator<T> {\n    override fun compare(a: T, b: T): Int = comparator.compare(b,
a)\n    @Suppress("VIRTUAL_MEMBER_HIDDEN")\n    fun reversed(): Comparator<T> =
comparator\n}\n\nprivate object NaturalOrderComparator : Comparator<Comparable<Any>> {\n    override fun
compare(a: Comparable<Any>, b: Comparable<Any>): Int = a.compareTo(b)\n
@Suppress("VIRTUAL_MEMBER_HIDDEN")\n    fun reversed(): Comparator<Comparable<Any>> =
ReverseOrderComparator\n}\n\nprivate object ReverseOrderComparator : Comparator<Comparable<Any>> {\n
override fun compare(a: Comparable<Any>, b: Comparable<Any>): Int = b.compareTo(a)\n
@Suppress("VIRTUAL_MEMBER_HIDDEN")\n    fun reversed(): Comparator<Comparable<Any>> =
NaturalOrderComparator\n}\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StandardKt")\npackage kotlin\n\nimport
kotlin.contracts.*\n\n**\n * An exception is thrown to indicate that a method body remains to be implemented.\n
*\n\npublic class NotImplementedError(message: String = "An operation is not implemented.") :
Error(message)\n\n**\n * Always throws [NotImplementedError] stating that operation is not implemented.\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun TODO(): Nothing = throw NotImplementedError()\n\n**\n *
Always throws [NotImplementedError] stating that operation is not implemented.\n *\n * @param reason a string
explaining why the implementation is missing.\n\n@kotlin.internal.InlineOnly\npublic inline fun TODO(reason:
String): Nothing = throw NotImplementedError("An operation is not implemented: $reason")\n\n\n**\n * Calls
the specified function [block] and returns its result.\n *\n * For detailed usage information see the documentation for
[scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun <R> run(block: () -> R): R {\n    contract {\n
callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    return block()\n}\n\n**\n * Calls the specified
function [block] with `this` value as its receiver and returns its result.\n *\n * For detailed usage information see the
documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> T.run(block: T.() -> R): R {\n    contract {\n
callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    return block()\n}\n\n**\n * Calls the specified
function [block] with the given [receiver] as its receiver and returns its result.\n *\n * For detailed usage information
see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#with).\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> with(receiver: T, block: T.() -> R): R {\n    contract {\n
callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    return receiver.block()\n}\n\n**\n * Calls the
specified function [block] with `this` value as its receiver and returns `this` value.\n *\n * For detailed usage
information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-
functions.html#apply).\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> T.apply(block: T.() -> Unit): T {\n
contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    block()\n    return
this\n}\n\n**\n * Calls the specified function [block] with `this` value as its argument and returns `this` value.\n
*\n

```

* For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#also).\n

```
*\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.1")\npublic inline fun <T> T.also(block: (T) -> Unit): T {\n    contract {\n        callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    block(this)\n    return this\n}\n\n/**\n * Calls the specified function [block] with `this` value as its argument and returns its result.\n */\n
```

For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#let).\n

```
*\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> T.let(block: (T) -> R): R {\n    contract {\n        callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    return block(this)\n}\n\n/**\n * Returns `this` value if it satisfies the given [predicate] or `null`, if it doesn't.\n */\n
```

For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#takeif-and-takeunless).\n

```
*\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.1")\npublic inline fun <T> T.takeIf(predicate: (T) -> Boolean): T? {\n    contract {\n        callsInPlace(predicate, InvocationKind.EXACTLY_ONCE)\n    }\n    return if (predicate(this)) this else null\n}\n\n/**\n * Returns `this` value if it _does not_ satisfy the given [predicate] or `null`, if it does.\n */\n
```

For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#takeif-and-takeunless).\n

```
*\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.1")\npublic inline fun <T> T.takeUnless(predicate: (T) -> Boolean): T? {\n    contract {\n        callsInPlace(predicate, InvocationKind.EXACTLY_ONCE)\n    }\n    return if (!predicate(this)) this else null\n}\n\n/**\n * Executes the given function [action] specified number of [times].\n */\n * A zero-based index of current iteration is passed as a parameter to [action].\n */\n
```

```
samples.misc.ControlFlow.repeat\n@kotlin.internal.InlineOnly\npublic inline fun repeat(times: Int, action: (Int) -> Unit) {\n    contract { callsInPlace(action) }\n    for (index in 0 until times) {\n        action(index)\n    }\n}\n\n"/\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
```

*\n\npackage kotlin.comparisons\n\n/\n\nNOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n\nSee: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport kotlin.js.\n\n/**\n * Returns the greater of two values.\n */\n * If values are equal, returns the first one.\n

```
*\n@SinceKotlin("1.1")\npublic actual fun <T : Comparable<T>> maxOf(a: T, b: T): T {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Byte, b: Byte): Byte {\n    return maxOf(a.toInt(), b.toInt()).unsafeCast<Byte>()\n}\n\n/**\n * Returns the greater of two values.\n
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Short, b: Short): Short {\n    return maxOf(a.toInt(), b.toInt()).unsafeCast<Short>()\n}\n\n/**\n * Returns the greater of two values.\n
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Int, b: Int): Int {\n    return JsMath.max(a, b)\n}\n\n/**\n * Returns the greater of two values.\n
```

```
*\n@SinceKotlin("1.1")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun maxOf(a: Long, b: Long): Long {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n * If either value is `NaN`, returns `NaN`.\n
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Float, b: Float): Float {\n    return JsMath.max(a, b)\n}\n\n/**\n * Returns the greater of two values.\n */\n * If either value is `NaN`, returns `NaN`.\n
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Double, b: Double): Double {\n    return JsMath.max(a, b)\n}\n\n/**\n * Returns the greater of three values.\n */\n * If there are multiple equal maximal values, returns the first of them.\n
```

```
*\n@SinceKotlin("1.1")\npublic actual fun <T : Comparable<T>> maxOf(a: T, b: T, c: T): T {\n    return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of three values.\n
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Byte, b: Byte, c: Byte): Byte {\n    return JsMath.max(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Byte>()\n}\n\n/**\n * Returns the greater of three values.\n */\n
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Short, b: Short, c: Short): Short {\n    return JsMath.max(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Short>()\n}\n\n/**\n * Returns the greater of three values.\n
```

Returns the greater of three values.

```

@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline
fun maxOf(a: Int, b: Int, c: Int): Int {
    return JsMath.max(a, b, c)
}

```

* Returns the greater of three values.

```

@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Long, b: Long,
c: Long): Long {
    return maxOf(a, maxOf(b, c))
}

```

* Returns the greater of three values.

```

* \n * If any value is `NaN`, returns `NaN`.
@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun
maxOf(a: Float, b: Float, c: Float): Float {
    return JsMath.max(a, b, c)
}

```

* Returns the greater of three values.

```

* \n * If any value is `NaN`, returns `NaN`.
@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Double, b: Double, c:
Double): Double {
    return JsMath.max(a, b, c)
}

```

* Returns the greater of the given values.

```

* \n * If there are multiple equal maximal values, returns the first of them.
@SinceKotlin("1.4")\npublic actual fun <T
: Comparable<T>> maxOf(a: T, vararg other: T): T {
    var max = a
    for (e in other) max = maxOf(max, e)
    return max
}

```

* Returns the greater of the given values.

```

@SinceKotlin("1.4")\npublic actual fun
maxOf(a: Byte, vararg other: Byte): Byte {
    var max = a
    for (e in other) max = maxOf(max, e)
    return
max
}

```

* Returns the greater of the given values.

```

@SinceKotlin("1.4")\npublic actual fun maxOf(a:
Short, vararg other: Short): Short {
    var max = a
    for (e in other) max = maxOf(max, e)
    return
max
}

```

* Returns the greater of the given values.

```

@SinceKotlin("1.4")\npublic actual fun maxOf(a:
Int, vararg other: Int): Int {
    var max = a
    for (e in other) max = maxOf(max, e)
    return max
}

```

* Returns the greater of the given values.

```

@SinceKotlin("1.4")\npublic actual fun maxOf(a: Long, vararg
other: Long): Long {
    var max = a
    for (e in other) max = maxOf(max, e)
    return max
}

```

* Returns the greater of the given values.

```

* \n * If any value is `NaN`, returns `NaN`.
@SinceKotlin("1.4")\npublic actual fun maxOf(a: Float, vararg other: Float): Float {
    var max = a
    for (e
in other) max = maxOf(max, e)
    return max
}

```

* Returns the greater of the given values.

```

* \n * If any value is `NaN`, returns `NaN`.
@SinceKotlin("1.4")\npublic actual fun maxOf(a: Double, vararg other:
Double): Double {
    var max = a
    for (e in other) max = maxOf(max, e)
    return max
}

```

* Returns the smaller of two values.

```

* \n * If values are equal, returns the first one.
@SinceKotlin("1.1")\npublic
actual fun <T : Comparable<T>> minOf(a: T, b: T): T {
    return if (a <= b) a else b
}

```

* Returns the smaller of two values.

```

@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a:
Byte, b: Byte): Byte {
    return minOf(a.toInt(), b.toInt()).unsafeCast<Byte>()
}

```

* Returns the smaller of two values.

```

@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a: Short, b:
Short): Short {
    return minOf(a.toInt(), b.toInt()).unsafeCast<Short>()
}

```

* Returns the smaller of two values.

```

@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a: Int, b: Int): Int
{
    return JsMath.min(a, b)
}

```

* Returns the smaller of two values.

```

@SinceKotlin("1.1")@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun minOf(a: Long, b:
Long): Long {
    return if (a <= b) a else b
}

```

* Returns the smaller of two values.

```

* \n * If either value is `NaN`, returns `NaN`.
@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun
minOf(a: Float, b: Float): Float {
    return JsMath.min(a, b)
}

```

* Returns the smaller of two values.

```

* \n * If either value is `NaN`, returns `NaN`.
@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual
inline fun minOf(a: Double, b: Double): Double {
    return JsMath.min(a, b)
}

```

* Returns the smaller of three values.

```

* \n * If there are multiple equal minimal values, returns the first of them.
@SinceKotlin("1.1")\npublic actual fun <T : Comparable<T>> minOf(a: T, b: T, c: T): T {
    return minOf(a,
minOf(b, c))
}

```

* Returns the smaller of three values.

```

@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a: Byte, b: Byte, c: Byte):
Byte {
    return JsMath.min(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Byte>()
}

```

* Returns the smaller of three values.

```

@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a: Short, b:
Short, c: Short): Short {
    return JsMath.min(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Short>()
}

```

* Returns the smaller of three values.

```

@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline
fun minOf(a: Int, b: Int, c: Int): Int {
    return JsMath.min(a, b, c)
}

```

* Returns the smaller of three values.

```

@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a: Long, b: Long,
c: Long): Long {
    return JsMath.min(a, b, c)
}

```

```

c: Long): Long {\n    return minOf(a, minOf(b, c))\n}\n\n/**\n * Returns the smaller of three values.\n * \n * If any
value is `NaN`, returns `NaN`.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun
minOf(a: Float, b: Float, c: Float): Float {\n    return JsMath.min(a, b, c)\n}\n\n/**\n * Returns the smaller of three
values.\n * \n * If any value is `NaN`, returns `NaN`.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a: Double, b: Double, c:
Double): Double {\n    return JsMath.min(a, b, c)\n}\n\n/**\n * Returns the smaller of the given values.\n * \n * If
there are multiple equal minimal values, returns the first of them.\n */\n@SinceKotlin("1.4")\npublic actual fun <T
: Comparable<T>> minOf(a: T, vararg other: T): T {\n    var min = a\n    for (e in other) min = minOf(min, e)\n
return min\n}\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin("1.4")\npublic actual fun
minOf(a: Byte, vararg other: Byte): Byte {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return
min\n}\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin("1.4")\npublic actual fun minOf(a:
Short, vararg other: Short): Short {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return
min\n}\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin("1.4")\npublic actual fun minOf(a:
Int, vararg other: Int): Int {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return min\n}\n\n/**
Returns the smaller of the given values.\n */\n@SinceKotlin("1.4")\npublic actual fun minOf(a: Long, vararg
other: Long): Long {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return min\n}\n\n/**\n * Returns
the smaller of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin("1.4")\npublic
actual fun minOf(a: Float, vararg other: Float): Float {\n    var min = a\n    for (e in other) min = minOf(min, e)\n
return min\n}\n\n/**\n * Returns the smaller of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n
*/\n@SinceKotlin("1.4")\npublic actual fun minOf(a: Double, vararg other: Double): Double {\n    var min = a\n
for (e in other) min = minOf(min, e)\n    return min\n}\n\n"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n@n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport
kotlin.experimental.*\nimport
kotlin.jvm.*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@JvmInline\npublic
value class ULong @PublishedApi internal constructor(@PublishedApi internal val data: Long) :
Comparable<ULong> {\n\n    companion object {\n        /**\n         * A constant holding the minimum value an
instance of ULong can have.\n         */\n        public const val MIN_VALUE: ULong = ULong(0)\n\n        /**\n
         * A constant holding the maximum value an instance of ULong can have.\n         */\n        public const val
MAX_VALUE: ULong = ULong(-1)\n\n        /**\n         * The number of bytes used to represent an instance of
ULong in a binary form.\n         */\n        public const val SIZE_BYTES: Int = 8\n\n        /**\n         * The number of
bits used to represent an instance of ULong in a binary form.\n         */\n        public const val SIZE_BITS: Int = 64\n
    }\n\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is equal to
the specified other value, a negative number if it's less than other,\n     * or a positive number if it's greater than
other.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun compareTo(other: UByte): Int =
this.compareTo(other.toULong())\n\n    /**\n     * Compares this value with the specified value for order.\n     *
Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n     * or a
positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun
compareTo(other: UShort): Int = this.compareTo(other.toULong())\n\n    /**\n     * Compares this value with the
specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n     * or a positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n
public inline operator fun compareTo(other: UInt): Int = this.compareTo(other.toULong())\n\n    /**\n     *
Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other
value, a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n     */\n
    @kotlin.internal.InlineOnly\n    @Suppress("OVERRIDE_BY_INLINE")\n    public override inline operator fun
compareTo(other: ULong): Int = ulongCompare(this.data, other.data)\n\n    /**\n     * Adds the other value to this value.\n
*/\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UByte): ULong =
this.plus(other.toULong())\n\n    /**\n     * Adds the other value to this value.\n     */\n    @kotlin.internal.InlineOnly\n    public

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inline operator fun plus(other: UShort): ULong = this.plus(other.toULong())\n  /** Adds the other value to this
value. */\n  @kotlin.internal.InlineOnly\n  public inline operator fun plus(other: UInt): ULong =
this.plus(other.toULong())\n  /** Adds the other value to this value. */\n  @kotlin.internal.InlineOnly\n  public
inline operator fun plus(other: ULong): ULong = ULong(this.data.plus(other.data))\n\n  /** Subtracts the other
value from this value. */\n  @kotlin.internal.InlineOnly\n  public inline operator fun minus(other: UByte): ULong
= this.minus(other.toULong())\n  /** Subtracts the other value from this value. */\n  @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: UShort): ULong = this.minus(other.toULong())\n  /** Subtracts the other
value from this value. */\n  @kotlin.internal.InlineOnly\n  public inline operator fun minus(other: UInt): ULong =
this.minus(other.toULong())\n  /** Subtracts the other value from this value. */\n  @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: ULong): ULong = ULong(this.data.minus(other.data))\n\n  /** Multiplies
this value by the other value. */\n  @kotlin.internal.InlineOnly\n  public inline operator fun times(other: UByte):
ULong = this.times(other.toULong())\n  /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n  public inline operator fun times(other: UShort): ULong =
this.times(other.toULong())\n  /** Multiplies this value by the other value. */\n  @kotlin.internal.InlineOnly\n
public inline operator fun times(other: UInt): ULong = this.times(other.toULong())\n  /** Multiplies this value by
the other value. */\n  @kotlin.internal.InlineOnly\n  public inline operator fun times(other: ULong): ULong =
ULong(this.data.times(other.data))\n\n  /** Divides this value by the other value, truncating the result to an integer
that is closer to zero. */\n  @kotlin.internal.InlineOnly\n  public inline operator fun div(other: UByte): ULong =
this.div(other.toULong())\n  /** Divides this value by the other value, truncating the result to an integer that is
closer to zero. */\n  @kotlin.internal.InlineOnly\n  public inline operator fun div(other: UShort): ULong =
this.div(other.toULong())\n  /** Divides this value by the other value, truncating the result to an integer that is
closer to zero. */\n  @kotlin.internal.InlineOnly\n  public inline operator fun div(other: UInt): ULong =
this.div(other.toULong())\n  /** Divides this value by the other value, truncating the result to an integer that is
closer to zero. */\n  @kotlin.internal.InlineOnly\n  public inline operator fun div(other: ULong): ULong =
ulongDivide(this, other)\n\n  /**\n   * Calculates the remainder of truncating division of this value by the other
value.\n   * \n   * The result is always less than the divisor.\n   */\n  @kotlin.internal.InlineOnly\n  public
inline operator fun rem(other: UByte): ULong = this.rem(other.toULong())\n  /**\n   * Calculates the remainder
of truncating division of this value by the other value.\n   * \n   * The result is always less than the divisor.\n
*/\n  @kotlin.internal.InlineOnly\n  public inline operator fun rem(other: UShort): ULong =
this.rem(other.toULong())\n  /**\n   * Calculates the remainder of truncating division of this value by the other
value.\n   * \n   * The result is always less than the divisor.\n   */\n  @kotlin.internal.InlineOnly\n  public
inline operator fun rem(other: UInt): ULong = this.rem(other.toULong())\n  /**\n   * Calculates the remainder of
truncating division of this value by the other value.\n   * \n   * The result is always less than the divisor.\n   */\n
@kotlin.internal.InlineOnly\n  public inline operator fun rem(other: ULong): ULong = ulongRemainder(this,
other)\n\n  /**\n   * Divides this value by the other value, flooring the result to an integer that is closer to negative
infinity.\n   * \n   * For unsigned types, the results of flooring division and truncating division are the same.\n
*/\n  @kotlin.internal.InlineOnly\n  public inline fun floorDiv(other: UByte): ULong =
this.floorDiv(other.toULong())\n  /**\n   * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity.\n   * \n   * For unsigned types, the results of flooring division and truncating
division are the same.\n   */\n  @kotlin.internal.InlineOnly\n  public inline fun floorDiv(other: UShort): ULong
= this.floorDiv(other.toULong())\n  /**\n   * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity.\n   * \n   * For unsigned types, the results of flooring division and truncating
division are the same.\n   */\n  @kotlin.internal.InlineOnly\n  public inline fun floorDiv(other: UInt): ULong =
this.floorDiv(other.toULong())\n  /**\n   * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity.\n   * \n   * For unsigned types, the results of flooring division and truncating
division are the same.\n   */\n  @kotlin.internal.InlineOnly\n  public inline fun floorDiv(other: ULong): ULong =
div(other)\n\n  /**\n   * Calculates the remainder of flooring division of this value by the other value.\n   * \n   *
The result is always less than the divisor.\n   * \n   * For unsigned types, the remainders of flooring division and

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truncating division are the same.\n *^n @kotlin.internal.InlineOnly\n public inline fun mod(other: UByte):
UByte = this.mod(other.toULong()).toUByte()\n /**\n * Calculates the remainder of flooring division of this
value by the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n *^n @kotlin.internal.InlineOnly\n
public inline fun mod(other: UShort): UShort = this.mod(other.toULong()).toUShort()\n /**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is always less than the
divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the same.\n
*^n @kotlin.internal.InlineOnly\n public inline fun mod(other: UInt): UInt =
this.mod(other.toULong()).toUInt()\n /**\n * Calculates the remainder of flooring division of this value by the
other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders
of flooring division and truncating division are the same.\n *^n @kotlin.internal.InlineOnly\n public inline
fun mod(other: ULong): ULong = rem(other)\n\n /**\n * Returns this value incremented by one.\n * \n *
@sample samples.misc.Builtins.inc\n *^n @kotlin.internal.InlineOnly\n public inline operator fun inc():
ULong = ULong(data.inc())\n\n /**\n * Returns this value decremented by one.\n * \n * @sample
samples.misc.Builtins.dec\n *^n @kotlin.internal.InlineOnly\n public inline operator fun dec(): ULong =
ULong(data.dec())\n\n /** Creates a range from this value to the specified [other] value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: ULong): ULongRange =
ULongRange(this, other)\n\n /**\n * Shifts this value left by the [bitCount] number of bits.\n * \n * Note
that only the six lowest-order bits of the [bitCount] are used as the shift distance.\n * The shift distance actually
used is therefore always in the range `0..63`.\n *^n @kotlin.internal.InlineOnly\n public inline infix fun
shl(bitCount: Int): ULong = ULong(data shl bitCount)\n\n /**\n * Shifts this value right by the [bitCount]
number of bits, filling the leftmost bits with zeros.\n * \n * Note that only the six lowest-order bits of the
[bitCount] are used as the shift distance.\n * The shift distance actually used is therefore always in the range
`0..63`.\n *^n @kotlin.internal.InlineOnly\n public inline infix fun shr(bitCount: Int): ULong = ULong(data
ushr bitCount)\n\n /** Performs a bitwise AND operation between the two values. *\n
@kotlin.internal.InlineOnly\n public inline infix fun and(other: ULong): ULong = ULong(this.data and
other.data)\n\n /** Performs a bitwise OR operation between the two values. *\n @kotlin.internal.InlineOnly\n
public inline infix fun or(other: ULong): ULong = ULong(this.data or other.data)\n\n /** Performs a bitwise XOR
operation between the two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun xor(other: ULong):
ULong = ULong(this.data xor other.data)\n\n /** Inverts the bits in this value. *\n @kotlin.internal.InlineOnly\n
public inline fun inv(): ULong = ULong(data.inv())\n\n /**\n * Converts this [ULong] value to [Byte].\n * \n
* If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same
numerical value as this `ULong`.\n * \n * The resulting `Byte` value is represented by the least significant 8 bits
of this `ULong` value.\n * Note that the resulting `Byte` value may be negative.\n *^n
@kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data.toByte()\n\n /**\n * Converts this [ULong]
value to [Short].\n * \n * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value
represents\n * the same numerical value as this `ULong`.\n * \n * The resulting `Short` value is represented
by the least significant 16 bits of this `ULong` value.\n * Note that the resulting `Short` value may be negative.\n
*^n @kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data.toShort()\n\n /**\n * Converts this
[ULong] value to [Int].\n * \n * If this value is less than or equals to [Int.MAX_VALUE], the resulting `Int`
value represents\n * the same numerical value as this `ULong`.\n * \n * The resulting `Int` value is
represented by the least significant 32 bits of this `ULong` value.\n * Note that the resulting `Int` value may be
negative.\n *^n @kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data.toInt()\n\n /**\n *
Converts this [ULong] value to [Long].\n * \n * If this value is less than or equals to [Long.MAX_VALUE], the
resulting `Long` value represents\n * the same numerical value as this `ULong`. Otherwise the result is
negative.\n * \n * The resulting `Long` value has the same binary representation as this `ULong` value.\n *^n
@kotlin.internal.InlineOnly\n public inline fun toLong(): Long = data\n\n /**\n * Converts this [ULong]
value to [UByte].\n * \n * If this value is less than or equals to [UByte.MAX_VALUE], the resulting `UByte`

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value represents\n    * the same numerical value as this `ULong`.\n    *\n    * The resulting `UByte` value is
represented by the least significant 8 bits of this `ULong` value.\n    */\n    @kotlin.internal.InlineOnly\n    public
inline fun toUByte(): UByte = data.toUByte()\n    /**\n    * Converts this [ULong] value to [UShort].\n    *\n    * If
this value is less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n    * the same
numerical value as this `ULong`.\n    *\n    * The resulting `UShort` value is represented by the least significant 16
bits of this `ULong` value.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun toUShort(): UShort =
data.toUShort()\n    /**\n    * Converts this [ULong] value to [UInt].\n    *\n    * If this value is less than or equals
to [UInt.MAX_VALUE], the resulting `UInt` value represents\n    * the same numerical value as this `ULong`.\n
*\n    * The resulting `UInt` value is represented by the least significant 32 bits of this `ULong` value.\n    */\n
    @kotlin.internal.InlineOnly\n    public inline fun toUInt(): UInt = data.toUInt()\n    /** Returns this value. */\n
    @kotlin.internal.InlineOnly\n    public inline fun toULong(): ULong = this\n    /**\n    * Converts this [ULong]
value to [Float].\n    *\n    * The resulting value is the closest `Float` to this `ULong` value.\n    * In case when this
`ULong` value is exactly between two `Float`s,\n    * the one with zero at least significant bit of mantissa is
selected.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun toFloat(): Float = this.toDouble().toFloat()\n
    /**\n    * Converts this [ULong] value to [Double].\n    *\n    * The resulting value is the closest `Double` to this
`ULong` value.\n    * In case when this `ULong` value is exactly between two `Double`s,\n    * the one with zero at
least significant bit of mantissa is selected.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun toDouble():
Double = ulongToDouble(data)\n\n    public override fun toString(): String = ulongToString(data)\n\n}\n\n/**\n    *
Converts this [Byte] value to [ULong].\n    *\n    * If this value is positive, the resulting `ULong` value represents the
same numerical value as this `Byte`.\n    *\n    * The least significant 8 bits of the resulting `ULong` value are the same
as the bits of this `Byte` value,\n    * whereas the most significant 56 bits are filled with the sign bit of this value.\n
*/\n    @SinceKotlin("1.5")\n    @WasExperimental(ExperimentalUnsignedTypes::class)\n    @kotlin.internal.InlineOnly\n
    public inline fun Byte.toULong(): ULong = ULong(this.toLong())\n    /**\n    * Converts this [Short] value to
[ULong].\n    *\n    * If this value is positive, the resulting `ULong` value represents the same numerical value as this
`Short`.\n    *\n    * The least significant 16 bits of the resulting `ULong` value are the same as the bits of this `Short`
value,\n    * whereas the most significant 48 bits are filled with the sign bit of this value.\n    */\n    @SinceKotlin("1.5")\n
    @WasExperimental(ExperimentalUnsignedTypes::class)\n    @kotlin.internal.InlineOnly\n    public inline fun Short.toULong():
ULong = ULong(this.toLong())\n    /**\n    * Converts this [Int] value to [ULong].\n
*\n    * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Int`.\n    *\n
    * The least significant 32 bits of the resulting `ULong` value are the same as the bits of this `Int` value,\n    *
    * whereas the most significant 32 bits are filled with the sign bit of this value.\n    */\n    @SinceKotlin("1.5")\n
    @WasExperimental(ExperimentalUnsignedTypes::class)\n    @kotlin.internal.InlineOnly\n    public inline fun Int.toULong():
ULong = ULong(this.toLong())\n    /**\n    * Converts this [Long] value to [ULong].\n
*\n    * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Long`.\n    *\n
    * The resulting `ULong` value has the same binary representation as this `Long` value.\n    */\n    @SinceKotlin("1.5")\n
    @WasExperimental(ExperimentalUnsignedTypes::class)\n    @kotlin.internal.InlineOnly\n    public inline fun Long.toULong():
ULong = ULong(this)\n    /**\n    * Converts this [Float] value to [ULong].\n    *\n    * The fractional part, if any, is
rounded down towards zero.\n    * Returns zero if this `Float` value is negative or `NaN`,
[ULong.MAX_VALUE] if it's bigger than `ULong.MAX_VALUE`.\n    */\n    @SinceKotlin("1.5")\n    @WasExperimental(ExperimentalUnsignedTypes::class)\n
    @kotlin.internal.InlineOnly\n    public inline fun Float.toULong(): ULong = doubleToULong(this.toDouble())\n    /**\n
    * Converts this [Double] value to [ULong].\n    *\n    * The fractional part, if any, is rounded down towards zero.\n
    * Returns zero if this `Double` value is negative or `NaN`, [ULong.MAX_VALUE] if it's bigger than `ULong.MAX_VALUE`.\n
    */\n    @SinceKotlin("1.5")\n    @WasExperimental(ExperimentalUnsignedTypes::class)\n    @kotlin.internal.InlineOnly\n
    public inline fun Double.toULong(): ULong = doubleToULong(this)\n", "/*\n    * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n    * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n    */\n\n    @file:kotlin.jvm.JvmMultifileClass\n    @file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage

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kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: [\n\nimport kotlin.random.*\n\nimport kotlin.ranges.contains\n\nimport kotlin.ranges.reversed\n\n\n**\n * Returns 1st *element* from the list.\n * \n * Throws an \[IndexOutOfBoundsException\] if the size of this list is less than 1.\n\n*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component1\(\): T {\n return get\(0\)\n}\n\n**\n * Returns 2nd *element* from the list.\n * \n * Throws an \[IndexOutOfBoundsException\] if the size of this list is less than 2.\n\n*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component2\(\): T {\n return get\(1\)\n}\n\n**\n * Returns 3rd *element* from the list.\n * \n * Throws an \[IndexOutOfBoundsException\] if the size of this list is less than 3.\n\n*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component3\(\): T {\n return get\(2\)\n}\n\n**\n * Returns 4th *element* from the list.\n * \n * Throws an \[IndexOutOfBoundsException\] if the size of this list is less than 4.\n\n*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component4\(\): T {\n return get\(3\)\n}\n\n**\n * Returns 5th *element* from the list.\n * \n * Throws an \[IndexOutOfBoundsException\] if the size of this list is less than 5.\n\n*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component5\(\): T {\n return get\(4\)\n}\n\n**\n * Returns `true` if \[element\] is found in the collection.\n\n*\npublic operator fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.contains\(element: T\): Boolean {\n if \(this is Collection\)\n return contains\(element\)\n return indexOf\(element\) >= 0\n}\n\n**\n * Returns an element at the given \[index\] or throws an \[IndexOutOfBoundsException\] if the \[index\] is out of bounds of this collection.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n\n*\npublic fun <T> Iterable<T>.elementAt\(index: Int\): T {\n if \(this is List\)\n return get\(index\)\n return elementAtOrElse\(index\) {\n throw IndexOutOfBoundsException\("Collection doesn't contain element at index \\$index."\)\n }\n}\n\n**\n * Returns an element at the given \[index\] or throws an \[IndexOutOfBoundsException\] if the \[index\] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n\n*\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.elementAt\(index: Int\): T {\n return get\(index\)\n}\n\n**\n * Returns an element at the given \[index\] or the result of calling the \[defaultValue\] function if the \[index\] is out of bounds of this collection.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n\n*\npublic fun <T> Iterable<T>.elementAtOrElse\(index: Int, defaultValue: \(Int\) -> T\): T {\n if \(this is List\)\n return this.getOrElse\(index, defaultValue\)\n if \(index < 0\)\n return defaultValue\(index\)\n val iterator = iterator\(\)\n var count = 0\n while \(iterator.hasNext\(\)\) {\n val element = iterator.next\(\)\n if \(index == count++\)\n return element\n }\n return defaultValue\(index\)\n}\n\n**\n * Returns an element at the given \[index\] or the result of calling the \[defaultValue\] function if the \[index\] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n\n*\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.elementAtOrElse\(index: Int, defaultValue: \(Int\) -> T\): T {\n return if \(index >= 0 && index <= lastIndex\) get\(index\) else defaultValue\(index\)\n}\n\n**\n * Returns an element at the given \[index\] or `null` if the \[index\] is out of bounds of this collection.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n\n*\npublic fun <T> Iterable<T>.elementOrNull\(index: Int\): T? {\n if \(this is List\)\n return this.getOrElse\(index\)\n if \(index < 0\)\n return null\n val iterator = iterator\(\)\n var count = 0\n while \(iterator.hasNext\(\)\) {\n val element = iterator.next\(\)\n if \(index == count++\)\n return element\n }\n return null\n}\n\n**\n * Returns an element at the given \[index\] or `null` if the \[index\] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n\n*\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.elementOrNull\(index: Int\): T? {\n return this.getOrElse\(index\)\n}\n\n**\n * Returns the first element matching the given \[predicate\], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n\n*\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.find\(predicate: \(T\) -> Boolean\): T? {\n return firstOrNull\(predicate\)\n}\n\n**\n * Returns the last element matching the given \[predicate\], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n\n*\n@kotlin.internal.InlineOnly\npublic inline fun <T>](https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib)

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Iterable<T>.findLast(predicate: (T) -> Boolean): T? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.findLast(predicate: (T) -> Boolean): T? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the collection is empty.\n */\npublic fun <T> Iterable<T>.first(): T {\n    when (this) {\n        is List -> return this.first()\n        else -> {\n            val iterator = iterator()\n            if (!iterator.hasNext())\n                throw NoSuchElementException("Collection is empty.")\n            return iterator.next()\n        }\n    }\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the list is empty.\n */\npublic fun <T> List<T>.first(): T {\n    if (isEmpty())\n        throw NoSuchElementException("List is empty.")\n    return this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun <T> Iterable<T>.first(predicate: (T) -> Boolean): T {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Collection contains no element matching the predicate.")\n}\n\n/**\n * Returns the first non-null value produced by [transform] function being applied to elements of this collection in iteration order,\n * or throws [NoSuchElementException] if no non-null value was produced.\n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any> Iterable<T>.firstNotNullOf(transform: (T) -> R?): R {\n    return firstNotNullOfOrNull(transform) ?: throw NoSuchElementException("No element of the collection was transformed to a non-null value.")\n}\n\n/**\n * Returns the first non-null value produced by [transform] function being applied to elements of this collection in iteration order,\n * or `null` if no non-null value was produced.\n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any> Iterable<T>.firstNotNullOfOrNull(transform: (T) -> R?): R? {\n    for (element in this) {\n        val result = transform(element)\n        if (result != null) {\n            return result\n        }\n    }\n    return null\n}\n\n/**\n * Returns the first element, or `null` if the collection is empty.\n */\npublic fun <T> Iterable<T>.firstOrNull(): T? {\n    when (this) {\n        is List -> {\n            if (isEmpty())\n                return null\n            else\n                return this[0]\n        }\n        else -> {\n            val iterator = iterator()\n            if (!iterator.hasNext())\n                return null\n            return iterator.next()\n        }\n    }\n}\n\n/**\n * Returns the first element, or `null` if the list is empty.\n */\npublic fun <T> List<T>.firstOrNull(): T? {\n    return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun <T> Iterable<T>.firstOrNull(predicate: (T) -> Boolean): T? {\n    for (element in this) if (predicate(element)) return element\n    return null\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this list.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.getOrNull(index: Int, defaultValue: (Int) -> T): T {\n    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun <T> List<T>.getOrNull(index: Int): T? {\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of [element], or -1 if the collection does not contain element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.indexOf(element: T): Int {\n    if (this is List) return this.indexOf(element)\n    var index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (element == item)\n            return index\n        index++\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the list does not contain element.\n */\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in some cases\npublic fun <@kotlin.internal.OnlyInputTypes T> List<T>.indexOf(element: T): Int {\n    return indexOf(element)\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the collection does not contain such element.\n */\npublic inline fun <T> Iterable<T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n    var index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (predicate(item))\n            return index\n        index++\n    }\n    return -

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1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the list does not contain
such element.\n * \npublic inline fun <T> List<T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n    var index = 0\n    for (item in this) {\n        if (predicate(item))\n            return index\n            index++\n    }\n    return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the collection does not contain such
element.\n * \npublic inline fun <T> Iterable<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n    var lastIndex = -
1\n    var index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (predicate(item))\n            lastIndex = index\n            index++\n    }\n    return lastIndex\n}\n\n/**\n * Returns index of the last element matching
the given [predicate], or -1 if the list does not contain such element.\n * \npublic inline fun <T>
List<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n    val iterator = this.listIterator(size)\n    while
(iterator.hasPrevious()) {\n        if (predicate(iterator.previous()))\n            return iterator.nextIndex()\n    }\n    return -1\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the collection
is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n * \npublic fun <T> Iterable<T>.last(): T
{\n    when (this) {\n        is List -> return this.last()\n        else -> {\n            val iterator = iterator()\n            if
(!iterator.hasNext())\n                throw NoSuchElementException("Collection is empty.")\n            var last =
iterator.next()\n            while (iterator.hasNext())\n                last = iterator.next()\n            return last\n        }\n    }\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the list is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n * \npublic fun <T> List<T>.last(): T {\n    if (isEmpty())\n        throw NoSuchElementException("List is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last
element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n *
@sample samples.collections.Collections.Elements.last\n * \npublic inline fun <T>
Iterable<T>.last(predicate: (T) -> Boolean): T {\n    var last: T? = null\n    var found = false\n    for (element in this)
{\n        if (predicate(element)) {\n            last = element\n            found = true\n        }\n    }\n    if (!found) throw
NoSuchElementException("Collection contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return last as T\n}\n\n/**\n * Returns the last element matching the
given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n * \npublic inline fun <T> List<T>.last(predicate: (T) -> Boolean): T
{\n    val iterator = this.listIterator(size)\n    while (iterator.hasPrevious()) {\n        val element = iterator.previous()\n
        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("List contains no element
matching the predicate.")\n}\n\n/**\n * Returns last index of [element], or -1 if the collection does not contain
element.\n * \npublic fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.lastIndexOf(element: T): Int {\n    if
(this is List) return this.lastIndexOf(element)\n    var lastIndex = -1\n    var index = 0\n    for (item in this) {\n
        checkIndexOverflow(index)\n        if (element == item)\n            lastIndex = index\n            index++\n    }\n    return
lastIndex\n}\n\n/**\n * Returns last index of [element], or -1 if the list does not contain element.\n * \n
@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in
some cases\npublic fun <@kotlin.internal.OnlyInputTypes T> List<T>.lastIndexOf(element: T): Int {\n    return
lastIndexOf(element)\n}\n\n/**\n * Returns the last element, or `null` if the collection is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n * \npublic fun <T> Iterable<T>.lastOrNull(): T? {\n    when (this)
{\n        is List -> return if (isEmpty()) null else this[size - 1]\n        else -> {\n            val iterator = iterator()\n
            if (!iterator.hasNext())\n                return null\n            var last = iterator.next()\n            while (iterator.hasNext())\n
                last = iterator.next()\n            return last\n        }\n    }\n}\n\n/**\n * Returns the last element, or `null` if the
list is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n * \npublic fun <T>
List<T>.lastOrNull(): T? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element
matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n * \npublic inline fun <T> Iterable<T>.lastOrNull(predicate: (T) ->
Boolean): T? {\n    var last: T? = null\n    for (element in this) {\n        if (predicate(element)) {\n            last =
element\n        }\n    }\n    return last\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null`
if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.last\n * \npublic inline
fun <T> List<T>.lastOrNull(predicate: (T) -> Boolean): T? {\n    val iterator = this.listIterator(size)\n    while

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containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n *
\n * @sample samples.collections.Collections.Transformations.drop\n * \n\npublic fun <T> List<T>.dropLast(n: Int):
List<T> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n * \n\npublic inline fun <T>
List<T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {\n    if (!isEmpty()) {\n        val iterator =
listIterator(size)\n        while (iterator.hasPrevious()) {\n            if (!predicate(iterator.previous())) {\n                return
take(iterator.nextIndex() + 1)\n            }\n        }\n    }\n    return emptyList()\n}\n\n/**\n * Returns a list containing
all elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n * \n\npublic inline fun <T> Iterable<T>.dropWhile(predicate:
(T) -> Boolean): List<T> {\n    var yielding = false\n    val list = ArrayList<T>()\n    for (item in this)\n        if
(yielding)\n            list.add(item)\n        else if (!predicate(item)) {\n            list.add(item)\n            yielding = true\n        }\n    return list\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n *
@sample samples.collections.Collections.Filtering.filter\n * \n\npublic inline fun <T> Iterable<T>.filter(predicate: (T)
-> Boolean): List<T> {\n    return filterTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing only
elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n * \n\npublic inline fun <T>
Iterable<T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {\n    return
filterIndexedTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate] to
the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n *
and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n * \n\npublic inline fun <T, C : MutableCollection<in T>>
Iterable<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n    forEachIndexed { index,
element ->\n        if (predicate(index, element)) destination.add(element)\n    }\n    return destination\n}\n\n/**\n *
Returns a list containing all elements that are instances of specified type parameter R.\n * \n * @sample
samples.collections.Collections.Filtering.filterIsInstance\n * \n\npublic inline fun <reified R>
Iterable<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {\n    return
filterIsInstanceTo(ArrayList<R>())\n}\n\n/**\n * Appends all elements that are instances of specified type
parameter R to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterIsInstanceTo\n * \n\npublic inline fun <reified R, C :
MutableCollection<in R>> Iterable<*>.filterIsInstanceTo(destination: C): C {\n    for (element in this) if (element is
R) destination.add(element)\n    return destination\n}\n\n/**\n * Returns a list containing all elements not matching
the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n * \n\npublic inline fun <T>
Iterable<T>.filterNot(predicate: (T) -> Boolean): List<T> {\n    return filterNotTo(ArrayList<T>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements that are not `null`.\n * \n * @sample
samples.collections.Collections.Filtering.filterNotNull\n * \n\npublic fun <T : Any> Iterable<T?>.filterNotNull():
List<T> {\n    return filterNotNullTo(ArrayList<T>())\n}\n\n/**\n * Appends all elements that are not `null` to the
given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterNotNullTo\n * \n\npublic fun <C
: MutableCollection<in T>, T : Any> Iterable<T?>.filterNotNullTo(destination: C): C {\n    for (element in this) if
(element != null) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements not matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n * \n\npublic inline fun <T, C : MutableCollection<in T>>
Iterable<T>.filterNotTo(destination: C, predicate: (T) ->
Boolean): C {\n    for (element in this) if (!predicate(element)) destination.add(element)\n    return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n * \n\npublic inline fun <T, C : MutableCollection<in
T>> Iterable<T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\n    for (element in this) if
(predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Returns a list containing elements

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at indices in the specified [indices] range.\n *^\\npublic fun <T> List<T>.slice(indices: IntRange): List<T> {\n  if
(indices.isEmpty()) return listOf()\n  return this.subList(indices.start, indices.endInclusive + 1).toList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n *^\\npublic fun <T> List<T>.slice(indices:
Iterable<Int>): List<T> {\n  val size = indices.collectionSizeOrDefault(10)\n  if (size == 0) return emptyList()\n  val list = ArrayList<T>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n *^\\npublic fun <T> Iterable<T>.take(n: Int):
List<T> {\n  require(n >= 0) {\n    "Requested element count $n is less than zero." }\n  if (n == 0) return
emptyList()\n  if (this is Collection<T>) {\n    if (n >= size) return toList()\n    if (n == 1) return
listOf(first())\n  }\n  var count = 0\n  val list = ArrayList<T>(n)\n  for (item in this) {\n    list.add(item)\n
if (++count == n)\n    break\n  }\n  return list.optimizeReadOnlyList()\n}\n\n/**\n * Returns a list containing
last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\\npublic fun <T> List<T>.takeLast(n: Int): List<T> {\n
require(n >= 0) {\n    "Requested element count $n is less than zero." }\n  if (n == 0) return emptyList()\n
val size =
size\n  if (n >= size) return toList()\n  if (n == 1) return listOf(last())\n  val list = ArrayList<T>(n)\n  if (this is
RandomAccess) {\n    for (index in size - n until size)\n      list.add(this[index])\n  } else {\n    for (item in
listIterator(size - n))\n      list.add(item)\n  }\n  return list\n}\n\n/**\n * Returns a list containing last elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *^\\npublic
inline fun <T> List<T>.takeLastWhile(predicate: (T) -> Boolean): List<T> {\n  if (isEmpty())\n    return
emptyList()\n  val iterator = listIterator(size)\n  while (iterator.hasPrevious()) {\n    if
(!predicate(iterator.previous())) {\n      iterator.next()\n      val expectedSize = size - iterator.nextIndex()\n
if (expectedSize == 0) return emptyList()\n      return ArrayList<T>(expectedSize).apply {\n        while
(iterator.hasNext())\n          add(iterator.next())\n        }\n      }\n    }\n  }\n  return toList()\n}\n\n/**\n *
Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\\npublic inline fun <T> Iterable<T>.takeWhile(predicate:
(T) -> Boolean): List<T> {\n  val list = ArrayList<T>()\n  for (item in this) {\n    if (!predicate(item))\n
break\n    list.add(item)\n  }\n  return list\n}\n\n/**\n * Reverses elements in the list in-place.\n *^\\npublic
expect fun <T> MutableList<T>.reverse(): Unit\n\n/**\n * Returns a list with elements in reversed order.\n
^\\npublic fun <T> Iterable<T>.reversed(): List<T> {\n  if (this is Collection && size <= 1) return toList()\n  val
list = toMutableList()\n  list.reverse()\n  return list\n}\n\n/**\n * Randomly shuffles elements in this list in-place
using the specified [random] instance as the source of randomness.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n
^\\n@SinceKotlin("1.3")\npublic fun <T> MutableList<T>.shuffle(random: Random): Unit {\n  for (i in lastIndex
downTo 1) {\n    val j = random.nextInt(i + 1)\n    this[j] = this.set(i, this[j])\n  }\n}\n\n/**\n * Sorts elements
in the list in-place according to natural sort order of the value returned by specified [selector] function.\n * \n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n *^\\npublic
inline fun <T, R : Comparable<R>> MutableList<T>.sortBy(crossinline selector: (T) -> R?): Unit {\n  if (size > 1)
sortWith(compareBy(selector))\n}\n\n/**\n * Sorts elements in the list in-place descending according to natural sort
order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n *^\\npublic inline fun <T, R : Comparable<R>>
MutableList<T>.sortByDescending(crossinline selector: (T) -> R?): Unit {\n  if (size > 1)
sortWith(compareByDescending(selector))\n}\n\n/**\n * Sorts elements in the list in-place descending according to
their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to
each other after sorting.\n *^\\npublic fun <T : Comparable<T>> MutableList<T>.sortDescending(): Unit {\n
sortWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n *
\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n
^\\npublic fun <T : Comparable<T>> Iterable<T>.sorted(): List<T> {\n  if (this is Collection) {\n    if (size <= 1)
return this.toList()\n    @SuppressWarnings("UNCHECKED_CAST")\n    return (toArray<Comparable<T>>())

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as Array<T>).apply { sort() }.asList()\n } \n return toMutableList().apply { sort() }\n}\n\n/**\n * Returns a list of
all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n *
@sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural
sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Iterable<T>.sortedDescending(): List<T>
{\n return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to the specified
[comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n */\npublic fun <T> Iterable<T>.sortedWith(comparator: Comparator<in T>): List<T> {\n if (this is
Collection) {\n if (size <= 1) return this.toList()\n @SuppressWarnings("UNCHECKED_CAST")\n return
(toTypedArray<Any?>() as Array<T>).apply { sortWith(comparator) }.asList()\n } \n return
toMutableList().apply { sortWith(comparator) }\n}\n\n/**\n * Returns an array of Boolean containing all of the
elements of this collection.\n */\npublic fun Collection<Boolean>.toBooleanArray(): BooleanArray {\n val result
= BooleanArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return
result\n}\n\n/**\n * Returns an array of Byte containing all of the elements of this collection.\n */\npublic fun
Collection<Byte>.toByteArray(): ByteArray {\n val result = ByteArray(size)\n var index = 0\n for (element in
this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array of Char containing all of the
elements of this collection.\n */\npublic fun Collection<Char>.toCharArray(): CharArray {\n val result =
CharArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return
result\n}\n\n/**\n * Returns an array of Double containing all of the elements of this collection.\n */\npublic fun
Collection<Double>.toDoubleArray(): DoubleArray {\n val result = DoubleArray(size)\n var index = 0\n for
(element in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array of Float containing
all of the elements of this collection.\n */\npublic fun Collection<Float>.toFloatArray(): FloatArray {\n val result
= FloatArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return
result\n}\n\n/**\n * Returns an array of Int containing all of the elements of this collection.\n */\npublic fun
Collection<Int>.toIntArray(): IntArray {\n val result = IntArray(size)\n var index = 0\n for (element in this)\n
result[index++] = element\n return result\n}\n\n/**\n * Returns an array of Long containing all of the elements
of this collection.\n */\npublic fun Collection<Long>.toLongArray(): LongArray {\n val result =
LongArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return
result\n}\n\n/**\n * Returns an array of Short containing all of the elements of this collection.\n */\npublic fun
Collection<Short>.toShortArray(): ShortArray {\n val result = ShortArray(size)\n var index = 0\n for (element
in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns a [Map] containing key-value pairs
provided by [transform] function\n * applied to elements of the given collection.\n * \n * If any of two pairs would
have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order
of the original collection.\n * \n * @sample samples.collections.Collections.Transformations.associate\n */\npublic
inline fun <T, K, V> Iterable<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n val capacity =
mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n return associateTo(LinkedHashMap<K,
V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given collection indexed
by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.associateBy\n */\npublic inline fun <T, K>

```



```

Iterable<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n  val capacity =
mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K,
T>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and
indexed by [keySelector] functions applied to elements of the given collection.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.associateByWithValueTransform\n */\npublic inline fun <T, K, V>
Iterable<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n  val capacity =
mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K,
V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with
key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given
collection\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by
[keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateByTo\n */\npublic inline fun <T, K, M : MutableMap<in
K, in T>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n  for (element in this) {\n
destination.put(keySelector(element), element)\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and
value is provided by the [valueTransform] function applied to elements of the given collection.\n * \n * If any two
elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateByToWithValueTransform\n */\npublic inline fun <T, K,
V, M : MutableMap<in K, in V>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n  for (element in this) {\n    destination.put(keySelector(element),
valueTransform(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs\n * provided by [transform] function applied to each element of the given collection.\n *
\n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateTo\n */\npublic inline fun <T, K, V, M : MutableMap<in
K, in V>> Iterable<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n  for (element in this) {\n
destination += transform(element)\n  }\n  return destination\n}\n\n/**\n * Returns a [Map] where keys are
elements from the given collection and values are\n * produced by the [valueSelector] function applied to each
element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map
preserves the entry iteration order of the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin("1.3")\npublic inline fun <K,
V> Iterable<K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n  val result = LinkedHashMap<K,
V>(mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16))\n  return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each
element of the given collection,\n * where key is the element itself and value is provided by the [valueSelector]
function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the
map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin("1.3")\npublic inline fun <K, V, M : MutableMap<in K, in V>>
Iterable<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Appends all elements to
the given [destination] collection.\n * \n * @public fun <T, C : MutableCollection<in T>>
Iterable<T>.toCollection(destination: C): C {\n  for (item in this) {\n    destination.add(item)\n  }\n  return
destination\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n * \n * @public fun <T> Iterable<T>.toHashSet():
HashSet<T> {\n  return toCollection(HashSet<T>(mapCapacity(collectionSizeOrDefault(12))))\n}\n\n/**\n *
Returns a [List] containing all elements.\n * \n * @public fun <T> Iterable<T>.toList(): List<T> {\n  if (this is
Collection) {\n    return when (size) {\n      0 -> emptyList()\n      1 -> listOf(if (this is List) get(0) else
iterator().next())\n    } else -> this.toMutableList()\n  }\n  return

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this.toMutableList().optimizeReadOnlyList()\n\n/**\n * Returns a new [MutableList] filled with all elements of
this collection.\n */\npublic fun <T> Iterable<T>.toMutableList(): MutableList<T> {\n    if (this is Collection<T>)\n        return this.toMutableList()\n    return toCollection(ArrayList<T>())\n}\n\n/**\n * Returns a new [MutableList]
filled with all elements of this collection.\n */\npublic fun <T> Collection<T>.toMutableList(): MutableList<T> {\n
    return ArrayList(this)\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element
iteration order of the original collection.\n */\npublic fun <T> Iterable<T>.toSet(): Set<T> {\n    if (this is
Collection) {\n        return when (size) {\n            0 -> emptySet()\n            1 -> setOf(if (this is List) this[0] else
iterator().next())\n            else -> toCollection(LinkedHashSet<T>(mapCapacity(size)))\n        }\n    }\n    return
toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()\n}\n\n/**\n * Returns a single list of all elements
yielded from results of [transform] function being invoked on each element of original collection.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <T, R>
Iterable<T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original collection.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequence")\npublic inline fun <T, R>
Iterable<T>.flatMap(transform: (T) -> Sequence<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element\n * and its index in the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R> Iterable<T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original collection.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequence")\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R> Iterable<T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original collection, to the given
[destination].\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapIndexedTo(destination: C, transform: (index:
Int, T) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =
transform(checkIndexOverflow(index++), element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element\n * and its index in the original collection, to the given [destination].\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequenceTo")\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapIndexedTo(destination: C, transform:
(index: Int, T) -> Sequence<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =
transform(checkIndexOverflow(index++), element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original collection, to the given [destination].\n */\n\npublic inline fun <T, R, C : MutableCollection<in
R>> Iterable<T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n    for (element in this) {\n        val

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list = transform(element)\n    destination.addAll(list)\n } \n return destination\n}\n\n/**\n * Appends all
elements yielded from results of [transform] function being invoked on each element of original collection, to the
given [destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequenceTo")\npublic inline fun <T, R, C :
MutableCollection<in R>> Iterable<T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C {\n for
(element in this) {\n    val list = transform(element)\n    destination.addAll(list)\n } \n return
destination\n}\n\n/**\n * Groups elements of the original collection by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original collection.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *\npublic inline
fun <T, K> Iterable<T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n return
groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups values returned by the
[valueTransform] function applied to each element of the original collection\n * by the key returned by the given
[keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of
corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original collection.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\npublic inline fun <T, K, V> Iterable<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K,
List<V>> {\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector,
valueTransform)\n}\n\n/**\n * Groups elements of the original collection by the key returned by the given
[keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with
a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <T, K, M : MutableMap<in K,
MutableList<T>>> Iterable<T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n for (element in this) {\n
    val key = keySelector(element)\n    val list = destination.getOrPut(key) { ArrayList<T>() }\n
list.add(element)\n } \n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function
applied to each element of the original collection\n * by the key returned by the given [keySelector] function applied
to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n
*\n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n *\npublic inline fun <T, K, V, M :
MutableMap<in K, MutableList<V>>> Iterable<T>.groupByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n } \n return
destination\n}\n\n/**\n * Creates a [Grouping] source from a collection to be used later with one of group-and-fold
operations\n * using the specified [keySelector] function to extract a key from each element.\n * \n * @sample
samples.collections.Grouping.groupingByEachCount\n *\n@SinceKotlin("1.1")\npublic inline fun <T, K>
Iterable<T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {\n return object : Grouping<T, K>
{\n    override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()\n    override fun keyOf(element:
T): K = keySelector(element)\n } \n}\n\n/**\n * Returns a list containing the results of applying the given
[transform] function\n * to each element in the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.map\n *\npublic inline fun <T, R> Iterable<T>.map(transform:
(T) -> R): List<R> {\n return mapTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in
the original collection.\n * @param [transform] function that takes the index of an element and the element itself\n *
and returns the result of the transform applied to the element.\n *\npublic inline fun <T, R>
Iterable<T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {\n return
mapIndexedTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)\n}\n\n/**\n * Returns a list containing only
the non-null results of applying the given [transform] function\n * to each element and its index in the original

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original collection.\n */\npublic fun <T> Iterable<T>.toMutableSet(): MutableSet<T> {\n    return when (this) {\n        is Collection<T> -> LinkedHashSet(this)\n        else -> toCollection(LinkedHashSet<T>())\n    }\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original collection.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun <T> Iterable<T>.union(other: Iterable<T>): Set<T> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun <T> Iterable<T>.all(predicate: (T) -> Boolean): Boolean {\n    if (this is Collection && isEmpty()) return true\n    for (element in this) if (!predicate(element)) return false\n    return true\n}\n\n/**\n * Returns `true` if collection has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun <T> Iterable<T>.any(): Boolean {\n    if (this is Collection) return !isEmpty()\n    return iterator().hasNext()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun <T> Iterable<T>.any(predicate: (T) -> Boolean): Boolean {\n    if (this is Collection && isEmpty()) return false\n    for (element in this) if (predicate(element)) return true\n    return false\n}\n\n/**\n * Returns the number of elements in this collection.\n */\npublic fun <T> Iterable<T>.count(): Int {\n    if (this is Collection) return size\n    var count = 0\n    for (element in this) checkCountOverflow(++count)\n    return count\n}\n\n/**\n * Returns the number of elements in this collection.\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun <T> Collection<T>.count(): Int {\n    return size\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun <T> Iterable<T>.count(predicate: (T) -> Boolean): Int {\n    if (this is Collection && isEmpty()) return 0\n    var count = 0\n    for (element in this) if (predicate(element)) checkCountOverflow(++count)\n    return count\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the collection is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Iterable<T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n    var accumulator = initial\n    for (element in this) accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original collection.\n * \n * Returns the specified [initial] value if the collection is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Iterable<T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {\n    var index = 0\n    var accumulator = initial\n    for (element in this) accumulator = operation(checkIndexOverflow(index++), accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the list is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <T, R> List<T>.foldRight(initial: R, operation: (T, acc: R) -> R): R {\n    var accumulator = initial\n    if (!isEmpty()) {\n        val iterator = listIterator(size)\n        while (iterator.hasPrevious()) {\n            accumulator = operation(iterator.previous(), accumulator)\n        }\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original list and current accumulator value.\n * \n * Returns the specified [initial] value if the list is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <T, R> List<T>.foldRightIndexed(initial: R, operation: (index: Int, T, acc: R) -> R): R {\n    var accumulator = initial\n    if (!isEmpty()) {\n        val iterator = listIterator(size)\n        while (iterator.hasPrevious()) {\n            val index = iterator.previousIndex()\n            accumulator = operation(index, iterator.previous(), accumulator)\n        }\n    }\n    return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n */

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@kotlin.internal.HidesMembers\npublic inline fun <T> Iterable<T>.forEach(action: (T) -> Unit): Unit {\n for  

(element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential  

index with the element.\n * @param [action] function that takes the index of an element and the element itself\n *  

and performs the action on the element.\n */\npublic inline fun <T> Iterable<T>.forEachIndexed(action: (index: Int,  

T) -> Unit): Unit {\n var index = 0\n for (item in this) action(checkIndexOverflow(index++),  

item)\n}\n\n@Deprecated("Use maxOrNull instead.")  

ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",  

hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Iterable<Double>.max(): Double? {\n return  

maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.")  

ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",  

hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Iterable<Float>.max(): Float? {\n return  

maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.")  

ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",  

hiddenSince = "1.6")\npublic fun <T : Comparable<T>> Iterable<T>.max(): T? {\n return  

maxOrNull()\n}\n\n@Deprecated("Use maxByOrNull instead.")  

ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =  

"1.5", hiddenSince = "1.6")\npublic inline fun <T, R : Comparable<R>> Iterable<T>.maxBy(selector: (T) -> R):  

T? {\n return maxByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the largest value of the given  

function or `null` if there are no elements.\n * \n * @sample  

samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin("1.4")\npublic inline fun <T, R :  

Comparable<R>> Iterable<T>.maxByOrNull(selector: (T) -> R): T? {\n val iterator = iterator()\n if  

(!iterator.hasNext()) return null\n var maxElem = iterator.next()\n if (!iterator.hasNext()) return maxElem\n var  

maxValue = selector(maxElem)\n do {\n val e = iterator.next()\n val v = selector(e)\n if (maxValue <  

v) {\n maxElem = e\n maxValue = v\n } } while (iterator.hasNext())\n return  

maxElem\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to  

each element in the collection.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result  

is `NaN`.\n * \n * @throws NoSuchElementException if the collection is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.maxOf(selector: (T) ->  

Double): Double {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var  

maxValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n  

maxValue = maxOf(maxValue, v)\n } } return maxValue\n}\n\n/**\n * Returns the largest value among all  

values produced by [selector] function\n * applied to each element in the collection.\n * \n * If any of values  

produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException  

if the collection is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.maxOf(selector: (T) ->  

Float): Float {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var  

maxValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n  

maxValue = maxOf(maxValue, v)\n } } return maxValue\n}\n\n/**\n * Returns the largest value among all  

values produced by [selector] function\n * applied to each element in the collection.\n * \n * @throws  

NoSuchElementException if the collection is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>  

Iterable<T>.maxOf(selector: (T) -> R): R {\n val iterator = iterator()\n if (!iterator.hasNext()) throw  

NoSuchElementException()\n var maxValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v  

= selector(iterator.next())\n if (maxValue < v) {\n maxValue = v\n } } } return  

maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to

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ReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun <T> Iterable<T>.maxWith(comparator: Comparator<in T>): T? {\n
return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the
provided [comparator] or `null` if there are no elements.\n * ^\n@SinceKotlin("1.4")\npublic fun <T>
Iterable<T>.maxWithOrNull(comparator: Comparator<in T>): T? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var max = iterator.next()\n    while (iterator.hasNext()) {\n        val e =
iterator.next()\n        if (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n@Deprecated("Use
minOrNull instead.")\nReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Iterable<Double>.min(): Double?
{\n    return minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.")\nReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Iterable<Float>.min(): Float? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.")\nReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun <T : Comparable<T>> Iterable<T>.min(): T? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minByOrNull instead.")\nReplaceWith("this.minByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <T, R : Comparable<R>> Iterable<T>.minBy(selector: (T) -> R):
T? {\n    return minByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the smallest value of the
given function or `null` if there are no elements.\n * ^\n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * ^\n@SinceKotlin("1.4")\npublic inline fun <T, R :
Comparable<R>> Iterable<T>.minByOrNull(selector: (T) -> R): T? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var minElem = iterator.next()\n    if (!iterator.hasNext()) return minElem\n    var
minValue = selector(minElem)\n    do {\n        val e = iterator.next()\n        val v = selector(e)\n        if (minValue >
v) {\n            minElem = e\n            minValue = v\n        }\n    } while (iterator.hasNext())\n    return
minElem\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the collection.\n * ^\n * If any of values produced by [selector] function is `NaN`, the returned result
is `NaN`.\n * ^\n * @throws NoSuchElementException if the collection is empty.\n\n * ^\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOf(selector: (T) ->
Double): Double {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all
values produced by [selector] function\n * applied to each element in the collection.\n * ^\n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n * ^\n * @throws NoSuchElementException
if the collection is empty.\n\n * ^\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOf(selector: (T) ->
Float): Float {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all
values produced by [selector] function\n * applied to each element in the collection.\n * ^\n * @throws
NoSuchElementException if the collection is empty.\n\n * ^\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.minOf(selector: (T) -> R): R {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw
NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v
= selector(iterator.next())\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return

```


minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the collection or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOrNull(selector: (T)\n-> Double): Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var minValue =\n    selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        minValue =\n        minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced\n * by [selector] function\n * applied to each element in the collection or `null` if there are no elements.\n * \n * If any\n * of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOrNull(selector: (T)\n-> Float): Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var minValue =\n    selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        minValue =\n        minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced\n * by [selector] function\n * applied to each element in the collection or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>\nIterable<T>.minOrNull(selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return\n    null\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v =\n        selector(iterator.next())\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values\n * produced by [selector] function applied to each element in the collection.\n * \n * @throws\n * NoSuchElementException if the collection is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Iterable<T>.minWith(comparator:\nComparator<in R>, selector: (T) -> R): R {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw\n    NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v\n        = selector(iterator.next())\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all\n * values produced by [selector] function applied to each element in the collection or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>\nIterable<T>.minWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n    val iterator =\n    iterator()\n    if (!iterator.hasNext()) return null\n    var minValue = selector(iterator.next())\n    while\n    (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (comparator.compare(minValue, v) > 0) {\n           \n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest element or `null` if there are\n * no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n * \n * @since Kotlin 1.4\n * \n * public fun\n
```

```
Iterable<Double>.minOrNull(): Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var\n    min = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements\n * is `NaN` returns `NaN`.\n * \n * @since Kotlin 1.4\n * \n * public fun Iterable<Float>.minOrNull(): Float? {\n    val\n    iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var min = iterator.next()\n    while (iterator.hasNext())\n    {\n        val e = iterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest\n * element or `null` if there are no elements.\n * \n * @since Kotlin 1.4\n * \n * public fun <T : Comparable<T>>\n
```

```
Iterable<T>.minOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var min =\n    iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        if (min > e) min = e\n    }\n    return\n    min\n}\n\n@Deprecated("Use minWithOrNull instead.")\n
```



```

the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>\n
Iterable<T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n    val iterator = this.iterator()\n    if\n
(!iterator.hasNext()) return null\n    var accumulator: S = iterator.next()\n    while (iterator.hasNext()) {\n
accumulator = operation(accumulator, iterator.next())\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value\n
starting with the last element and applying [operation] from right to left\n * to each element and current accumulator\n
value.\n * \n * Throws an exception if this list is empty. If the list can be empty in an expected way,\n * please use\n
[reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that\n
takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample\n
samples.collections.Collections.Aggregates.reduceRight\n *\npublic inline fun <S, T : S>\n
List<T>.reduceRight(operation: (T, acc: S) -> S): S {\n    val iterator = listIterator(size)\n    if\n
(!iterator.hasPrevious())\n        throw UnsupportedOperationException("Empty list can't be reduced.")\n    var\n
accumulator: S = iterator.previous()\n    while (iterator.hasPrevious()) {\n        accumulator =\n
operation(iterator.previous(), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting\n
with the last element and applying [operation] from right to left\n * to each element with its index in the original list\n
and current accumulator value.\n * \n * Throws an exception if this list is empty. If the list can be empty in an\n
expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n *\n
@param [operation] function that takes the index of an element, the element itself and current accumulator\n
value,\n * and calculates the next accumulator value.\n * \n * @sample\n
samples.collections.Collections.Aggregates.reduceRight\n *\npublic inline fun <S, T : S>\n
List<T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {\n    val iterator = listIterator(size)\n    if\n
(!iterator.hasPrevious())\n        throw UnsupportedOperationException("Empty list can't be reduced.")\n    var\n
accumulator: S = iterator.previous()\n    while (iterator.hasPrevious()) {\n        val index = iterator.previousIndex()\n
accumulator = operation(index, iterator.previous(), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting\n
with the last element and applying [operation] from right to left\n * to each element with\n
its index in the original list and current accumulator value.\n * \n * Returns `null` if the list is empty.\n * \n *\n
@param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
and calculates the next accumulator value.\n * \n * @sample\n
samples.collections.Collections.Aggregates.reduceRightOrNull\n *\n@SinceKotlin("1.4")\npublic inline fun <S,\n
T : List<T>>.reduceRightIndexedOrNull(operation: (index: Int, T, acc: S) -> S): S? {\n    val iterator =\n
listIterator(size)\n    if (!iterator.hasPrevious())\n        return null\n    var accumulator: S = iterator.previous()\n
while (iterator.hasPrevious()) {\n        val index = iterator.previousIndex()\n        accumulator = operation(index,\n
iterator.previous(), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last\n
element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *\n
Returns `null` if the list is empty.\n * \n * @param [operation] function that takes an element and current\n
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample\n
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>\n
List<T>.reduceRightOrNull(operation: (T, acc: S) -> S): S? {\n    val iterator = listIterator(size)\n    if\n
(!iterator.hasPrevious())\n        return null\n    var accumulator: S = iterator.previous()\n    while\n
(iterator.hasPrevious()) {\n        accumulator = operation(iterator.previous(), accumulator)\n    }\n    return\n
accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying\n
[operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n *\n
Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the\n
previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an\n
element, and calculates the next accumulator value.\n * \n * @sample\n
samples.collections.Collections.Aggregates.runningFold\n *\n@SinceKotlin("1.4")\npublic inline fun <T, R>\n
Iterable<T>.runningFold(initial: R, operation: (acc: R, T) -> R): List<R> {\n    val estimatedSize =

```

```

collectionSizeOrDefault(9)\n    if (estimatedSize == 0) return listOf(initial)\n    val result =
ArrayList<R>(estimatedSize + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n
accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original collection and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin("1.4")\npublic inline fun <T, R>
Iterable<T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n    val estimatedSize
= collectionSizeOrDefault(9)\n    if (estimatedSize == 0) return listOf(initial)\n    val result =
ArrayList<R>(estimatedSize + 1).apply { add(initial) }\n    var index = 0\n    var accumulator = initial\n    for
(element in this) {\n        accumulator = operation(index++, accumulator, element)\n        result.add(accumulator)\n
    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with the first element of
this collection.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it
would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator
value and the element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
Iterable<T>.runningReduce(operation: (acc: S, T) -> S): List<S> {\n    val iterator = this.iterator()\n    if
(!iterator.hasNext()) return emptyList()\n    var accumulator: S = iterator.next()\n    val result =
ArrayList<S>(collectionSizeOrDefault(10)).apply { add(accumulator) }\n    while (iterator.hasNext()) {\n
accumulator = operation(accumulator, iterator.next())\n        result.add(accumulator)\n    }\n    return
result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from
left to right\n * to each element, its index in the original collection and current accumulator value that starts with the
first element of this collection.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n
* otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin("1.4")\npublic inline fun <S, T : S> Iterable<T>.runningReduceIndexed(operation: (index: Int,
acc: S, T) -> S): List<S> {\n    val iterator = this.iterator()\n    if (!iterator.hasNext()) return emptyList()\n    var
accumulator: S = iterator.next()\n    val result = ArrayList<S>(collectionSizeOrDefault(10)).apply {\n
add(accumulator) }\n    var index = 1\n    while (iterator.hasNext()) {\n        accumulator = operation(index++,
accumulator, iterator.next())\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R>
Iterable<T>.scan(initial: R, operation: (acc: R, T) -> R): List<R> {\n    return runningFold(initial,
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each element, its index in the original collection and current accumulator value that starts
with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n */

```

```

*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R>
Iterable<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n    return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the collection.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>
Iterable<T>.sumBy(selector: (T) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the collection.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>
Iterable<T>.sumByDouble(selector: (T) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the collection.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Iterable<T>.sumOf(selector: (T) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the collection.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Iterable<T>.sumOf(selector: (T) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the collection.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Iterable<T>.sumOf(selector: (T) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n
        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the collection.\n */\n\n*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.sumOf(selector: (T) -> UInt): UInt {\n
    var sum: UInt = 0.toUInt()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
collection.\n */\n\n*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.sumOf(selector: (T) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an
[IllegalArgumentException] if there are any `null` elements.\n */\n\npublic fun <T : Any>
Iterable<T?>.requireNotNulls(): Iterable<T> {\n    for (element in this) {\n        if (element == null) {\n            throw
IllegalArgumentException("null element found in $this.")\n        }\n    }\n    @Suppress("UNCHECKED_CAST")\n    return this as Iterable<T>\n}\n\n/**\n * Returns an original collection
containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.\n */\n\n*\npublic fun <T : Any> List<T?>.requireNotNulls(): List<T> {\n    for (element in this) {\n        if (element ==
null) {\n            throw IllegalArgumentException("null element found in $this.")\n        }\n    }\n    @Suppress("UNCHECKED_CAST")\n    return this as List<T>\n}\n\n/**\n * Splits this collection into a list of
lists each not exceeding the given [size].\n */\n\n*\n * The last list in the resulting list may have fewer elements than the
given [size].\n */\n\n*\n * @param size the number of elements to take in each list, must be positive and can be greater

```

than the number of elements in this collection.

```

@sample
samples.collections.Collections.Transformations.chunked
fun <T> Iterable<T>.chunked(size: Int): List<List<T>> {
    return windowed(size, size, partialWindows = true)
}

```

* Splits this collection into several lists each not exceeding the given [size] and applies the given [transform] function to an each.

```

@return list of results of the [transform] applied to an each list.

```

* Note that the list passed to the [transform] function is ephemeral and is valid only inside that function. You should not store it or allow it to escape in some way, unless you made a snapshot of it. The last list may have fewer elements than the given [size].

```

@param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this collection.
@sample samples.text.Strings.chunkedTransform
fun <T, R> Iterable<T>.chunked(size: Int, transform: (List<T>) -> R): List<R> {
    return windowed(size, size, partialWindows = true, transform = transform)
}

```

* Returns a list containing all elements of the original collection without the first occurrence of the given [element].

```

public operator fun <T> Iterable<T>.minus(element: T): List<T> {
    val result = ArrayList<T>(collectionSizeOrDefault(10))
    var removed = false
    return this.filterTo(result) { if (!removed && it == element) { removed = true; false } else true }
}

```

* Returns a list containing all elements of the original collection except the elements contained in the given [elements] array. Before Kotlin 1.6, the [elements] array may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of hashCode() that didn't change between successive invocations. On JVM, you can enable this behavior back with the system property kotlin.collections.convert_arg_to_set_in_removeAll set to true.

```

public operator fun <T> Iterable<T>.minus(elements: Array<out T>): List<T> {
    if (elements.isEmpty()) return this.toList()
    val other = elements.convertToSetForSetOperation()
    return this.filterNot { it in other }
}

```

* Returns a list containing all elements of the original collection except the elements contained in the given [elements] collection. Before Kotlin 1.6, the [elements] collection may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of hashCode() that didn't change between successive invocations. On JVM, you can enable this behavior back with the system property kotlin.collections.convert_arg_to_set_in_removeAll set to true.

```

public operator fun <T> Iterable<T>.minus(elements: Iterable<T>): List<T> {
    val other = elements.convertToSetForSetOperationWith(this)
    if (other.isEmpty()) return this.toList()
    return this.filterNot { it in other }
}

```

* Returns a list containing all elements of the original collection except the elements contained in the given [elements] sequence. Before Kotlin 1.6, the [elements] sequence may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of hashCode() that didn't change between successive invocations. On JVM, you can enable this behavior back with the system property kotlin.collections.convert_arg_to_set_in_removeAll set to true.

```

public operator fun <T> Iterable<T>.minus(elements: Sequence<T>): List<T> {
    val other = elements.convertToSetForSetOperation()
    if (other.isEmpty()) return this.toList()
    return this.filterNot { it in other }
}

```

* Returns a list containing all elements of the original collection without the first occurrence of the given [element].

```

@kotlin.internal.InlineOnly
public inline fun <T> Iterable<T>.minusElement(element: T): List<T> {
    return minus(element)
}

```

* Splits the original collection into pair of lists, where *first* list contains elements for which [predicate] yielded true, while *second* list contains elements for which [predicate] yielded false.

```

@sample
samples.collections.Iterables.Operations.partition
fun <T> Iterable<T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {
    val first = ArrayList<T>()
    val second = ArrayList<T>()
    for (element in this) {
        if (predicate(element)) first.add(element)
        else second.add(element)
    }
    return Pair(first, second)
}

```

* Returns a list containing all elements of the original collection and then the given [element].

```

public operator fun <T> Iterable<T>.plus(element: T): List<T> {
    if (this is Collection) return this.plus(element)
    val result = ArrayList<T>()
    result.addAll(this)
    result.add(element)
    return result
}

```

* Returns a list containing all elements of the

```

original collection and then the given [element].\n */\npublic operator fun <T> Collection<T>.plus(element: T):
List<T> {\n    val result = ArrayList<T>(size + 1)\n    result.addAll(this)\n    result.add(element)\n    return
result\n}\n\n/**\n * Returns a list containing all elements of the original collection and then all elements of the given
[elements] array.\n */\npublic operator fun <T> Iterable<T>.plus(elements: Array<out T>): List<T> {\n    if (this is
Collection) return this.plus(elements)\n    val result = ArrayList<T>()\n    result.addAll(this)\n
result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a list containing all elements of the original
collection and then all elements of the given [elements] array.\n */\npublic operator fun <T>
Collection<T>.plus(elements: Array<out T>): List<T> {\n    val result = ArrayList<T>(this.size + elements.size)\n
result.addAll(this)\n    result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a list containing all elements
of the original collection and then all elements of the given [elements] collection.\n */\npublic operator fun <T>
Iterable<T>.plus(elements: Iterable<T>): List<T> {\n    if (this is Collection) return this.plus(elements)\n    val
result = ArrayList<T>()\n    result.addAll(this)\n    result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a
list containing all elements of the original collection and then all elements of the given [elements] collection.\n
*/\npublic operator fun <T> Collection<T>.plus(elements: Iterable<T>): List<T> {\n    if (elements is Collection)
{\n        val result = ArrayList<T>(this.size + elements.size)\n        result.addAll(this)\n
result.addAll(elements)\n        return result\n    } else {\n        val result = ArrayList<T>(this)\n
result.addAll(elements)\n        return result\n    }\n}\n\n/**\n * Returns a list containing all elements of the original
collection and then all elements of the given [elements] sequence.\n */\npublic operator fun <T>
Iterable<T>.plus(elements: Sequence<T>): List<T> {\n    val result = ArrayList<T>()\n    result.addAll(this)\n
result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a list containing all elements of the original
collection and then all elements of the given [elements] sequence.\n */\npublic operator fun <T>
Collection<T>.plus(elements: Sequence<T>): List<T> {\n    val result = ArrayList<T>(this.size + 10)\n
result.addAll(this)\n    result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a list containing all elements
of the original collection and then the given [element].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Iterable<T>.plusElement(element: T): List<T> {\n    return plus(element)\n}\n\n/**\n * Returns a list containing all
elements of the original collection and then the given [element].\n */\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Collection<T>.plusElement(element: T): List<T> {\n    return plus(element)\n}\n\n/**\n * Returns a list of
snapshots of the window of the given [size]\n * sliding along this collection with the given [step], where each\n *
snapshot is a list.\n * \n * Several last lists may have fewer elements than the given [size].\n * \n * Both [size] and
[step] must be positive and can be greater than the number of elements in this collection.\n * \n * @param size the
number of elements to take in each window\n * @param step the number of elements to move the window forward
by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the
end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample
samples.collections.Sequences.Transformations.takeWindows\n * \n */\n@SinceKotlin("1.2")\npublic fun <T>
Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<List<T>> {\n
    checkWindowSizeStep(size, step)\n    if (this is RandomAccess && this is List) {\n        val thisSize = this.size\n
val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n        val result =
ArrayList<List<T>>(resultCapacity)\n        var index = 0\n        while (index in 0 until thisSize) {\n            val
windowSize = size.coerceAtMost(thisSize - index)\n            if (windowSize < size && !partialWindows) break\n
            result.add(List(windowSize) { this[it + index] })\n            index += step\n        }\n        return result\n    }\n    val
result = ArrayList<List<T>>()\n    windowedIterator(iterator(), size, step, partialWindows, reuseBuffer =
false).forEach {\n        result.add(it)\n    }\n    return result\n}\n\n/**\n * Returns a list of results of applying the
given [transform] function to\n * an each list representing a view over the window of the given [size]\n * sliding
along this collection with the given [step].\n * \n * Note that the list passed to the [transform] function is ephemeral
and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made
a snapshot of it.\n * Several last lists may have fewer elements than the given [size].\n * \n * Both [size] and [step]
must be positive and can be greater than the number of elements in this collection.\n * \n * @param size the number of
elements to take in each window\n * @param step the number of elements to move the window forward by on an

```

each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.averageWindows\n * \n * @SinceKotlin("1.2")\n * \n * public fun <T, R> Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R): List<R> {\n * checkWindowSizeStep(size, step)\n * if (this is RandomAccess && this is List) {\n * val thisSize = this.size\n * val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n * val result = ArrayList<R>(resultCapacity)\n * val window = MovingSubList(this)\n * var index = 0\n * while (index in 0 until thisSize) {\n * val windowSize = size.coerceAtMost(thisSize - index)\n * if (!partialWindows && windowSize < size) break\n * window.move(index, index + windowSize)\n * result.add(transform(window))\n * index += step\n * }\n * return result\n * }\n * val result = ArrayList<R>()\n * windowedIterator(iterator(), size, step, partialWindows, reuseBuffer = true).forEach {\n * result.add(transform(it))\n * }\n * return result\n * }\n * \n * Returns a list of pairs built from the elements of `this` collection and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n * \n * public infix fun <T, R> Iterable<T>.zip(other: Array<out R>): List<Pair<T, R>> {\n * return zip(other) { t1, t2 -> t1 to t2 }\n * }\n * \n * Returns a list of values built from the elements of `this` collection and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \n * public inline fun <T, R, V> Iterable<T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {\n * val arraySize = other.size\n * val list = ArrayList<V>(minOf(collectionSizeOrDefault(10), arraySize))\n * var i = 0\n * for (element in this) {\n * if (i >= arraySize) break\n * list.add(transform(element, other[i++]))\n * }\n * return list\n * }\n * \n * Returns a list of pairs built from the elements of `this` collection and [other] collection with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n * \n * public infix fun <T, R> Iterable<T>.zip(other: Iterable<R>): List<Pair<T, R>> {\n * return zip(other) { t1, t2 -> t1 to t2 }\n * }\n * \n * Returns a list of values built from the elements of `this` collection and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \n * public inline fun <T, R, V> Iterable<T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n * val first = iterator()\n * val second = other.iterator()\n * val list = ArrayList<V>(minOf(collectionSizeOrDefault(10), other.collectionSizeOrDefault(10)))\n * while (first.hasNext() && second.hasNext()) {\n * list.add(transform(first.next(), second.next()))\n * }\n * return list\n * }\n * \n * Returns a list of pairs of each two adjacent elements in this collection.\n * The returned list is empty if this collection contains less than two elements.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNext\n * \n * @SinceKotlin("1.2")\n * \n * public fun <T> Iterable<T>.zipWithNext(): List<Pair<T, T>> {\n * return zipWithNext { a, b -> a to b }\n * }\n * \n * Returns a list containing the results of applying the given [transform] function\n * to an each pair of two adjacent elements in this collection.\n * The returned list is empty if this collection contains less than two elements.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n * \n * @SinceKotlin("1.2")\n * \n * public inline fun <T, R> Iterable<T>.zipWithNext(transform: (a: T, b: T) -> R): List<R> {\n * val iterator = iterator()\n * if (!iterator.hasNext()) return emptyList()\n * val result = mutableListOf<R>()\n * var current = iterator.next()\n * while (iterator.hasNext()) {\n * val next = iterator.next()\n * result.add(transform(current, next))\n * current = next\n * }\n * return result\n * }\n * \n * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \n * public fun <T, A : Appendable> Iterable<T>.joinTo(buffer: A, separator: CharSequence = '\n', prefix: CharSequence = "\n", postfix: CharSequence


```

= "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? = null): A {
buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1) buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      buffer.appendElement(element, transform)\n    } else break\n  }\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return buffer\n}\n\n/**
Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if
supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only
the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n *
@sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun <T>
Iterable<T>.joinToString(separator: CharSequence = ", ", prefix: CharSequence = "", postfix: CharSequence =
"", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? = null): String {\n  return
joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**
Returns this collection as an [Iterable].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.asIterable():
Iterable<T> {\n  return this\n}\n\n/**
Creates a [Sequence] instance that wraps the original collection returning
its elements when being iterated.\n */\n@sample
samples.collections.Sequences.Building.sequenceFromCollection\n */\npublic fun <T> Iterable<T>.asSequence():
Sequence<T> {\n  return Sequence { this.iterator() }\n}\n\n/**
Returns an average value of elements in the
collection.\n */\n@kotlin.jvm.JvmName("averageOfByte")\npublic fun Iterable<Byte>.average(): Double {\n  var
sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**
Returns an average value of elements in the collection.\n */\n@kotlin.jvm.JvmName("averageOfShort")\npublic fun
Iterable<Short>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
sum += element\n    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum /
count\n}\n\n/**
Returns an average value of elements in the collection.\n
*/\n@kotlin.jvm.JvmName("averageOfInt")\npublic fun Iterable<Int>.average(): Double {\n  var sum: Double =
0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    checkCountOverflow(++count)\n
}\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**
Returns an average value of elements in the
collection.\n */\n@kotlin.jvm.JvmName("averageOfLong")\npublic fun Iterable<Long>.average(): Double {\n
var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    checkCountOverflow(++count)\n
}\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**
Returns an average value of elements in the collection.\n
*/\n@kotlin.jvm.JvmName("averageOfFloat")\npublic fun
Iterable<Float>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
sum += element\n    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum /
count\n}\n\n/**
Returns an average value of elements in the collection.\n
*/\n@kotlin.jvm.JvmName("averageOfDouble")\npublic fun Iterable<Double>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    checkCountOverflow(++count)\n
}\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**
Returns the sum of all elements in the collection.\n
*/\n@kotlin.jvm.JvmName("sumOfByte")\npublic fun
Iterable<Byte>.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return
sum\n}\n\n/**
Returns the sum of all elements in the collection.\n
*/\n@kotlin.jvm.JvmName("sumOfShort")\npublic fun Iterable<Short>.sum(): Int {\n  var sum: Int = 0\n  for
(element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**
Returns the sum of all elements in the
collection.\n */\n@kotlin.jvm.JvmName("sumOfInt")\npublic fun Iterable<Int>.sum(): Int {\n  var sum: Int = 0\n
for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**
Returns the sum of all elements in
the collection.\n */\n@kotlin.jvm.JvmName("sumOfLong")\npublic fun Iterable<Long>.sum(): Long {\n  var
sum: Long = 0L\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**
Returns the
sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName("sumOfFloat")\npublic fun
Iterable<Float>.sum(): Float {\n  var sum: Float = 0.0f\n  for (element in this) {\n    sum += element\n  }\n
return sum\n}\n\n/**
Returns the sum of all elements in the collection.\n
*/\n

```

```

*\n@kotlin.jvm.JvmName("sumOfDouble")\npublic fun Iterable<Double>.sum(): Double {\n    var sum: Double
= 0.0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n"/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\nimport
kotlin.comparisons.naturalOrder\nimport kotlin.random.Random\n\n/**\n * Returns the array if it's not `null`, or an
empty array otherwise.\n * @sample samples.collections.Arrays.Usage.arrayOrEmpty\n
*\n@kotlin.internal.InlineOnly\npublic actual inline fun <T> Array<out T>?.orEmpty(): Array<out T> = this ?.
emptyArray<T>()\n\n/**\n * Returns a *typed* array containing all of the elements of this collection.\n * \n *
Allocates an array of runtime type `T` having its size equal to the size of this collection\n * and populates the array
with the elements of this collection.\n * @sample
samples.collections.Collections.Collections.collectionToTypedArray\n
*\n@kotlin.internal.InlineOnly\npublic
actual inline fun <T> Collection<T>.toArray(): Array<T> =
copyToArray(this)\n\n@JsName("copyToArray")\n@PublishedApi\ninternal fun <T> copyToArray(collection:
Collection<T>): Array<T> {\n    return if (collection.asDynamic().toArray !== undefined)\n        collection.asDynamic().toArray().unsafeCast<Array<T>>()\n    else\n        copyToArrayImpl(collection).unsafeCast<Array<T>>()\n}\n\n@JsName("copyToArrayImpl")\ninternal actual fun
copyToArrayImpl(collection: Collection<*>): Array<Any?> {\n    val array = emptyArray<Any?>()\n    val iterator
= collection.iterator()\n    while (iterator.hasNext())\n        array.asDynamic().push(iterator.next())\n    return
array\n}\n\n@JsName("copyToExistingArrayImpl")\ninternal actual fun <T> copyToArrayImpl(collection:
Collection<*>, array: Array<T>): Array<T> {\n    if (array.size < collection.size)\n        return
copyToArrayImpl(collection).unsafeCast<Array<T>>()\n    val iterator = collection.iterator()\n    var index = 0\n    while (iterator.hasNext()) {\n        array[index++] = iterator.next().unsafeCast<T>()\n    }\n    if (index < array.size)
{\n        array[index] = null.unsafeCast<T>()\n    }\n    return array\n}\n\n\n/**\n * Returns an immutable list
containing only the specified object [element].\n */\npublic fun <T> listOf(element: T): List<T> =
arrayListOf(element)\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal actual
inline fun <E> buildListInternal(builderAction: MutableList<E>.() -> Unit): List<E> {\n    return
ArrayList<E>().apply(builderAction).build()\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.Inlin
eOnly\ninternal actual inline fun <E> buildListInternal(capacity: Int, builderAction: MutableList<E>.() -> Unit):
List<E> {\n    checkBuilderCapacity(capacity)\n    return
ArrayList<E>(capacity).apply(builderAction).build()\n}\n\n\n/**\n * Returns an immutable set containing only the
specified object [element].\n */\npublic fun <T> setOf(element: T): Set<T> =
hashSetOf(element)\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal actual inline
fun <E> buildSetInternal(builderAction: MutableSet<E>.() -> Unit): Set<E> {\n    return
LinkedHashSet<E>().apply(builderAction).build()\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.
InlineOnly\ninternal actual inline fun <E> buildSetInternal(capacity: Int, builderAction: MutableSet<E>.() -> Unit):
Set<E> {\n    return LinkedHashSet<E>(capacity).apply(builderAction).build()\n}\n\n\n/**\n * Returns an
immutable map, mapping only the specified key to the\n * specified value.\n */\npublic fun <K, V> mapOf(pair:
Pair<K, V>): Map<K, V> =
hashMapOf(pair)\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal actual inline
fun <K, V> buildMapInternal(builderAction: MutableMap<K, V>.() -> Unit): Map<K, V> {\n    return
LinkedHashMap<K,
V>().apply(builderAction).build()\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninte
rnal actual inline fun <K, V> buildMapInternal(capacity: Int, builderAction: MutableMap<K, V>.() -> Unit):
Map<K, V> {\n    return LinkedHashMap<K, V>(capacity).apply(builderAction).build()\n}\n\n\n/**\n * Fills the
list with the provided [value].\n * \n * Each element in the list gets replaced with the [value].\n
*\n@SinceKotlin("1.2")\npublic actual fun <T> MutableList<T>.fill(value: T): Unit {\n    for (index in
0..lastIndex) {\n        this[index] = value\n    }\n}\n\n\n/**\n * Randomly shuffles elements in this list.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n

```

```

*\n@SinceKotlin("1.2")\npublic actual fun <T> MutableList<T>.shuffle(): Unit = shuffle(Random)\n\n/**\n * Returns a new list with the elements of this list randomly shuffled.\n */\n@SinceKotlin("1.2")\npublic actual fun <T> Iterable<T>.shuffled(): List<T> = toMutableList().apply { shuffle() }\n\n/**\n * Sorts elements in the list in-place according to their natural sort order.\n */\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\n * @sample samples.collections.Collections.Sorting.sortMutableList\n */\npublic actual fun <T : Comparable<T>> MutableList<T>.sort(): Unit {\n    collectionsSort(this, naturalOrder())\n}\n\n/**\n * Sorts elements in the list in-place according to the order specified with [comparator].\n */\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\n * @sample samples.collections.Collections.Sorting.sortMutableListWith\n */\npublic actual fun <T> MutableList<T>.sortWith(comparator: Comparator<in T>): Unit {\n    collectionsSort(this, comparator)\n}\n\nprivate fun <T> collectionsSort(list: MutableList<T>, comparator: Comparator<in T>) {\n    if (list.size <= 1) return\n    val array = copyToArray(list)\n    sortArrayWith(array, comparator)\n    for (i in 0 until array.size) {\n        list[i] = array[i]\n    }\n}\n\ninternal actual fun <T> arrayOfNulls(reference: Array<T>, size: Int): Array<T> {\n    return arrayOfNulls<Any>(size).unsafeCast<Array<T>>()\n}\n\n@SinceKotlin("1.3")\n@PublishedApi\n@JsName("arrayCopy")\ninternal fun <T> arrayCopy(source: Array<out T>, destination: Array<in T>, destinationOffset: Int, startIndex: Int, endIndex: Int) {\n    AbstractList.checkRangeIndexes(startIndex, endIndex, source.size)\n    val rangeSize = endIndex - startIndex\n    AbstractList.checkRangeIndexes(destinationOffset, destinationOffset + rangeSize, destination.size)\n    if (js("ArrayBuffer").isView(destination) && js("ArrayBuffer").isView(source)) {\n        val subrange = source.asDynamic().subarray(startIndex, endIndex)\n        destination.asDynamic().set(subrange, destinationOffset)\n    } else {\n        if (source !== destination || destinationOffset <= startIndex) {\n            for (index in 0 until rangeSize) {\n                destination[destinationOffset + index] = source[startIndex + index]\n            }\n        } else {\n            for (index in rangeSize - 1 downTo 0) {\n                destination[destinationOffset + index] = source[startIndex + index]\n            }\n        }\n    }\n}\n\n// no singleton map implementation in js, return map as\nis\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline fun <K, V> Map<K, V>.toSingletonMapOrSelf(): Map<K, V> = this\n\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline fun <K, V> Map<out K, V>.toSingletonMap(): Map<K, V> = this.toMutableMap()\n\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline fun <T> Array<out T>.copyToArrayOfAny(isVarargs: Boolean): Array<out Any?> =\n    if (isVarargs)\n        // no need to copy vararg array in JS\n        this\n    else\n        this.copyOfOf()\n\n@PublishedApi\ninternal actual fun checkIndexOverflow(index: Int): Int {\n    if (index < 0) {\n        throwIndexOverflow()\n    }\n    return index\n}\n\n@PublishedApi\ninternal actual fun checkCountOverflow(count: Int): Int {\n    if (count < 0) {\n        throwCountOverflow()\n    }\n    return count\n}\n\n/**\n * JS map and set implementations do not make use of capacities or load factors.\n */\n@PublishedApi\ninternal actual fun mapCapacity(expectedSize: Int) = expectedSize\n\n/**\n * Checks a collection builder function capacity argument.\n */\n * In JS no validation is made in Map/Set constructor yet.\n */\n@SinceKotlin("1.3")\n@PublishedApi\ninternal fun checkBuilderCapacity(capacity: Int) {\n    require(capacity >= 0) { "capacity must be non-negative." }\n}\n\ninternal actual fun brittleContainsOptimizationEnabled(): Boolean = false", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage kotlin.collections\n\n/**\n * Returns the given iterator itself. This allows to use an instance of iterator in a `for` loop.\n */\n * @sample samples.collections.Iterators.iterator\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Iterator<T>.iterator(): Iterator<T> = this\n\n/**\n * Returns an [Iterator] that wraps each element produced by the original iterator\n */\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\n * @sample samples.collections.Iterators.withIndexIterator\n */\npublic fun <T> Iterator<T>.withIndex(): Iterator<IndexedValue<T>> = IndexingIterator(this)\n\n/**\n * Performs the given [operation] on each element of

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this [Iterator].\n * @sample samples.collections.Iterators.forEachIterator\n *^\npublic inline fun <T>
Iterator<T>.forEach(operation: (T) -> Unit): Unit {\n    for (element in this) operation(element)\n}\n\n/**\n *
Iterator transforming original `iterator` into iterator of [IndexedValue], counting index from zero.\n */\ninternal class
IndexingIterator<out T>(private val iterator: Iterator<T>) : Iterator<IndexedValue<T>> {\n    private var index =
0\n    final override fun hasNext(): Boolean = iterator.hasNext()\n    final override fun next(): IndexedValue<T> =
IndexedValue(checkIndexOverflow(index++), iterator.next())\n}\n\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("ComparisonsKt")\n\npackage
kotlin.comparisons\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns the
greater of two values.\n * \n * If values are equal, returns the first one.\n */\n@SinceKotlin("1.1")\npublic expect
fun <T : Comparable<T>> maxOf(a: T, b: T): T\n\n/**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Byte, b: Byte):
Byte\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic
expect inline fun maxOf(a: Short, b: Short): Short\n\n/**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Int, b: Int): Int\n\n/**\n
* Returns the greater of two values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline
fun maxOf(a: Long, b: Long): Long\n\n/**\n * Returns the greater of two values.\n * \n * If either value is `NaN`,
returns `NaN`.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Float,
b: Float): Float\n\n/**\n * Returns the greater of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Double, b: Double):
Double\n\n/**\n * Returns the greater of three values.\n * \n * If there are multiple equal maximal values, returns the
first of them.\n */\n@SinceKotlin("1.1")\npublic expect fun <T : Comparable<T>> maxOf(a: T, b: T, c: T):
T\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic
expect inline fun maxOf(a: Byte, b: Byte, c: Byte): Byte\n\n/**\n * Returns the greater of three values.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Short, b: Short, c:
Short): Short\n\n/**\n * Returns the greater of three values.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Int, b: Int, c: Int):
Int\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic
expect inline fun maxOf(a: Long, b: Long, c: Long): Long\n\n/**\n * Returns the greater of three values.\n * \n * If
any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline
fun maxOf(a: Float, b: Float, c: Float): Float\n\n/**\n * Returns the greater of three values.\n * \n * If any value
is `NaN`, returns `NaN`.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a:
Double, b: Double, c: Double): Double\n\n/**\n * Returns the greater of three values according to the order
specified by the given [comparator].\n * \n * If there are multiple equal maximal values, returns the first of them.\n
*\n@SinceKotlin("1.1")\npublic fun <T> maxOf(a: T, b: T, c: T, comparator: Comparator<in T>): T {\n    return
maxOf(a, maxOf(b, c, comparator), comparator)\n}\n\n/**\n * Returns the greater of two values according to the
order specified by the given [comparator].\n * \n * If values are equal, returns the first one.\n
*\n@SinceKotlin("1.1")\npublic fun <T> maxOf(a: T, b: T, comparator: Comparator<in T>): T {\n    return if
(comparator.compare(a, b) >= 0) a else b\n}\n\n/**\n * Returns the greater of the given values.\n * \n * If there are
multiple equal maximal values, returns the first of them.\n */\n@SinceKotlin("1.4")\npublic expect fun <T :
Comparable<T>> maxOf(a: T, vararg other: T): T\n\n/**\n * Returns the greater of the given values.\n
*\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Byte, vararg other: Byte): Byte\n\n/**\n * Returns the
greater of the given values.\n */\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Short, vararg other: Short):
Short\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin("1.4")\npublic expect fun maxOf(a:
Int, vararg other: Int): Int\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin("1.4")\npublic
expect fun maxOf(a: Long, vararg other: Long): Long\n\n/**\n * Returns the greater of the given values.\n * \n * If

```

any value is `NaN`, returns `NaN`.
`@SinceKotlin("1.4")` public expect fun maxOf(a: Float, vararg other: Float): Float
Returns the greater of the given values.
If any value is `NaN`, returns `NaN`.
`@SinceKotlin("1.4")` public expect fun maxOf(a: Double, vararg other: Double): Double
Returns the greater of the given values according to the order specified by the given [comparator].
If there are multiple equal maximal values, returns the first of them.
`@SinceKotlin("1.4")` public fun <T> maxOf(a: T, vararg other: T, comparator: Comparator<in T>): T {
var max = a
for (e in other) if (comparator.compare(max, e) < 0) max = e
return max
}
Returns the smaller of two values.
If values are equal, returns the first one.
`@SinceKotlin("1.1")` public expect fun <T : Comparable<T>> minOf(a: T, b: T): T
Returns the smaller of two values.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Byte, b: Byte): Byte
Returns the smaller of two values.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Short, b: Short): Short
Returns the smaller of two values.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Int, b: Int): Int
Returns the smaller of two values.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Long, b: Long): Long
Returns the smaller of two values.
If either value is `NaN`, returns `NaN`.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Float, b: Float): Float
Returns the smaller of two values.
If either value is `NaN`, returns `NaN`.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Double, b: Double): Double
Returns the smaller of three values.
If there are multiple equal minimal values, returns the first of them.
`@SinceKotlin("1.1")` public expect fun <T : Comparable<T>> minOf(a: T, b: T, c: T): T
Returns the smaller of three values.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Byte, b: Byte, c: Byte): Byte
Returns the smaller of three values.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Short, b: Short, c: Short): Short
Returns the smaller of three values.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Int, b: Int, c: Int): Int
Returns the smaller of three values.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Long, b: Long, c: Long): Long
Returns the smaller of three values.
If any value is `NaN`, returns `NaN`.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Float, b: Float, c: Float): Float
Returns the smaller of three values.
If any value is `NaN`, returns `NaN`.
`@SinceKotlin("1.1")` @kotlin.internal.InlineOnly public expect inline fun minOf(a: Double, b: Double, c: Double): Double
Returns the smaller of three values according to the order specified by the given [comparator].
If there are multiple equal minimal values, returns the first of them.
`@SinceKotlin("1.1")` public fun <T> minOf(a: T, b: T, c: T, comparator: Comparator<in T>): T {
return minOf(a, minOf(b, c, comparator), comparator)
}
Returns the smaller of two values according to the order specified by the given [comparator].
If values are equal, returns the first one.
`@SinceKotlin("1.1")` public fun <T> minOf(a: T, b: T, comparator: Comparator<in T>): T {
return if (comparator.compare(a, b) <= 0) a else b
}
Returns the smaller of the given values.
If there are multiple equal minimal values, returns the first of them.
`@SinceKotlin("1.4")` public expect fun <T : Comparable<T>> minOf(a: T, vararg other: T): T
Returns the smaller of the given values.
`@SinceKotlin("1.4")` public expect fun minOf(a: Byte, vararg other: Byte): Byte
Returns the smaller of the given values.
`@SinceKotlin("1.4")` public expect fun minOf(a: Short, vararg other: Short): Short
Returns the smaller of the given values.
`@SinceKotlin("1.4")` public expect fun minOf(a: Int, vararg other: Int): Int
Returns the smaller of the given values.
`@SinceKotlin("1.4")` public expect fun minOf(a: Long, vararg other: Long): Long
Returns the smaller of the given values.
If any value is `NaN`, returns `NaN`.
`@SinceKotlin("1.4")` public expect fun minOf(a: Float, vararg other: Float): Float
Returns the smaller of the given values.
If any value is `NaN`, returns `NaN`.
`@SinceKotlin("1.4")` public expect fun minOf(a: Double, vararg other: Double): Double
Returns

the smaller of the given values according to the order specified by the given [comparator].\n * \n * If there are multiple equal minimal values, returns the first of them.\n * \n * Since Kotlin(1.4)\n public fun <T> minOf(a: T, vararg other: T, comparator: Comparator<in T>): T {\n var min = a\n for (e in other) if (comparator.compare(min, e) > 0) min = e\n return min\n }\n * \n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n

```
* \n @file:kotlin.jvm.JvmMultifileClass \n @file:kotlin.jvm.JvmName("MapsKt") \n \n package kotlin.collections \n \n // NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt \n // See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib \n \n import kotlin.random.* \n import kotlin.ranges.contains \n import kotlin.ranges.reversed \n \n * Returns the first non-null value produced by [transform] function being applied to entries of this map in iteration order, \n * or throws [NoSuchElementException] if no non-null value was produced. \n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf
```

```
* \n @SinceKotlin("1.5") \n @kotlin.internal.InlineOnly \n public inline fun <K, V, R : Any> Map<out K, V>.firstNotNullOf(transform: (Map.Entry<K, V>) -> R?): R {\n     return firstNotNullOfOrNull(transform) ?: throw NoSuchElementException("No element of the map was transformed to a non-null value.") \n }\n * Returns the first non-null value produced by [transform] function being applied to entries of this map in iteration order, \n * or `null` if no non-null value was produced. \n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf
```

```
* \n @SinceKotlin("1.5") \n @kotlin.internal.InlineOnly \n public inline fun <K, V, R : Any> Map<out K, V>.firstNotNullOfOrNull(transform: (Map.Entry<K, V>) -> R?): R? {\n     for (element in this) {\n         val result = transform(element)\n         if (result != null) {\n             return result\n         }\n     }\n     return null\n }\n * Returns a [List] containing all key-value pairs. \n * \n public fun <K, V> Map<out K, V>.toList(): List<Pair<K, V>> {\n     if (size == 0) return emptyList()\n     val iterator = entries.iterator()\n     if (!iterator.hasNext()) return emptyList()\n     val first = iterator.next()\n     if (!iterator.hasNext()) return listOf(first.toPair())\n     val result = ArrayList<Pair<K, V>>(size)\n     result.add(first.toPair())\n     do {\n         result.add(iterator.next().toPair())\n     } while (iterator.hasNext())\n     return result\n }\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each entry of original map. \n * \n * @sample samples.collections.Collections.Transformations.flatMap
```

```
* \n public inline fun <K, V, R> Map<out K, V>.flatMap(transform: (Map.Entry<K, V>) -> Iterable<R>): List<R> {\n     return flatMapTo(ArrayList<R>(), transform)\n }\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each entry of original map. \n * \n * @sample samples.collections.Collections.Transformations.flatMap
```

```
* \n @SinceKotlin("1.4") \n @OptIn(kotlin.experimental.ExperimentalTypeInference::class) \n @OverloadResolutionByLambdaReturnType \n @kotlin.jvm.JvmName("flatMapSequence") \n public inline fun <K, V, R> Map<out K, V>.flatMap(transform: (Map.Entry<K, V>) -> Sequence<R>): List<R> {\n     return flatMapTo(ArrayList<R>(), transform)\n }\n * Appends all elements yielded from results of [transform] function being invoked on each entry of original map, to the given [destination]. \n * \n public inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) -> Iterable<R>): C {\n     for (element in this) {\n         val list = transform(element)\n         destination.addAll(list)\n     }\n     return destination\n }\n * Appends all elements yielded from results of [transform] function being invoked on each entry of original map, to the given [destination]. \n
```

```
* \n @SinceKotlin("1.4") \n @OptIn(kotlin.experimental.ExperimentalTypeInference::class) \n @OverloadResolutionByLambdaReturnType \n @kotlin.jvm.JvmName("flatMapSequenceTo") \n public inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) -> Sequence<R>): C {\n     for (element in this) {\n         val list = transform(element)\n         destination.addAll(list)\n     }\n     return destination\n }\n * Returns a list containing the results of applying the given [transform] function \n * to each entry in the original map. \n * \n * @sample samples.collections.Collections.Transformations.mapToList
```

```

V>.map(transform: (Map.Entry<K, V>) -> R): List<R> {\n  return mapTo(ArrayList<R>(size),
transform)\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform]
function\n * to each entry in the original map.\n * \n * @sample
samples.collections.Maps.Transformations.mapNotNull\n */\npublic inline fun <K, V, R : Any> Map<out K,
V>.mapNotNull(transform: (Map.Entry<K, V>) -> R?): List<R> {\n  return mapNotNullTo(ArrayList<R>()),
transform)\n}\n\n/**\n * Applies the given [transform] function to each entry in the original map\n * and appends
only the non-null results to the given [destination].\n */\npublic inline fun <K, V, R : Any, C : MutableCollection<in
R>> Map<out K, V>.mapNotNullTo(destination: C, transform: (Map.Entry<K, V>) -> R?): C {\n  forEach {
element -> transform(element)?.let { destination.add(it) } }\n  return destination\n}\n\n/**\n * Applies the given
[transform] function to each entry of the original map\n * and appends the results to the given [destination].\n
*/\npublic inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.mapTo(destination: C, transform:
(Map.Entry<K, V>) -> R): C {\n  for (item in this)\n    destination.add(transform(item))\n  return
destination\n}\n\n/**\n * Returns `true` if all entries match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n */\npublic inline fun <K, V> Map<out K, V>.all(predicate:
(Map.Entry<K, V>) -> Boolean): Boolean {\n  if (isEmpty()) return true\n  for (element in this) if
(!predicate(element)) return false\n  return true\n}\n\n/**\n * Returns `true` if map has at least one entry.\n * \n *
@sample samples.collections.Collections.Aggregates.any\n */\npublic fun <K, V> Map<out K, V>.any(): Boolean
{\n  return !isEmpty()\n}\n\n/**\n * Returns `true` if at least one entry matches the given [predicate].\n * \n *
@sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun <K, V> Map<out K,
V>.any(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n  if (isEmpty()) return false\n  for (element in
this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns the number of entries in this map.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.count(): Int {\n  return size\n}\n\n/**\n
 * Returns the number of entries matching the given [predicate].\n */\npublic inline fun <K, V> Map<out K,
V>.count(predicate: (Map.Entry<K, V>) -> Boolean): Int {\n  if (isEmpty()) return 0\n  var count = 0\n  for
(element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Performs the given [action] on each
entry.\n */\n@kotlin.internal.HidesMembers\npublic inline fun <K, V> Map<out K, V>.forEach(action:
(Map.Entry<K, V>) -> Unit): Unit {\n  for (element in this) action(element)\n}\n\n@Deprecated("Use
maxByOrNull instead.", ReplaceWith("this.maxByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince =
"1.4", errorSince = "1.5", hiddenSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R :
Comparable<R>> Map<out K, V>.maxBy(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n  return
maxByOrNull(selector)\n}\n\n/**\n * Returns the first entry yielding the largest value of the given function or `null`
if there are no entries.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out
K, V>.maxByOrNull(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n  return
entries.maxByOrNull(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector]
function\n * applied to each entry in the map.\n * \n * If any of values produced by [selector] function is `NaN`, the
returned result is `NaN`.\n * \n * @throws NoSuchElementException if the map is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxOf(selector:
(Map.Entry<K, V>) -> Double): Double {\n  return entries.maxOf(selector)\n}\n\n/**\n * Returns the largest value
among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException
if the map is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxOf(selector:
(Map.Entry<K, V>) -> Float): Float {\n  return entries.maxOf(selector)\n}\n\n/**\n * Returns the largest value
among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * @throws
NoSuchElementException if the map is empty.\n

```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K,
V>.maxOf(selector: (Map.Entry<K, V>) -> R): R {\n    return entries.maxOf(selector)\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if there
are no entries.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,
V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> Double): Double? {\n    return
entries.maxOfOrNull(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector]
function\n * applied to each entry in the map or `null` if there are no entries.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,
V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> Float): Float? {\n    return
entries.maxOfOrNull(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector]
function\n * applied to each entry in the map or `null` if there are no entries.\n
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V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> R): R? {\n    return entries.maxOfOrNull(selector)\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each entry in the map.\n * \n * @throws NoSuchElementException if the map is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K,
V>.maxOfWith(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R {\n    return
entries.maxOfWith(comparator, selector)\n}\n\n/**\n * Returns the largest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each entry in the map or `null` if there
are no entries.\n
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V>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R? {\n    return
entries.maxOfWithOrNull(comparator, selector)\n}\n\n@Deprecated("Use maxWithOrNull instead.",
ReplaceWith("this.maxWithOrNull(comparator)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,
V>.maxWith(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n    return
maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first entry having the largest value according to the provided
[comparator] or `null` if there are no entries.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic
inline fun <K, V> Map<out K, V>.maxWithOrNull(comparator: Comparator<in Map.Entry<K, V>>):
Map.Entry<K, V>? {\n    return entries.maxWithOrNull(comparator)\n}\n\n@Deprecated("Use minByOrNull
instead.", ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic inline fun <K, V, R : Comparable<R>> Map<out K,
V>.minBy(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n    return minByOrNull(selector)\n}\n\n/**\n *
Returns the first entry yielding the smallest value of the given function or `null` if there are no entries.\n * \n *
@sample samples.collections.Collections.Aggregates.minByOrNull\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out
K, V>.minByOrNull(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n    return
entries.minByOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]
function\n * applied to each entry in the map.\n * \n * If any of values produced by [selector] function is `NaN`, the
returned result is `NaN`.\n * \n * @throws NoSuchElementException if the map is empty.\n

```


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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.minOf(selector:
(Map.Entry<K, V>) -> Double): Double {\n return entries.minOf(selector)\n}\n\n/**\n * Returns the smallest
value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException
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(Map.Entry<K, V>) -> Float): Float {\n return entries.minOf(selector)\n}\n\n/**\n * Returns the smallest value
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V>.minOfOrNull(selector: (Map.Entry<K, V>) -> Float): Float? {\n return
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V>.minOfWith(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R {\n return
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V>.minOfWithOrNull(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R? {\n return
entries.minOfWithOrNull(comparator, selector)\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun <K, V> Map<out K, V>.minWith(comparator: Comparator<in
Map.Entry<K, V>>): Map.Entry<K, V>? {\n return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first
entry having the smallest value according to the provided [comparator] or `null` if there are no entries.\n

*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,
V>.minWithOrNull(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n return

```

entries.minWithOrNull(comparator)\n\n/**\n * Returns `true` if the map has no entries.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n\npublic fun <K, V> Map<out K, V>.none(): Boolean {\n
return isEmpty()\n}\n\n/**\n * Returns `true` if no entries match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n\npublic inline fun <K, V> Map<out K,
V>.none(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n    if (isEmpty()) return true\n    for (element in
this) if (predicate(element)) return false\n    return true\n}\n\n/**\n * Performs the given [action] on each entry and
returns the map itself afterwards.\n * \n @SinceKotlin("1.1")\n\npublic inline fun <K, V, M : Map<out K, V>>
M.onEach(action: (Map.Entry<K, V>) -> Unit): M {\n    return apply { for (element in this) action(element)
}\n}\n\n/**\n * Performs the given [action] on each entry, providing sequential index with the entry,\n * and returns
the map itself afterwards.\n * @param [action] function that takes the index of an entry and the entry itself\n * and
performs the action on the entry.\n * \n @SinceKotlin("1.4")\n\npublic inline fun <K, V, M : Map<out K, V>>
M.onEachIndexed(action: (index: Int, Map.Entry<K, V>) -> Unit): M {\n    return apply {
entries.forEachIndexed(action) }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original map returning
its entries when being iterated.\n * \n @kotlin.internal.InlineOnly\n\npublic inline fun <K, V> Map<out K,
V>.asIterable(): Iterable<Map.Entry<K, V>> {\n    return entries\n}\n\n/**\n * Creates a [Sequence] instance that
wraps the original map returning its entries when being iterated.\n * \n\npublic fun <K, V> Map<out K,
V>.asSequence(): Sequence<Map.Entry<K, V>> {\n    return entries.asSequence()\n}\n\n", /*\n * Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n * \n\npackage kotlin.text\n\n// NOTE:
THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n// 10 mappings totally\n\ninternal fun
Char.titlecaseImpl(): String {\n    val uppercase = uppercase()\n    if (uppercase.length > 1) {\n        return if (this ==
"\u0149") uppercase else uppercase[0] + uppercase.substring(1).lowercase()\n    }\n    return
titlecaseChar().toString()\n}\n\n", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n * \n\npackage kotlin.text\n\n/**\n * Converts this character to lower case using Unicode
mapping rules of the invariant locale.\n * \n @Deprecated("Use lowercaseChar() instead.")\n
ReplaceWith("lowercaseChar()")\n\n @DeprecatedSinceKotlin(warningSince =
"1.5")\n\n @kotlin.internal.InlineOnly\n\n public actual inline fun Char.toLowerCase(): Char =
lowercaseChar()\n\n /**\n * Converts this character to lower case using Unicode mapping rules of the invariant
locale.\n * \n * This function performs one-to-one character mapping.\n * To support one-to-many character
mapping use the [lowercase] function.\n * If this character has no mapping equivalent, the character itself is
returned.\n * \n * @sample samples.text.Chars.toLowerCase\n
\n @SinceKotlin("1.5")\n\n @WasExperimental(ExperimentalStdlibApi::class)\n\n @kotlin.internal.InlineOnly\n\n publi
c actual inline fun Char.lowercaseChar(): Char = lowercase()[0]\n\n /**\n * Converts this character to lower case
using Unicode mapping rules of the invariant locale.\n * \n * This function supports one-to-many character mapping,
thus the length of the returned string can be greater than one.\n * For example, ``\u0130'.lowercase()` returns
``\u0069\u0307``,\n * where ``\u0130`` is the LATIN CAPITAL LETTER I WITH DOT ABOVE character
(`\u0130`).\n * If this character has no lower case mapping, the result of `toString()` of this char is returned.\n * \n *
\n * @sample samples.text.Chars.toLowerCase\n
\n @SinceKotlin("1.5")\n\n @WasExperimental(ExperimentalStdlibApi::class)\n\n @kotlin.internal.InlineOnly\n\n publi
c actual inline fun Char.lowercase(): String = toString().asDynamic().toLowerCase().unsafeCast<String>()\n\n /**\n *
Converts this character to upper case using Unicode mapping rules of the invariant locale.\n
\n @Deprecated("Use uppercaseChar() instead.")\n
ReplaceWith("uppercaseChar()")\n\n @DeprecatedSinceKotlin(warningSince =
"1.5")\n\n @kotlin.internal.InlineOnly\n\n public actual inline fun Char.toUpperCase(): Char =
uppercaseChar()\n\n /**\n * Converts this character to upper case using Unicode mapping rules of the invariant
locale.\n * \n * This function performs one-to-one character mapping.\n * To support one-to-many character

```

mapping use the [uppercase] function.\n * If this character has no mapping equivalent, the character itself is returned.\n * \n * @sample samples.text.Chars.uppercase\n

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun Char.uppercaseChar(): Char {\n    val uppercase = uppercase()\n    return if (uppercase.length > 1) this else uppercase[0]\n}\n\n/**\n * Converts this character to upper case using Unicode mapping rules of the invariant locale.\n * \n * This function supports one-to-many character mapping, thus the length of the returned string can be greater than one.\n * For example, `'\u0046\u0046'.uppercase()` returns `'\u0046\u0046'`,\n * where `'\u0046'` is the LATIN SMALL LIGATURE FF character (`\u0046`).\n * If this character has no upper case mapping, the result of `toString()` of this char is returned.\n * \n * @sample samples.text.Chars.uppercase\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic actual inline fun Char.uppercase(): String = toString().asDynamic().toUpperCase().unsafeCast<String>()\n\n/**\n * Converts this character to title case using Unicode mapping rules of the invariant locale.\n * \n * This function performs one-to-one character mapping.\n * To support one-to-many character mapping use the [titlecase] function.\n * If this character has no mapping equivalent, the result of calling [uppercaseChar] is returned.\n * \n * @sample samples.text.Chars.titlecase\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.titlecaseChar(): Char = titlecaseCharImpl()\n\n/**\n * Returns `true` if this character is a Unicode high-surrogate code unit (also known as leading-surrogate code unit).\n * \n * @sample samples.text.Chars.isHighSurrogate\n
```

```
public actual fun Char.isHighSurrogate(): Boolean = this in Char.MIN_HIGH_SURROGATE..Char.MAX_HIGH_SURROGATE\n\n/**\n * Returns `true` if this character is a Unicode low-surrogate code unit (also known as trailing-surrogate code unit).\n * \n * @sample samples.text.Chars.isLowSurrogate\n
```

```
public actual fun Char.isLowSurrogate(): Boolean = this in Char.MIN_LOW_SURROGATE..Char.MAX_LOW_SURROGATE\n\n/**\n * Returns the Unicode general category of this character.\n * \n * @sample samples.text.Chars.category\n
```

```
public actual val Char.category: CharCategory\n    get() = CharCategory.valueOf(getCategoryValue())\n\n/**\n * Returns `true` if this character (Unicode code point) is defined in Unicode.\n * \n * A character is considered to be defined in Unicode if its [category] is not [CharCategory.UNASSIGNED].\n * \n * @sample samples.text.Chars.isDefined\n
```

```
public actual fun Char.isDefined(): Boolean {\n    if (this < '\u0080') {\n        return true\n    }\n    return getCategoryValue() != CharCategory.UNASSIGNED.value\n}\n\n/**\n * Returns `true` if this character is a letter.\n * \n * A character is considered to be a letter if its [category] is [CharCategory.UPPERCASE_LETTER], [CharCategory.LOWERCASE_LETTER], [CharCategory.TITLECASE_LETTER], [CharCategory.MODIFIER_LETTER], or [CharCategory.OTHER_LETTER].\n * \n * @sample samples.text.Chars.isLetter\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isLetter(): Boolean {\n    if (this in 'a'..'z' || this in 'A'..'Z') {\n        return true\n    }\n    if (this < '\u0080') {\n        return false\n    }\n    return isLetterImpl()\n}\n\n/**\n * Returns `true` if this character is a letter or digit.\n * \n * @see isLetter\n * @see isDigit\n * \n * @sample samples.text.Chars.isLetterOrDigit\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isLetterOrDigit(): Boolean {\n    if (this in 'a'..'z' || this in 'A'..'Z' || this in '0'..'9') {\n        return true\n    }\n    if (this < '\u0080') {\n        return false\n    }\n    return isDigitImpl() || isLetterImpl()\n}\n\n/**\n * Returns `true` if this character is a digit.\n * \n * A character is considered to be a digit if its [category] is [CharCategory.DECIMAL_DIGIT_NUMBER].\n * \n * @sample samples.text.Chars.isDigit\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isDigit(): Boolean {\n    if (this in '0'..'9') {\n        return true\n    }\n    if (this < '\u0080') {\n        return false\n    }\n    return isDigitImpl()\n}\n\n/**\n * Returns `true` if this character is upper case.\n * \n * A character is considered to be an upper case character if its [category] is [CharCategory.UPPERCASE_LETTER],\n * or it has contributory property Other_Uppercase as defined by the Unicode Standard.\n * \n * @sample samples.text.Chars.isUpperCase\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isUpperCase(): Boolean {\n    if (this in 'A'..'Z') {\n        return true\n    }\n    if (this < '\u0080') {\n        return false\n    }\n    return isUpperCaseImpl()\n}\n\n/**\n * Returns `true` if this character is lower case.\n * \n * A character is considered to be a lower case character if its [category] is [CharCategory.LOWERCASE_LETTER],\n * or it has contributory property Other_Lowercase as defined by the Unicode Standard.\n * \n * @sample samples.text.Chars.isLowerCase\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isLowerCase(): Boolean {\n
```



```

c actual inline fun String.lowercase(): String = asDynamic().toLowerCase()\n\n@kotlin.internal.InlineOnly\ninternal
actual inline fun String.nativeIndexOf(str: String, fromIndex: Int): Int = asDynamic().indexOf(str,
fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeLastIndexOf(str: String,
fromIndex: Int): Int = asDynamic().lastIndexOf(str, fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal inline fun
String.nativeStartsWith(s: String, position: Int): Boolean = asDynamic().startsWith(s,
position)\n\n@kotlin.internal.InlineOnly\ninternal inline fun String.nativeEndsWith(s: String): Boolean =
asDynamic().endsWith(s)\n\n@kotlin.internal.InlineOnly\npublic actual inline fun String.substring(startIndex: Int):
String = asDynamic().substring(startIndex)\n\n@kotlin.internal.InlineOnly\npublic actual inline fun
String.substring(startIndex: Int, endIndex: Int): String = asDynamic().substring(startIndex,
endIndex)\n\n@Deprecated("Use String.plus() instead", ReplaceWith("this +
str"))\n\n@DeprecatedSinceKotlin(warningSince = "1.6")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
String.concat(str: String): String = asDynamic().concat(str)\n\n@Deprecated("Use Regex.findAll() instead or
invoke matches() on String dynamically:
this.asDynamic().match(regex)")\n\n@DeprecatedSinceKotlin(warningSince =
"1.6")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun String.match(regex: String): Array<String>? =
asDynamic().match(regex)\n\n//native public fun String.trim(): String\n\n//TODO: String.replace to implement
effective trimLeading and trimTrailing\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun
String.nativeReplace(pattern: RegExp, replacement: String): String = asDynamic().replace(pattern,
replacement)\n\n\n/**\n * Compares two strings lexicographically, optionally ignoring case differences.\n * If
[ignoreCase] is true, the result of `Char.toUpperCaseChar().toLowerCaseChar()` on each character is compared.\n
*\n\n@SinceKotlin("1.2")\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic
actual fun String.compareTo(other: String, ignoreCase: Boolean = false): Int {\n    if (ignoreCase) {\n        val n1 =
this.length\n        val n2 = other.length\n        val min = minOf(n1, n2)\n        if (min == 0) return n1 - n2\n        for
(index in 0 until min) {\n            var thisChar = this[index]\n            var otherChar = other[index]\n            if
(thisChar != otherChar) {\n                thisChar = thisChar.toUpperCaseChar()\n                otherChar =
otherChar.toUpperCaseChar()\n                if (thisChar != otherChar) {\n                    thisChar =
thisChar.toLowerCaseChar()\n                    otherChar = otherChar.toLowerCaseChar()\n                    if (thisChar !=
otherChar) {\n                        return thisChar.compareTo(otherChar)\n                    }\n                }\n            }\n        }\n        return n1 - n2\n    } else {\n        return compareTo(other)\n    }\n}\n\n\n/**\n * Returns `true` if the contents
of this char sequence are equal to the contents of the specified [other],\n * i.e. both char sequences contain the same
number of the same characters in the same order.\n * *\n * @sample samples.text.Strings.contentEquals\n
*\n\n@SinceKotlin("1.5")\n\npublic actual infix fun CharSequence?.contentEquals(other: CharSequence?): Boolean =
contentEqualsImpl(other)\n\n\n/**\n * Returns `true` if the contents of this char sequence are equal to the contents of
the specified [other], optionally ignoring case difference.\n * *\n * @param ignoreCase `true` to ignore character case
when comparing contents.\n * *\n * @sample samples.text.Strings.contentEquals\n
*\n\n@SinceKotlin("1.5")\n\npublic
actual fun CharSequence?.contentEquals(other: CharSequence?, ignoreCase: Boolean): Boolean {\n    return if
(ignoreCase)\n        this.contentEqualsIgnoreCaseImpl(other)\n    else\n        this.contentEqualsImpl(other)\n}\n\n\nprivate val STRING_CASE_INSENSITIVE_ORDER = Comparator<String>
{ a, b -> a.compareTo(b, ignoreCase = true) }\n\n@SinceKotlin("1.2")\n\npublic actual val
String.Companion.CASE_INSENSITIVE_ORDER: Comparator<String>\n    get() =
STRING_CASE_INSENSITIVE_ORDER\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CharsKt")\n\npackage kotlin.text\n\n/**\n
* Returns the numeric value of the decimal digit that this Char represents.\n * Throws an exception if this Char is
not a valid decimal digit.\n * *\n * A Char is considered to represent a decimal digit if [isDigit] is true for the Char.\n
*\n * In this case, the Unicode decimal digit value of the character is returned.\n * *\n * @sample
samples.text.Chars.digitToInt\n

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*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Char.digitToInt(): Int
{\n    return digitOf(this, 10).also {\n        if (it < 0) throw IllegalArgumentException("Char $this is not a decimal
digit")\n    }\n}\n\n/**\n * Returns the numeric value of the digit that this Char represents in the specified [radix].\n * Throws an exception if the [radix] is not in the range `2..36` or if this Char is not a valid digit in the specified
[radix].\n * A Char is considered to represent a digit in the specified [radix] if at least one of the following is
true:\n * - [isDigit] is `true` for the Char and the Unicode decimal digit value of the character is less than the
specified [radix]. In this case the decimal digit value is returned.\n * - The Char is one of the uppercase Latin letters
'A' through 'Z' and its [code] is less than `radix + 'A'.code - 10`. In this case, `this.code - 'A'.code + 10` is returned.\n
* - The Char is one of the lowercase Latin letters 'a' through 'z' and its [code] is less than `radix + 'a'.code - 10`. In
this case, `this.code - 'a'.code + 10` is returned.\n * - The Char is one of the fullwidth Latin capital letters
"\uFF21" through "\uFF3A" and its [code] is less than `radix + 0xFF21 - 10`. In this case, `this.code - 0xFF21 + 10` is
returned.\n * - The Char is one of the fullwidth Latin small letters "\uFF41" through "\uFF5A" and its [code] is less
than `radix + 0xFF41 - 10`. In this case, `this.code - 0xFF41 + 10` is returned.\n * \n * @sample
samples.text.Chars.digitToInt\n

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*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Char.digitToInt(radix:
Int): Int {\n    return digitToIntOrNull(radix) ?: throw IllegalArgumentException("Char $this is not a digit in the
given radix=$radix")\n}\n\n/**\n * Returns the numeric value of the decimal digit that this Char represents, or
`null` if this Char is not a valid decimal digit.\n * A Char is considered to represent a decimal digit if [isDigit] is
true for the Char.\n * In this case, the Unicode decimal digit value of the character is returned.\n * \n * @sample
samples.text.Chars.digitToIntOrNull\n

```

```

*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Char.digitToIntOrNull(): Int? {\n    return digitOf(this, 10).takeIf { it >= 0 }\n}\n\n/**\n * Returns the numeric
value of the digit that this Char represents in the specified [radix], or `null` if this Char is not a valid digit in the
specified [radix].\n * Throws an exception if the [radix] is not in the range `2..36`.\n * A Char is considered to
represent a digit in the specified [radix] if at least one of the following is true:\n * - [isDigit] is `true` for the Char
and the Unicode decimal digit value of the character is less than the specified [radix]. In this case the decimal digit
value is returned.\n * - The Char is one of the uppercase Latin letters 'A' through 'Z' and its [code] is less than `radix
+ 'A'.code - 10`. In this case, `this.code - 'A'.code + 10` is returned.\n * - The Char is one of the lowercase Latin
letters 'a' through 'z' and its [code] is less than `radix + 'a'.code - 10`. In this case, `this.code - 'a'.code + 10` is
returned.\n * - The Char is one of the fullwidth Latin capital letters "\uFF21" through "\uFF3A" and its [code] is less
than `radix + 0xFF21 - 10`. In this case, `this.code - 0xFF21 + 10` is returned.\n * - The Char is one of the fullwidth
Latin small letters "\uFF41" through "\uFF5A" and its [code] is less than `radix + 0xFF41 - 10`. In this case,
`this.code - 0xFF41 + 10` is returned.\n * \n * @sample samples.text.Chars.digitToIntOrNull\n

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```

*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Char.digitToIntOrNull(radix: Int): Int? {\n    checkRadix(radix)\n    return digitOf(this, radix).takeIf { it >= 0
}\n}\n\n/**\n * Returns the Char that represents this decimal digit.\n * Throws an exception if this value is not in the
range `0..9`.\n * If this value is in `0..9`, the decimal digit Char with code `0'.code + this` is returned.\n * \n *
@sample samples.text.Chars.digitToChar\n

```

```

*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Int.digitToChar(): Char
{\n    if (this in 0..9) {\n        return '0' + this\n    }\n    throw IllegalArgumentException("Int $this is not a decimal
digit")\n}\n\n/**\n * Returns the Char that represents this numeric digit value in the specified [radix].\n * Throws
an exception if the [radix] is not in the range `2..36` or if this value is not in the range `0 until radix`.\n * If this
value is less than `10`, the decimal digit Char with code `0'.code + this` is returned.\n * Otherwise, the uppercase
Latin letter with code `A'.code + this - 10` is returned.\n * \n * @sample samples.text.Chars.digitToChar\n

```

```

*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Int.digitToChar(radix:
Int): Char {\n    if (radix !in 2..36) {\n        throw IllegalArgumentException("Invalid radix: $radix. Valid radix
values are in range 2..36")\n    }\n    if (this < 0 || this >= radix) {\n        throw IllegalArgumentException("Digit
$this does not represent a valid digit in radix $radix")\n    }\n    return if (this < 10) {\n        '0' + this\n    } else {\n

```



```

*^public fun Char.isSurrogate(): Boolean = this in Char.MIN_SURROGATE..Char.MAX_SURROGATE\n\n/**\n
* Returns the Unicode general category of this character.\n *^SinceKotlin("1.5")\npublic expect val
Char.category: CharCategory\n\n/**\n * Returns `true` if this character (Unicode code point) is defined in
Unicode.\n *^n * A character is considered to be defined in Unicode if its [category] is not
[CharCategory.UNASSIGNED].\n *^SinceKotlin("1.5")\npublic expect fun Char.isDefined():
Boolean\n\n/**\n * Returns `true` if this character is a letter.\n *^n * A character is considered to be a letter if its
[category] is [CharCategory.UPPERCASE_LETTER],\n * [CharCategory.LOWERCASE_LETTER],
[CharCategory.TITLECASE_LETTER], [CharCategory.MODIFIER_LETTER], or
[CharCategory.OTHER_LETTER].\n *^n * @sample samples.text.Chars.isLetter\n
*^SinceKotlin("1.5")\npublic expect fun Char.isLetter(): Boolean\n\n/**\n * Returns `true` if this character is a
letter or digit.\n *^n * @see isLetter\n * @see isDigit\n *^n * @sample samples.text.Chars.isLetterOrDigit\n
*^SinceKotlin("1.5")\npublic expect fun Char.isLetterOrDigit(): Boolean\n\n/**\n * Returns `true` if this
character is a digit.\n *^n * A character is considered to be a digit if its [category] is
[CharCategory.DECIMAL_DIGIT_NUMBER].\n *^n * @sample samples.text.Chars.isDigit\n
*^SinceKotlin("1.5")\npublic expect fun Char.isDigit(): Boolean\n\n/**\n * Returns `true` if this character is
upper case.\n *^n * A character is considered to be an upper case character if its [category] is
[CharCategory.UPPERCASE_LETTER],\n * or it has contributory property Other_Uppercase as defined by the
Unicode Standard.\n *^n * @sample samples.text.Chars.isUpperCase\n *^SinceKotlin("1.5")\npublic expect
fun Char.isUpperCase(): Boolean\n\n/**\n * Returns `true` if this character is lower case.\n *^n * A character is
considered to be a lower case character if its [category] is [CharCategory.LOWERCASE_LETTER],\n * or it has
contributory property Other_Lowercase as defined by the Unicode Standard.\n *^n * @sample
samples.text.Chars.isLowerCase\n *^SinceKotlin("1.5")\npublic expect fun Char.isLowerCase():
Boolean\n\n/**\n * Returns `true` if this character is a title case letter.\n *^n * A character is considered to be a title
case letter if its [category] is [CharCategory.TITLECASE_LETTER].\n *^n * @sample
samples.text.Chars.isTitleCase\n *^SinceKotlin("1.5")\npublic expect fun Char.isTitleCase(): Boolean\n\n/**\n
* Returns `true` if this character is an ISO control character.\n *^n * A character is considered to be an ISO control
character if its [category] is [CharCategory.CONTROL],\n * meaning the Char is in the range `'\u0000'..''\u001F`
or in the range `'\u007F'..''\u009F`.\n *^n * @sample samples.text.Chars.isISOControl\n
*^SinceKotlin("1.5")\npublic expect fun Char.isISOControl(): Boolean\n\n/**\n * Determines whether a
character is whitespace according to the Unicode standard.\n * Returns `true` if the character is whitespace.\n *^n *
@sample samples.text.Chars.isWhitespace\n *^public expect fun Char.isWhitespace(): Boolean\n", /*\n
Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *^n\npackage
kotlin\n\n/**\n * Creates a Char with the specified [code], or throws an exception if the [code] is out of
`Char.MIN_VALUE.code..Char.MAX_VALUE.code`.\n *^n * If the program that calls this function is written in a
way that only valid [code] is passed as the argument,\n * using the overload that takes a [UShort] argument is
preferable (`Char(intValue.toUShort())`).\n * That overload doesn't check validity of the argument, and may
improve program performance when the function is called routinely inside a loop.\n *^n * @sample
samples.text.Chars.charFromCode\n
*^SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Char(code: Int): Char {\n    if (code < Char.MIN_VALUE.code || code > Char.MAX_VALUE.code) {\n
        throw IllegalArgumentException("Invalid Char code: $code")\n    }\n    return code.toChar()\n}\n\n/**\n
Creates a Char with the specified [code].\n *^n * @sample samples.text.Chars.charFromCode\n
*^SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("NO_ACTUAL_FOR
_EXPECT")\npublic expect fun Char(code: UShort): Char\n\n/**\n * Returns the code of this Char.\n *^n * Code of
a Char is the value it was constructed with, and the UTF-16 code unit corresponding to this Char.\n *^n * @sample
samples.text.Chars.code\n
*^SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\n@Su

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ppress("\DEPRECATION")\npublic inline val Char.code: Int get() = this.toInt()\n", /*\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SequencesKt")\n\npackage
kotlin.sequences\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns
`true` if [element] is found in the sequence.\n *\n * The operation is _terminal_.\n *\npublic operator fun
<@kotlin.internal.OnlyInputTypes T> Sequence<T>.contains(element: T): Boolean {\n    return indexOf(element)
>= 0\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the
[index] is out of bounds of this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.elementAt\n *\npublic fun <T> Sequence<T>.elementAt(index: Int): T
{\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("Sequence doesn't contain element at
index $index.") }\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *\npublic fun <T>
Sequence<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n    if (index < 0)\n        return
defaultValue(index)\n    val iterator = iterator()\n    var count = 0\n    while (iterator.hasNext()) {\n        val element
= iterator.next()\n        if (index == count++)\n            return element\n    }\n    return
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of
this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *\npublic fun <T>
Sequence<T>.elementAtOrNull(index: Int): T? {\n    if (index < 0)\n        return null\n    val iterator = iterator()\n
var count = 0\n    while (iterator.hasNext()) {\n        val element = iterator.next()\n        if (index == count++)\n
return element\n    }\n    return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null`
if no such element was found.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Sequence<T>.find(predicate: (T) -> Boolean): T? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n *\n * The operation is
_terminal_.\n *\n * @sample samples.collections.Collections.Elements.find\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.findLast(predicate: (T) -> Boolean): T? {\n
return lastOrNull(predicate)\n}\n\n/**\n * Returns first element.\n *\n * @throws [NoSuchElementException] if the
sequence is empty.\n *\n * The operation is _terminal_.\n *\npublic fun <T> Sequence<T>.first(): T {\n    val
iterator = iterator()\n    if (!iterator.hasNext())\n        throw NoSuchElementException("Sequence is empty.")\n
return iterator.next()\n}\n\n/**\n * Returns the first element matching the given [predicate].\n *\n * @throws
[NoSuchElementException] if no such element is found.\n *\n * The operation is _terminal_.\n *\npublic inline fun
<T> Sequence<T>.first(predicate: (T) -> Boolean): T {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Sequence contains no element matching the predicate.")\n}\n\n/**\n * Returns the first non-null value produced by [transform] function being applied to elements of this sequence in
iteration order,\n *\n * or throws [NoSuchElementException] if no non-null value was produced.\n *\n * The operation
is _terminal_.\n *\n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any>
Sequence<T>.firstNotNullOf(transform: (T) -> R?): R {\n    return firstNotNullOfOrNull(transform) ?: throw
NoSuchElementException("No element of the sequence was transformed to a non-null value.")\n}\n\n/**\n * Returns the first non-null value produced by [transform] function being applied to elements of this sequence in
iteration order,\n *\n * or `null` if no non-null value was produced.\n *\n * The operation is _terminal_.\n *\n *
@sample samples.collections.Collections.Transformations.firstNotNullOf\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any>
Sequence<T>.firstNotNullOfOrNull(transform: (T) -> R?): R? {\n    for (element in this) {\n        val result =

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transform(element)\n    if (result != null) {\n        return result\n    }\n    return null\n}\n\nReturns the first element, or `null` if the sequence is empty.\n * The operation is _terminal_.\n\npublic fun  
<T> Sequence<T>.firstOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        return null\n    return iterator.next()\n}\n\nReturns the first element matching the given [predicate], or `null` if element was  
not found.\n * The operation is _terminal_.\n\npublic inline fun <T> Sequence<T>.firstOrNull(predicate: (T  
-> Boolean): T? {\n    for (element in this) if (predicate(element)) return element\n    return null\n}\n\nReturns first index of [element], or -1 if the sequence does not contain element.\n * The operation is  
_terminal_.\n\npublic fun <@kotlin.internal.OnlyInputTypes T> Sequence<T>.indexOf(element: T): Int {\n    var  
index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (element == item)\n            return  
index\n        index++\n    }\n    return -1\n}\n\nReturns index of the first element matching the given  
[predicate], or -1 if the sequence does not contain such element.\n * The operation is _terminal_.\n\npublic  
inline fun <T> Sequence<T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n    var index = 0\n    for (item in this)  
{\n        checkIndexOverflow(index)\n        if (predicate(item))\n            return index\n        index++\n    }\n    return -  
1\n}\n\nReturns index of the last element matching the given [predicate], or -1 if the sequence does not  
contain such element.\n * The operation is _terminal_.\n\npublic inline fun <T>  
Sequence<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n    var lastIndex = -1\n    var index = 0\n    for (item in  
this) {\n        checkIndexOverflow(index)\n        if (predicate(item))\n            lastIndex = index\n        index++\n    }\n    return lastIndex\n}\n\nReturns the last element.\n * The operation is _terminal_.\n * @throws  
NoSuchElementException if the sequence is empty.\n * @sample  
samples.collections.Collections.Elements.last\n\npublic fun <T> Sequence<T>.last(): T {\n    val iterator =  
iterator()\n    if (!iterator.hasNext())\n        throw NoSuchElementException("Sequence is empty.")\n    var last =  
iterator.next()\n    while (iterator.hasNext())\n        last = iterator.next()\n    return last\n}\n\nReturns the last  
element matching the given [predicate].\n * The operation is _terminal_.\n * @throws  
NoSuchElementException if no such element is found.\n * @sample  
samples.collections.Collections.Elements.last\n\npublic inline fun <T> Sequence<T>.last(predicate: (T) ->  
Boolean): T {\n    var last: T? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element))  
{\n            last = element\n            found = true\n        }\n    }\n    if (!found) throw  
NoSuchElementException("Sequence contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return last as T\n}\n\nReturns last index of [element], or -1 if the  
sequence does not contain element.\n * The operation is _terminal_.\n\npublic fun  
<@kotlin.internal.OnlyInputTypes T> Sequence<T>.lastIndexOf(element: T): Int {\n    var lastIndex = -1\n    var  
index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (element == item)\n            lastIndex =  
index\n        index++\n    }\n    return lastIndex\n}\n\nReturns the last element, or `null` if the sequence is  
empty.\n * The operation is _terminal_.\n * @sample samples.collections.Collections.Elements.last\n\npublic fun <T> Sequence<T>.lastOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        return null\n    var last = iterator.next()\n    while (iterator.hasNext())\n        last = iterator.next()\n    return  
last\n}\n\nReturns the last element matching the given [predicate], or `null` if no such element was found.\n * The operation is _terminal_.\n * @sample samples.collections.Collections.Elements.last\n\npublic  
inline fun <T> Sequence<T>.lastOrNull(predicate: (T) -> Boolean): T? {\n    var last: T? = null\n    for (element in  
this) {\n        if (predicate(element)) {\n            last = element\n        }\n    }\n    return last\n}\n\nReturns the  
single element, or throws an exception if the sequence is empty or has more than one element.\n * The operation  
is _terminal_.\n\npublic fun <T> Sequence<T>.single(): T {\n    val iterator = iterator()\n    if  
(!iterator.hasNext())\n        throw NoSuchElementException("Sequence is empty.")\n    val single =  
iterator.next()\n    if (iterator.hasNext())\n        throw IllegalArgumentException("Sequence has more than one  
element.")\n    return single\n}\n\nReturns the single element matching the given [predicate], or throws  
exception if there is no or more than one matching element.\n * The operation is _terminal_.\n\npublic inline  
fun <T> Sequence<T>.single(predicate: (T) -> Boolean): T {\n    var single: T? = null\n    var found = false\n    for  
(element in this) {\n        if (predicate(element)) {\n            if (found) throw  
IllegalArgumentException("Sequence

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contains more than one matching element.\n        single = element\n        found = true\n    }\n }\n if
(!found) throw NoSuchElementException("Sequence contains no element matching the predicate.\n)\n
@Suppress("UNCHECKED_CAST")\n    return single as T\n}\n\n/**\n * Returns single element, or `null` if the
sequence is empty or has more than one element.\n *\n * The operation is _terminal_.\n */\n\npublic fun <T>
Sequence<T>.singleOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        return null\n    val
single = iterator.next()\n    if (iterator.hasNext())\n        return null\n    return single\n}\n\n/**\n * Returns the single
element matching the given [predicate], or `null` if element was not found or more than one element was found.\n
*\n * The operation is _terminal_.\n */\n\npublic inline fun <T> Sequence<T>.singleOrNull(predicate: (T) ->
Boolean): T? {\n    var single: T? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element))
{\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return
null\n    return single\n}\n\n/**\n * Returns a sequence containing all elements except first [n] elements.\n *\n * The
operation is _intermediate_ and _stateless_.\n *\n * @throws IllegalArgumentException if [n] is negative.\n *\n *\n *
@sample samples.collections.Collections.Transformations.drop\n */\n\npublic fun <T> Sequence<T>.drop(n: Int):
Sequence<T> {\n    require(n >= 0) { "Requested element count $n is less than zero." }\n    return when {\n        n
== 0 -> this\n        this is DropTakeSequence -> this.drop(n)\n        else -> DropSequence(this, n)\n    }\n}\n\n/**\n *
Returns a sequence containing all elements except first elements that satisfy the given [predicate].\n *\n * The
operation is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Transformations.drop\n */\n\npublic fun <T> Sequence<T>.dropWhile(predicate: (T)
-> Boolean): Sequence<T> {\n    return DropWhileSequence(this, predicate)\n}\n\n/**\n * Returns a sequence
containing only elements matching the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n
*\n * @sample samples.collections.Collections.Filtering.filter\n */\n\npublic fun <T> Sequence<T>.filter(predicate:
(T) -> Boolean): Sequence<T> {\n    return FilteringSequence(this, true, predicate)\n}\n\n/**\n * Returns a sequence
containing only elements matching the given [predicate].\n *\n * @param [predicate] function that takes the index of an
element and the element itself\n * and returns the result of predicate evaluation on the element.\n *\n * The
operation is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\n\npublic fun <T> Sequence<T>.filterIndexed(predicate:
(index: Int, T) -> Boolean): Sequence<T> {\n    // TODO: Rewrite with generalized MapFilterIndexingSequence\n    return
TransformingSequence(FilteringSequence(IndexingSequence(this), true, { predicate(it.index, it.value) }), {
it.value })\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *\n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n */\n\npublic inline fun <T, C : MutableCollection<in T>>
Sequence<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n    forEachIndexed {\n
index, element ->\n        if (predicate(index, element)) destination.add(element)\n    }\n    return
destination\n}\n\n/**\n * Returns a sequence containing all elements that are instances of specified type parameter
R.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Filtering.filterIsInstance\n */\n\npublic inline fun <reified R>
Sequence<*>.filterIsInstance(): Sequence<@kotlin.internal.NoInfer R> {\n
@Suppress("UNCHECKED_CAST")\n    return filter { it is R } as Sequence<R>\n}\n\n/**\n * Appends all
elements that are instances of specified type parameter R to the given [destination].\n *\n * The operation is
_terminal_.\n *\n * @sample samples.collections.Collections.Filtering.filterIsInstanceTo\n */\n\npublic inline fun
<reified R, C : MutableCollection<in R>> Sequence<*>.filterIsInstanceTo(destination: C): C {\n    for (element in
this) if (element is R) destination.add(element)\n    return destination\n}\n\n/**\n * Returns a sequence containing
all elements not matching the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n *\n *
@sample samples.collections.Collections.Filtering.filter\n */\n\npublic fun <T> Sequence<T>.filterNot(predicate: (T)
-> Boolean): Sequence<T> {\n    return FilteringSequence(this, false, predicate)\n}\n\n/**\n * Returns a sequence
containing all elements that are not `null`. \n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Filtering.filterNotNull\n */\n\npublic fun <T : Any> Sequence<T?>.filterNotNull():

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Sequence<T> {\n  @Suppress("UNCHECKED_CAST")\n  return filterNot { it == null } as
Sequence<T>}\n\n/**\n * Appends all elements that are not `null` to the given [destination].\n *\n * The operation
is _terminal_.\n *\n * @sample samples.collections.Collections.Filtering.filterNotNullTo\n *\npublic fun <C :
MutableCollection<in T>, T : Any> Sequence<T?>.filterNotNullTo(destination: C): C {\n  for (element in this) if
(element != null) destination.add(element)\n  return destination}\n\n/**\n * Appends all elements not matching
the given [predicate] to the given [destination].\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <T, C : MutableCollection<in T>>
Sequence<T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {\n  for (element in this) if
(!predicate(element)) destination.add(element)\n  return destination}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <T, C : MutableCollection<in T>>
Sequence<T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\n  for (element in this) if (predicate(element))
destination.add(element)\n  return destination}\n\n/**\n * Returns a sequence containing first [n] elements.\n *\n
* The operation is _intermediate_ and _stateless_.\n *\n * @throws IllegalArgumentException if [n] is negative.\n *\n
* @sample samples.collections.Collections.Transformations.take\n *\npublic fun <T> Sequence<T>.take(n: Int):
Sequence<T> {\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  return when {\n    n
== 0 -> emptySequence()\n    this is DropTakeSequence -> this.take(n)\n    else -> TakeSequence(this, n)\n  }\n}\n\n/**\n * Returns a sequence containing first elements satisfying the given [predicate].\n *\n * The operation
is _intermediate_ and _stateless_.\n *\n * @sample samples.collections.Collections.Transformations.take\n
*\npublic fun <T> Sequence<T>.takeWhile(predicate: (T) -> Boolean): Sequence<T> {\n  return
TakeWhileSequence(this, predicate)\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted
according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n *\npublic fun <T :
Comparable<T>> Sequence<T>.sorted(): Sequence<T> {\n  return object : Sequence<T> {\n    override fun
iterator(): Iterator<T> {\n      val sortedList = this@sorted.toMutableList()\n      sortedList.sort()\n      return sortedList.iterator()\n    }\n  }\n}\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted according to natural sort order of the value returned by specified [selector] function.\n *\n * The sort is
_stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The operation
is _intermediate_ and _stateful_.\n *\n * @sample samples.collections.Collections.Sorting.sortedBy\n *\npublic
inline fun <T, R : Comparable<R>> Sequence<T>.sortedBy(crossinline selector: (T) -> R?): Sequence<T> {\n
return sortedWith(compareBy(selector))}\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted descending according to natural sort order of the value returned by specified [selector] function.\n *\n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The
operation is _intermediate_ and _stateful_.\n *\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.sortedByDescending(crossinline selector: (T) -> R?): Sequence<T> {\n  return
sortedWith(compareByDescending(selector))}\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted descending according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements
preserve their order relative to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n
*\npublic fun <T : Comparable<T>> Sequence<T>.sortedDescending(): Sequence<T> {\n  return
sortedWith(reverseOrder())}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted according
to the specified [comparator].\n *\n * The sort is _stable_. It means that equal elements preserve their order relative
to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n *\npublic fun <T>
Sequence<T>.sortedWith(comparator: Comparator<in T>): Sequence<T> {\n  return object : Sequence<T> {\n
override fun iterator(): Iterator<T> {\n      val sortedList = this@sortedWith.toMutableList()\n      sortedList.sortWith(comparator)\n      return sortedList.iterator()\n    }\n  }\n}\n\n/**\n * Returns a [Map]
containing key-value pairs provided by [transform] function\n *\n * applied to elements of the given sequence.\n *\n *\n * If any of two pairs would have the same key the last one gets added to the map.\n *\n * The returned map preserves
the entry iteration order of the original sequence.\n *\n * The operation is _terminal_.\n *\n * @sample

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samples.collections.Collections.Transformations.associate\n */\npublic inline fun <T, K, V>
Sequence<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n  return associateTo(LinkedHashMap<K,
V>(), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given sequence indexed by the
key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry
iteration order of the original sequence.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.associateBy\n */\npublic inline fun <T, K>
Sequence<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n  return associateByTo(LinkedHashMap<K,
T>(), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed
by [keySelector] functions applied to elements of the given sequence.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry
iteration order of the original sequence.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.associateByWithValueTransform\n */\npublic inline fun <T, K, V>
Sequence<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n  return
associateByTo(LinkedHashMap<K, V>(), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to
each element of the given sequence\n * and value is the element itself.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * The operation is _terminal_.\n * \n *
@sample samples.collections.Collections.Transformations.associateByTo\n */\npublic inline fun <T, K, M :
MutableMap<in K, in T>> Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n  for
(element in this) {\n    destination.put(keySelector(element), element)\n  }\n  return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the
given sequence.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets
added to the map.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.associateByToWithValueTransform\n */\npublic inline fun <T, K,
V, M : MutableMap<in K, in V>> Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n  for (element in this) {\n    destination.put(keySelector(element),
valueTransform(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs\n * provided by [transform] function applied to each element of the given sequence.\n * \n *
If any of two pairs would have the same key the last one gets added to the map.\n * \n * The operation is
_terminal_.\n * \n * @sample samples.collections.Collections.Transformations.associateTo\n */\npublic inline fun
<T, K, V, M : MutableMap<in K, in V>> Sequence<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>):
M {\n  for (element in this) {\n    destination += transform(element)\n  }\n  return destination\n}\n\n/**\n *
Returns a [Map] where keys are elements from the given sequence and values are\n * produced by the
[valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to
the map.\n * \n * The returned map preserves the entry iteration order of the original sequence.\n * \n * The
operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin("1.3")\npublic inline fun <K, V> Sequence<K>.associateWith(valueSelector: (K) -> V):
Map<K, V> {\n  val result = LinkedHashMap<K, V>()\n  return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each
element of the given sequence,\n * where key is the element itself and value is provided by the [valueSelector]
function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the
map.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin("1.3")\npublic inline fun
<K, V, M : MutableMap<in K, in V>> Sequence<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M
{\n  for (element in this) {\n    destination.put(element, valueSelector(element))\n  }\n  return
destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n * \n * The operation is

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_terminal_.\n *\npublic fun <T, C : MutableCollection<in T>> Sequence<T>.toCollection(destination: C): C {\n
for (item in this) {\n    destination.add(item)\n } \n return destination\n}\n\n/**\n * Returns a new [HashSet] of
all elements.\n *\n * The operation is _terminal_.\n *\npublic fun <T> Sequence<T>.toHashSet(): HashSet<T> {\n
return toCollection(HashSet<T>())\n}\n\n/**\n * Returns a [List] containing all elements.\n *\n * The operation is
_terminal_.\n *\npublic fun <T> Sequence<T>.toList(): List<T> {\n    return
this.toMutableList().optimizeReadOnlyList()\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of
this sequence.\n *\n * The operation is _terminal_.\n *\npublic fun <T> Sequence<T>.toMutableList():
MutableList<T> {\n    return toCollection(ArrayList<T>())\n}\n\n/**\n * Returns a [Set] of all elements.\n *\n *
The returned set preserves the element iteration order of the original sequence.\n *\n * The operation is
_terminal_.\n *\npublic fun <T> Sequence<T>.toSet(): Set<T> {\n    return
toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()\n}\n\n/**\n * Returns a single sequence of all elements
from results of [transform] function being invoked on each element of original sequence.\n *\n * The operation is
_intermediate_ and _stateless_.\n *\n * @sample samples.collections.Collections.Transformations.flatMap\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIterable")\npublic fun <T, R>
Sequence<T>.flatMap(transform: (T) -> Iterable<R>): Sequence<R> {\n    return FlatteningSequence(this,
transform, Iterable<R>::iterator)\n}\n\n/**\n * Returns a single sequence of all elements from results of [transform]
function being invoked on each element of original sequence.\n *\n * The operation is _intermediate_ and
_stateless_.\n *\n * @sample samples.collections.Collections.Transformations.flatMap\n
*\npublic fun <T, R>
Sequence<T>.flatMap(transform: (T) -> Sequence<R>): Sequence<R> {\n    return FlatteningSequence(this,
transform, Sequence<R>::iterator)\n}\n\n/**\n * Returns a single sequence of all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original sequence.\n *\n * The operation
is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\npublic fun <T, R>
Sequence<T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): Sequence<R> {\n    return
flatMapIndexed(this, transform, Iterable<R>::iterator)\n}\n\n/**\n * Returns a single sequence of all elements
yielded from results of [transform] function being invoked on each element\n * and its index in the original
sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequence")\npublic fun <T, R>
Sequence<T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): Sequence<R> {\n    return
flatMapIndexed(this, transform, Sequence<R>::iterator)\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original sequence, to the given
[destination].\n *\n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.flatMapIndexedTo(destination: C, transform:
(index: Int, T) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =
transform(checkIndexOverflow(index++), element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element\n * and its index in the original sequence, to the given [destination].\n *\n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequenceTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.flatMapIndexedTo(destination: C, transform:
(index: Int, T) -> Sequence<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =

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transform(checkIndexOverflow(index++), element)\n    destination.addAll(list)\n } \n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original sequence, to the given [destination].\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIterableTo")\npublic inline fun <T, R, C :
MutableCollection<in R>> Sequence<T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n for
(element in this) {\n    val list = transform(element)\n    destination.addAll(list)\n } \n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original sequence, to the given [destination].\n *\n * The operation is _terminal_.\n *\npublic inline fun
<T, R, C : MutableCollection<in R>> Sequence<T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C
{\n for (element in this) {\n    val list = transform(element)\n    destination.addAll(list)\n } \n return
destination\n}\n\n/**\n * Groups elements of the original sequence by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <T, K>
Sequence<T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n return groupByTo(LinkedHashMap<K,
MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to
each element of the original sequence\n * by the key returned by the given [keySelector] function applied to the
element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The
returned map preserves the entry iteration order of the keys produced from the original sequence.\n *\n * The
operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n *\npublic inline fun <T, K, V>
Sequence<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
of the original sequence by the key returned by the given [keySelector] function\n * applied to each element and
puts to the [destination] map each group key associated with a list of corresponding elements.\n *\n * @return The
[destination] map.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <T, K, M : MutableMap<in K,
MutableList<T>>> Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n for (element in this)
{\n    val key = keySelector(element)\n    val list = destination.getOrPut(key) { ArrayList<T>() }\n
list.add(element)\n } \n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function
applied to each element of the original sequence\n * by the key returned by the given [keySelector] function applied
to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n
*\n * @return The [destination] map.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n *\npublic inline fun <T, K, V, M :
MutableMap<in K, MutableList<V>>> Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n } \n return
destination\n}\n\n/**\n * Creates a [Grouping] source from a sequence to be used later with one of group-and-fold
operations\n * using the specified [keySelector] function to extract a key from each element.\n *\n * The operation is
_intermediate_ and _stateless_.\n *\n * @sample samples.collections.Grouping.groupingByEachCount\n
*\n@SinceKotlin("1.1")\npublic inline fun <T, K> Sequence<T>.groupingBy(crossinline keySelector: (T) -> K):
Grouping<T, K> {\n return object : Grouping<T, K> {\n    override fun sourceIterator(): Iterator<T> =
this@groupingBy.iterator()\n    override fun keyOf(element: T): K = keySelector(element)\n } \n}\n\n/**\n *
Returns a sequence containing the results of applying the given [transform] function\n * to each element in the
original sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Transformations.map\n *\npublic fun <T, R> Sequence<T>.map(transform: (T) ->

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R): Sequence<R> {\n return TransformingSequence(this, transform)\n}\n\n/**\n * Returns a sequence containing the results of applying the given [transform] function\n * to each element and its index in the original sequence.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n * \n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T, R> Sequence<T>.mapIndexed(transform: (index: Int, T) -> R): Sequence<R> {\n return TransformingIndexedSequence(this, transform)\n}\n\n/**\n * Returns a sequence containing only the non-null results of applying the given [transform] function\n * to each element and its index in the original sequence.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n * \n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T, R : Any> Sequence<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): Sequence<R> {\n return TransformingIndexedSequence(this, transform).filterNotNull()\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original sequence\n * and appends only the non-null results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n * \n * The operation is _terminal_.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Sequence<T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {\n forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original sequence\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n * \n * The operation is _terminal_.\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(checkIndexOverflow(index++), item))\n return destination\n}\n\n/**\n * Returns a sequence containing only the non-null results of applying the given [transform] function\n * to each element in the original sequence.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Transformations.mapNotNull\n */\npublic fun <T, R : Any> Sequence<T>.mapNotNull(transform: (T) -> R?): Sequence<R> {\n return TransformingSequence(this, transform).filterNotNull()\n}\n\n/**\n * Applies the given [transform] function to each element in the original sequence\n * and appends only the non-null results to the given [destination].\n * \n * The operation is _terminal_.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Sequence<T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {\n forEach { element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original sequence\n * and appends the results to the given [destination].\n * \n * The operation is _terminal_.\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.mapTo(destination: C, transform: (T) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns a sequence that wraps each element of the original sequence\n * into an [IndexedValue] containing the index of that element and the element itself.\n * \n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T> Sequence<T>.withIndex(): Sequence<IndexedValue<T>> {\n return IndexingSequence(this)\n}\n\n/**\n * Returns a sequence containing only distinct elements from the given sequence.\n * \n * Among equal elements of the given sequence, only the first one will be present in the resulting sequence.\n * \n * The elements in the resulting sequence are in the same order as they were in the source sequence.\n * \n * The operation is _intermediate_ and _stateful_.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun <T> Sequence<T>.distinct(): Sequence<T> {\n return this.distinctBy { it }\n}\n\n/**\n * Returns a sequence containing only elements from the given sequence\n * having distinct keys returned by the given [selector] function.\n * \n * Among elements of the given sequence with equal keys, only the first one will be present in the resulting sequence.\n * \n * The elements in the resulting sequence are in the same order as they were in the source sequence.\n * \n * The operation is _intermediate_ and _stateful_.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun <T, K> Sequence<T>.distinctBy(selector: (T) -> K): Sequence<T> {\n return DistinctSequence(this, selector)\n}\n\n/**\n

given function or `null` if there are no elements.
 * The operation is `_terminal_`.
 * @sample
 samples.collections.Collections.Aggregates.maxByOrNull
`@SinceKotlin("1.4")\npublic inline fun <T, R : Comparable<R>> Sequence<T>.maxByOrNull(selector: (T) -> R): T? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var maxElem = iterator.next()\n if (!iterator.hasNext()) return maxElem\n var maxV = selector(maxElem)\n do {\n val e = iterator.next()\n val v = selector(e)\n if (maxV < v) {\n maxElem = e\n maxV = v\n }\n } while (iterator.hasNext())\n return maxElem\n}`
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the sequence.
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 * @throws NoSuchElementException if the sequence is empty.
 * The operation is `_terminal_`.

*
`@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOf(selector: (T) -> Double): Double {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var maxV = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n maxV = maxOf(maxV, v)\n }\n return maxV\n}`
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the sequence.
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 * @throws NoSuchElementException if the sequence is empty.
 * The operation is `_terminal_`.

*
`@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOf(selector: (T) -> Float): Float {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var maxV = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n maxV = maxOf(maxV, v)\n }\n return maxV\n}`
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the sequence.
 * @throws
 NoSuchElementException if the sequence is empty.
 * The operation is `_terminal_`.

*
`@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Sequence<T>.maxOf(selector: (T) -> R): R {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var maxV = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n if (maxV < v) {\n maxV = v\n }\n }\n return maxV\n}`
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the sequence or `null` if there are no elements.
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 * The operation is `_terminal_`.

*
`@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOfOrNull(selector: (T) -> Double): Double? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var maxV = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n maxV = maxOf(maxV, v)\n }\n return maxV\n}`
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the sequence or `null` if there are no elements.
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 * The operation is `_terminal_`.

*
`@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOfOrNull(selector: (T) -> Float): Float? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var maxV = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n maxV = maxOf(maxV, v)\n }\n return maxV\n}`
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the sequence or `null` if there are no elements.
 * The operation is `_terminal_`.

*
`@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution`

```

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.maxOfOrNull(selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return
null\n    var maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v =
selector(iterator.next())\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the sequence.\n * \n * @throws
NoSuchElementException if the sequence is empty.\n * \n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>
Sequence<T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) throw NoSuchElementException()\n    var maxValue = selector(iterator.next())\n    while
(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (comparator.compare(maxValue, v) < 0) {\n
            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each element in the sequence or `null`
if there are no elements.\n * \n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>
Sequence<T>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n    val iterator =
iterator()\n    if (!iterator.hasNext()) return null\n    var maxValue = selector(iterator.next())\n    while
(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (comparator.compare(maxValue, v) < 0) {\n
            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest element or `null` if there are no
elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n * \n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\npublic fun Sequence<Double>.maxOrNull(): Double? {\n    val iterator = iterator()\n
if (!iterator.hasNext()) return null\n    var max = iterator.next()\n    while (iterator.hasNext()) {\n        val e =
iterator.next()\n        max = maxOf(max, e)\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if
there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n * \n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\npublic fun Sequence<Float>.maxOrNull(): Float? {\n    val iterator = iterator()\n
if (!iterator.hasNext()) return null\n    var max = iterator.next()\n    while (iterator.hasNext()) {\n        val e =
iterator.next()\n        max = maxOf(max, e)\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if
there are no elements.\n * \n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\npublic fun <T :
Comparable<T>> Sequence<T>.maxOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return
null\n    var max = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        if (max < e) max
= e\n    }\n    return max\n}\n\n@Deprecated("Use maxWithOrNull instead.")
ReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun <T> Sequence<T>.maxWith(comparator: Comparator<in T>): T? {\n
return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the
provided [comparator] or `null` if there are no elements.\n * \n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\npublic fun <T> Sequence<T>.maxWithOrNull(comparator: Comparator<in T>): T? {\n
val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var max = iterator.next()\n    while
(iterator.hasNext()) {\n        val e = iterator.next()\n        if (comparator.compare(max, e) < 0) max = e\n    }\n
return max\n}\n\n@Deprecated("Use minOrNull instead.")
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Sequence<Double>.min(): Double? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.")
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Sequence<Float>.min(): Float? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.")
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",

```

```

hiddenSince = `1.6`)
public fun <T : Comparable<T>> Sequence<T>.min(): T? {
    return
    minOrNull()
}
@Deprecated(`Use minByOrNull instead.`)
ReplaceWith(`this.minByOrNull(selector)`)
@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince =
`1.5`, hiddenSince = `1.6`)
public inline fun <T, R : Comparable<R>> Sequence<T>.minBy(selector: (T) ->
R): T? {
    return minByOrNull(selector)
}
/**
 * Returns the first element yielding the smallest value of the
 * given function or `null` if there are no elements.
 *
 * The operation is _terminal_.
 *
 * @sample
 * samples.collections.Collections.Aggregates.minByOrNull
 */
@SinceKotlin(`1.4`)
public inline fun <T, R :
Comparable<R>> Sequence<T>.minByOrNull(selector: (T) -> R): T? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var minElem = iterator.next()
    if (!iterator.hasNext()) return minElem
    var
    minValue = selector(minElem)
    do {
        val e = iterator.next()
        val v = selector(e)
        if (minValue >
v) {
            minElem = e
            minValue = v
        }
    } while (iterator.hasNext())
    return
    minElem
}
/**
 * Returns the smallest value among all values produced by [selector] function
 * applied to
 * each element in the sequence.
 *
 * If any of values produced by [selector] function is `NaN`, the returned result
 * is `NaN`.
 *
 * @throws NoSuchElementException if the sequence is empty.
 *
 * The operation is
 * _terminal_.
 */
@SinceKotlin(`1.4`)
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>.minOf(selector: (T) ->
Double): Double {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var
    minValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        minValue = minOf(minValue, v)
    }
    return minValue
}
/**
 * Returns the smallest value among all
 * values produced by [selector] function
 * applied to each element in the sequence.
 *
 * If any of values
 * produced by [selector] function is `NaN`, the returned result is `NaN`.
 *
 * @throws NoSuchElementException
 * if the sequence is empty.
 *
 * The operation is _terminal_.
 */
@SinceKotlin(`1.4`)
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>.minOf(selector: (T) ->
Float): Float {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var
    minValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        minValue = minOf(minValue, v)
    }
    return minValue
}
/**
 * Returns the smallest value among all
 * values produced by [selector] function
 * applied to each element in the sequence.
 *
 * @throws
 * NoSuchElementException if the sequence is empty.
 *
 * The operation is _terminal_.
 */
@SinceKotlin(`1.4`)
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R : Comparable<R>>
Sequence<T>.minOf(selector: (T) -> R): R {
    val iterator = iterator()
    if (!iterator.hasNext()) throw
    NoSuchElementException()
    var minValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v
        = selector(iterator.next())
        if (minValue > v) {
            minValue = v
        }
    }
    return
    minValue
}
/**
 * Returns the smallest value among all values produced by [selector] function
 * applied to
 * each element in the sequence or `null` if there are no elements.
 *
 * If any of values produced by [selector]
 * function is `NaN`, the returned result is `NaN`.
 *
 * The operation is _terminal_.
 */
@SinceKotlin(`1.4`)
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>.minOfOrNull(selector:
(T) -> Double): Double? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var minValue =
    selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        minValue =
        minOf(minValue, v)
    }
    return minValue
}
/**
 * Returns the smallest value among all values produced
 * by [selector] function
 * applied to each element in the sequence or `null` if there are no elements.
 *
 * If any of
 * values produced by [selector] function is `NaN`, the returned result is `NaN`.
 *
 * The operation is _terminal_.
 */
@SinceKotlin(`1.4`)
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>.minOfOrNull(selector:
(T) -> Float): Float? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var minValue =

```

```

selector(iterator.next())\n while (iterator.hasNext()) {\n     val v = selector(iterator.next())\n     min\nValue =\nminOf(minValue, v)\n }\n return min\nValue\n}\n\n/**\n * Returns the smallest value among all values produced\n by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n *\n * The\n operation is _terminal_.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>\nSequence<T>.minOfOrNull(selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return\nnull\n    var min\nValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v =\nselector(iterator.next())\n        if (min\nValue > v) {\n            min\nValue = v\n        }\n    }\n    return\nmin\nValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values\n produced by [selector] function applied to each element in the sequence.\n *\n * @throws\n NoSuchElementException if the sequence is empty.\n *\n * The operation is _terminal_.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>\nSequence<T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    val iterator = iterator()\n    if\n(!iterator.hasNext()) throw NoSuchElementException()\n    var min\nValue = selector(iterator.next())\n    while\n(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (comparator.compare(min\nValue, v) > 0) {\n            min\nValue = v\n        }\n    }\n    return min\nValue\n}\n\n/**\n * Returns the smallest value according to the\n provided [comparator]\n * among all values produced by [selector] function applied to each element in the sequence\n or `null` if there are no elements.\n *\n * The operation is _terminal_.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>\nSequence<T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n    val iterator =\niterator()\n    if (!iterator.hasNext()) return null\n    var min\nValue = selector(iterator.next())\n    while\n(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (comparator.compare(min\nValue, v) > 0) {\n            min\nValue = v\n        }\n    }\n    return min\nValue\n}\n\n/**\n * Returns the smallest element or `null` if there are\n no elements.\n *\n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n\n*\n@SinceKotlin("1.4")\npublic fun Sequence<Double>.minOrNull(): Double? {\n    val iterator = iterator()\n    if\n(!iterator.hasNext()) return null\n    var min = iterator.next()\n    while (iterator.hasNext()) {\n        val e =\niterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if\n there are no elements.\n *\n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n\n*\n@SinceKotlin("1.4")\npublic fun Sequence<Float>.minOrNull(): Float? {\n    val iterator = iterator()\n    if\n(!iterator.hasNext()) return null\n    var min = iterator.next()\n    while (iterator.hasNext()) {\n        val e =\niterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if\n there are no elements.\n *\n * The operation is _terminal_.\n\n*\n@SinceKotlin("1.4")\npublic fun <T : Comparable<T>> Sequence<T>.minOrNull(): T? {\n    val iterator = iterator()\n    if\n(!iterator.hasNext()) return\nnull\n    var min = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        if (min > e) min\n= e\n    }\n    return min\n}\n\n@Deprecated("Use minWithOrNull instead.")\nReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince\n= "1.5", hiddenSince = "1.6")\npublic fun <T> Sequence<T>.minWith(comparator: Comparator<in T>): T? {\n    return\nminWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to\n the provided [comparator] or `null` if there are no elements.\n *\n * The operation is _terminal_.\n\n*\n@SinceKotlin("1.4")\npublic fun <T> Sequence<T>.minWithOrNull(comparator: Comparator<in T>): T? {\n    val\niterator = iterator()\n    if (!iterator.hasNext()) return null\n    var min = iterator.next()\n    while\n(iterator.hasNext()) {\n        val e = iterator.next()\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return\nmin\n}\n\n/**\n * Returns `true` if the sequence has no elements.\n *\n * The operation is _terminal_.\n *\n *\n @sample samples.collections.Collections.Aggregates.none\n *\n@SinceKotlin("1.4")\npublic fun <T> Sequence<T>.none(): Boolean {\n    return\n!iterator().hasNext()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n *\n * The

```

```

operation is _terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\npublic inline fun <T> Sequence<T>.none(predicate: (T) -> Boolean): Boolean {\n  for (element in this) if
(predicate(element)) return false\n  return true\n}\n\n/**\n * Returns a sequence which performs the given [action]
on each element of the original sequence as they pass through it.\n * \n * The operation is _intermediate_ and
_stateless_.\n * \n *@SinceKotlin("1.1")\npublic fun <T> Sequence<T>.onEach(action: (T) -> Unit): Sequence<T>
{\n  return map {\n    action(it)\n    it\n  }\n}\n\n/**\n * Returns a sequence which performs the given
[action] on each element of the original sequence as they pass through it.\n * \n * @param [action] function that takes
the index of an element and the element itself\n * and performs the action on the element.\n * \n * The operation is
_intermediate_ and _stateless_.\n * \n *@SinceKotlin("1.4")\npublic fun <T> Sequence<T>.onEachIndexed(action:
(index: Int, T) -> Unit): Sequence<T> {\n  return mapIndexed { index, element ->\n    action(index, element)\n
  element\n  }\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element.\n * \n * Throws an exception if this sequence is empty. If
the sequence can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n *
and calculates the next accumulator value.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Aggregates.reduce\n * \npublic inline fun <S, T : S>
Sequence<T>.reduce(operation: (acc: S, T) -> S): S {\n  val iterator = this.iterator()\n  if (!iterator.hasNext())
throw UnsupportedOperationException("Empty sequence can't be reduced.")\n  var accumulator: S =
iterator.next()\n  while (iterator.hasNext()) {\n    accumulator = operation(accumulator, iterator.next())\n  }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from
left to right\n * to current accumulator value and each element with its index in the original sequence.\n * \n *
Throws an exception if this sequence is empty. If the sequence can be empty in an expected way,\n * please use
[reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function
that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next
accumulator value.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Aggregates.reduce\n * \npublic inline fun <S, T : S>
Sequence<T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {\n  val iterator = this.iterator()\n  if
(!iterator.hasNext()) throw UnsupportedOperationException("Empty sequence can't be reduced.")\n  var index =
1\n  var accumulator: S = iterator.next()\n  while (iterator.hasNext()) {\n    accumulator =
operation(checkIndexOverflow(index++), accumulator, iterator.next())\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element with its index in the original sequence.\n * \n * Returns `null` if the sequence is
empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the
element itself,\n * and calculates the next accumulator value.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n * \n *@SinceKotlin("1.4")\npublic inline fun <S, T : S>
Sequence<T>.reduceIndexedOrNull(operation: (index: Int, acc: S, T) -> S): S? {\n  val iterator = this.iterator()\n
if (!iterator.hasNext()) return null\n  var index = 1\n  var accumulator: S = iterator.next()\n  while
(iterator.hasNext()) {\n    accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n
  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]
from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the sequence is
empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates
the next accumulator value.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n *@SinceKotlin("1.4")\n *@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
Sequence<T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n  val iterator = this.iterator()\n  if
(!iterator.hasNext()) return null\n  var accumulator: S = iterator.next()\n  while (iterator.hasNext()) {\n
accumulator = operation(accumulator, iterator.next())\n  }\n  return accumulator\n}\n\n/**\n * Returns a sequence
containing successive accumulation values generated by applying [operation] from left to right\n * to each element

```

and current accumulator value that starts with [initial] value.

* Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting sequence.

The [initial] value should also be immutable (or should not be mutated) as it may be passed to [operation] function later because of sequence's lazy nature.

@param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.

The operation is `_intermediate_` and `_stateless_`.

@sample samples.collections.Collections.Aggregates.runningFold

```

* \n @SinceKotlin("1.4") \n public fun <T, R> Sequence<T>.runningFold(initial: R, operation: (acc: R, T) -> R): Sequence<R> {
  \n return sequence {
    \n yield(initial)
    \n var accumulator = initial
    \n for (element in this@runningFold) {
      \n accumulator = operation(accumulator, element)
      \n yield(accumulator)
    }
  }
}

```

* Returns a sequence containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original sequence and current accumulator value that starts with [initial] value.

* Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting sequence.

The [initial] value should also be immutable (or should not be mutated) as it may be passed to [operation] function later because of sequence's lazy nature.

@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

The operation is `_intermediate_` and `_stateless_`.

@sample samples.collections.Collections.Aggregates.runningFold

```

* \n @SinceKotlin("1.4") \n public fun <T, R> Sequence<T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): Sequence<R> {
  \n return sequence {
    \n yield(initial)
    \n var index = 0
    \n var accumulator = initial
    \n for (element in this@runningFoldIndexed) {
      \n accumulator = operation(checkIndexOverflow(index++), accumulator, element)
      \n yield(accumulator)
    }
  }
}

```

* Returns a sequence containing successive accumulation values generated by applying [operation] from left to right to each element and current accumulator value that starts with the first element of this sequence.

* Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting sequence.

@param [operation] function that takes current accumulator value and the element, and calculates the next accumulator value.

The operation is `_intermediate_` and `_stateless_`.

@sample samples.collections.Collections.Aggregates.runningReduce

```

* \n @SinceKotlin("1.4") \n @WasExperimental(ExperimentalStdlibApi::class) \n public fun <S, T : S> Sequence<T>.runningReduce(operation: (acc: S, T) -> S): Sequence<S> {
  \n return sequence {
    \n val iterator = iterator()
    \n if (iterator.hasNext()) {
      \n var accumulator: S = iterator.next()
      \n yield(accumulator)
      \n while (iterator.hasNext()) {
        \n accumulator = operation(accumulator, iterator.next())
        \n yield(accumulator)
      }
    }
  }
}

```

* Returns a sequence containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original sequence and current accumulator value that starts with the first element of this sequence.

* Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting sequence.

@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

The operation is `_intermediate_` and `_stateless_`.

@sample samples.collections.Collections.Aggregates.runningReduce

```

* \n @SinceKotlin("1.4") \n public fun <S, T : S> Sequence<T>.runningReduceIndexed(operation: (index: Int, acc: S, T) -> S): Sequence<S> {
  \n return sequence {
    \n val iterator = iterator()
    \n if (iterator.hasNext()) {
      \n var accumulator: S = iterator.next()
      \n yield(accumulator)
      \n var index = 1
      \n while (iterator.hasNext()) {
        \n accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())
        \n yield(accumulator)
      }
    }
  }
}

```

* Returns a sequence containing successive accumulation values generated by applying [operation] from left to right to each element and current accumulator value that starts with [initial] value.

* Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting sequence.

The [initial] value should also be immutable (or should not be mutated) as it may be passed to [operation] function later because of sequence's lazy nature.

@param [operation] function that takes current accumulator value and an element, and calculates the next


```

accumulator value.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T, R>
Sequence<T>.scan(initial: R, operation: (acc: R, T) -> R): Sequence<R> {\n  return runningFold(initial,
operation)\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original sequence and current accumulator value
that starts with [initial] value.\n *\n * Note that `acc` value passed to [operation] function should not be mutated;\n
* otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable
(or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n
*\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the
element itself, and calculates the next accumulator value.\n *\n * The operation is _intermediate_ and _stateless_.\n
*\n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T, R>
Sequence<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): Sequence<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the sequence.\n *\n * The operation is _terminal_.\n *\n@Deprecated("Use sumOf
instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline
fun <T> Sequence<T>.sumBy(selector: (T) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum
+= selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the sequence.\n *\n * The operation is _terminal_.\n *\n@Deprecated("Use
sumOf instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince =
"1.5")\npublic inline fun <T> Sequence<T>.sumByDouble(selector: (T) -> Double): Double {\n  var sum: Double
= 0.0\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum
of all values produced by [selector] function applied to each element in the sequence.\n *\n * The operation is
_terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Sequence<T>.sumOf(selector: (T) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element
in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the sequence.\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Sequence<T>.sumOf(selector: (T) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the sequence.\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Sequence<T>.sumOf(selector: (T) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this)
{\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the sequence.\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.sumOf(selector: (T) -> UInt): UInt {\n
var sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
sequence.\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy

```

```

pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.sumOf(selector: (T) -> ULong):
ULong {\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an
[IllegalArgumentException] if there are any `null` elements.\n *\n * The operation is _intermediate_ and
_stateless_.\n *\npublic fun <T : Any> Sequence<T?>.requireNonNulls(): Sequence<T> {\n    return map { it ?:
throw IllegalArgumentException("`null element found in $this.`) }\n}\n\n/**\n * Splits this sequence into a
sequence of lists each not exceeding the given [size].\n *\n * The last list in the resulting sequence may have fewer
elements than the given [size].\n *\n * @param size the number of elements to take in each list, must be positive
and can be greater than the number of elements in this sequence.\n *\n * The operation is _intermediate_ and
_stateful_.\n *\n * @sample samples.collections.Collections.Transformations.chunked\n
*\n@SinceKotlin("1.2")\npublic fun <T> Sequence<T>.chunked(size: Int): Sequence<List<T>> {\n    return
windowed(size, size, partialWindows = true)\n}\n\n/**\n * Splits this sequence into several lists each not exceeding
the given [size]\n * and applies the given [transform] function to an each.\n *\n * @return sequence of results of the
[transform] applied to an each list.\n *\n * Note that the list passed to the [transform] function is ephemeral and is
valid only inside that function.\n *\n * You should not store it or allow it to escape in some way, unless you made a
snapshot of it.\n *\n * The last list may have fewer elements than the given [size].\n *\n * @param size the number of
elements to take in each list, must be positive and can be greater than the number of elements in this sequence.\n *\n
* The operation is _intermediate_ and _stateful_.\n *\n * @sample samples.text.Strings.chunkedTransform\n
*\n@SinceKotlin("1.2")\npublic fun <T, R> Sequence<T>.chunked(size: Int, transform: (List<T>) -> R):
Sequence<R> {\n    return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n *
Returns a sequence containing all elements of the original sequence without the first occurrence of the given
[element].\n *\n * The operation is _intermediate_ and _stateless_.\n *\npublic operator fun <T>
Sequence<T>.minus(element: T): Sequence<T> {\n    return object: Sequence<T> {\n        override fun iterator():
Iterator<T> {\n            var removed = false\n            return this@minus.filter { if (!removed && it == element) {\n
removed = true; false } else true }.iterator()\n        }\n    }\n}\n\n/**\n * Returns a sequence containing all elements
of original sequence except the elements contained in the given [elements] array.\n *\n * Note that the source
sequence and the array being subtracted are iterated only when an `iterator` is requested from\n * the resulting
sequence. Changing any of them between successive calls to `iterator` may affect the result.\n *\n * Before Kotlin
1.6, the [elements] array may have been converted to a [HashSet] to speed up the operation, thus the elements were
required to have\n * a correct and stable implementation of `hashCode()` that didn't change between successive
invocations.\n * On JVM, you can enable this behavior back with the system property
`kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.\n *\n * The operation is _intermediate_ and
_stateful_.\n *\npublic operator fun <T> Sequence<T>.minus(elements: Array<out T>): Sequence<T> {\n    if
(elements.isEmpty()) return this\n    return object: Sequence<T> {\n        override fun iterator(): Iterator<T> {\n
val other = elements.convertToSetForSetOperation()\n        return this@minus.filterNot { it in other }.iterator()\n
}\n    }\n}\n\n/**\n * Returns a sequence containing all elements of original sequence except the elements
contained in the given [elements] collection.\n *\n * Note that the source sequence and the collection being
subtracted are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them
between successive calls to `iterator` may affect the result.\n *\n * Before Kotlin 1.6, the [elements] collection may
have been converted to a [HashSet] to speed up the operation, thus the elements were required to have\n * a correct
and stable implementation of `hashCode()` that didn't change between successive invocations.\n * On JVM, you can
enable this behavior back with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to
`true`.\n *\n * The operation is _intermediate_ and _stateful_.\n *\npublic operator fun <T>
Sequence<T>.minus(elements: Iterable<T>): Sequence<T> {\n    return object: Sequence<T> {\n        override fun
iterator(): Iterator<T> {\n            val other = elements.convertToSetForSetOperation()\n            if (other.isEmpty())\n
return this@minus.iterator()\n            else\n                return this@minus.filterNot { it in other }.iterator()\n
}\n    }\n}\n\n/**\n * Returns a sequence containing all elements of original sequence except the elements
contained in the given [elements] sequence.\n *\n * Note that the source sequence and the sequence being

```

subtracted are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.

The operation is `_intermediate_` for this sequence and `_terminal_` and `_stateful_` for the [elements] sequence.

Before Kotlin 1.6, the [elements] sequence may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of `hashCode()` that didn't change between successive invocations.

On JVM, you can enable this behavior back with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.

```

public operator fun <T> Sequence<T>.minus(elements: Sequence<T>): Sequence<T> {
    return object: Sequence<T> {
        override fun iterator(): Iterator<T> {
            val other =
                elements.convertToSetForSetOperation()
            if (other.isEmpty())
                return this@minus.iterator()
            else
                return this@minus.filterNot { it in other }.iterator()
        }
    }
}

```

Returns a sequence containing all elements of the original sequence without the first occurrence of the given [element].

The operation is `_intermediate_` and `_stateless_`.

```

@kotlin.internal.InlineOnly
public inline fun <T>
Sequence<T>.minusElement(element: T): Sequence<T> {
    return minus(element)
}

```

Splits the original sequence into pair of lists, where `first` list contains elements for which [predicate] yielded `true`, while `second` list contains elements for which [predicate] yielded `false`.

The operation is `_terminal_`.

```

@sample samples.collections.Sequences.Transformations.partition
public inline fun <T>
Sequence<T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {
    val first = ArrayList<T>()
    val second = ArrayList<T>()
    for (element in this) {
        if (predicate(element))
            first.add(element)
        else
            second.add(element)
    }
    return Pair(first, second)
}

```

Returns a sequence containing all elements of the original sequence and then the given [element].

The operation is `_intermediate_` and `_stateless_`.

```

public operator fun <T> Sequence<T>.plus(element: T): Sequence<T> {
    return sequenceOf(this, sequenceOf(element)).flatten()
}

```

Returns a sequence containing all elements of original sequence and then all elements of the given [elements] array.

Note that the source sequence and the array being added are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.

The operation is `_intermediate_` and `_stateless_`.

```

public operator fun <T> Sequence<T>.plus(elements: Array<out T>): Sequence<T> {
    return this.plus(elements.asList())
}

```

Returns a sequence containing all elements of original sequence and then all elements of the given [elements] collection.

Note that the source sequence and the collection being added are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.

The operation is `_intermediate_` and `_stateless_`.

```

public operator fun <T> Sequence<T>.plus(elements: Iterable<T>): Sequence<T> {
    return sequenceOf(this, elements.asSequence()).flatten()
}

```

Returns a sequence containing all elements of original sequence and then all elements of the given [elements] sequence.

Note that the source sequence and the sequence being added are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.

The operation is `_intermediate_` and `_stateless_`.

```

public operator fun <T> Sequence<T>.plus(elements: Sequence<T>): Sequence<T> {
    return sequenceOf(this, elements).flatten()
}

```

Returns a sequence containing all elements of the original sequence and then the given [element].

The operation is `_intermediate_` and `_stateless_`.

```

@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>.plusElement(element: T): Sequence<T> {
    return plus(element)
}

```

Returns a sequence of snapshots of the window of the given [size] sliding along this sequence with the given [step], where each snapshot is a list.

Several last lists may have fewer elements than the given [size].

Both [size] and [step] must be positive and can be greater than the number of elements in this sequence.

@param size the number of elements to take in each window

@param step the number of elements to move the window forward by on an each step, by default 1

@param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved

```

@sample samples.collections.Sequences.Transformations.takeWindows
@SinceKotlin("1.2")
public fun <T> Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows:
Boolean = false): Sequence<List<T>> {
    return windowedSequence(size, step, partialWindows, reuseBuffer =

```

false)

`Sequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R): Sequence<R>` {
 return windowedSequence(size, step, partialWindows, reuseBuffer = true).map(transform)

`Sequence.zip(other: Sequence<R>): Sequence<Pair<T, R>>` {
 return MergingSequence(this, other) { t1, t2 -> t1 to t2 }

`Sequence.zipWithTransform(other: Sequence<R>, transform: (a: T, b: R) -> V): Sequence<V>` {
 return MergingSequence(this, other, transform)

`Sequence.zipWithNext(): Sequence<Pair<T, T>>` {
 return zipWithNext { a, b -> a to b }

`Sequence.zipWithNextToFindDeltas(transform: (a: T, b: T) -> R): Sequence<R>` {
 return sequence result@ {
 val iterator = iterator()
 if (!iterator.hasNext()) return @result
 var current = iterator.next()
 while (iterator.hasNext()) {
 val next = iterator.next()
 yield(transform(current, next))
 current = next
 }
 }

`Sequence.appendTo(separator: CharSequence = "\", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\"): Appendable` {
 buffer.appendTo(separator)
 var count = 0
 for (element in this) {
 if (++count > 1)
 buffer.appendTo(separator)
 if (limit < 0 || count <= limit) {
 buffer.appendToElement(element, transform)
 } else break
 }
 if (limit >= 0 && count > limit) buffer.appendTo(truncated)
 buffer.appendTo(postfix)
 return buffer

`Sequence.appendTo(separator: CharSequence = "\", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\"): String` {
 return buffer.appendTo(separator).toString()

```

samples.collections.Collections.Transformations.joinToString\n *\npublic fun <T>
Sequence<T>.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = "\", postfix: CharSequence =
\"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((T) -> CharSequence)? = null): String {\n  return
joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates an
[Iterable] instance that wraps the original sequence returning its elements when being iterated.\n *\npublic fun <T>
Sequence<T>.asIterable(): Iterable<T> {\n  return Iterable { this.iterator() }\n}\n\n/**\n * Returns this sequence as
a [Sequence].\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.asSequence(): Sequence<T>
{\n  return this\n}\n\n/**\n * Returns an average value of elements in the sequence.\n *\n * The operation is
_terminal_.\n *\n@kotlin.jvm.JvmName(\"averageOfByte\")\npublic fun Sequence<Byte>.average(): Double {\n
var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n   sum += element\n
checkCountOverflow(++count)\n } \n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"averageOfShort\")\npublic fun Sequence<Short>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
checkCountOverflow(++count)\n  } \n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"averageOfInt\")\npublic fun Sequence<Int>.average(): Double {\n  var sum: Double
= 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
checkCountOverflow(++count)\n  } \n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the
sequence.\n *\n * The operation is _terminal_.\n *\n@kotlin.jvm.JvmName(\"averageOfLong\")\npublic fun
Sequence<Long>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
sum += element\n checkCountOverflow(++count)\n } \n return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"averageOfFloat\")\npublic fun Sequence<Float>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
checkCountOverflow(++count)\n } \n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"averageOfDouble\")\npublic fun Sequence<Double>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
checkCountOverflow(++count)\n } \n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"sumOfByte\")\npublic fun Sequence<Byte>.sum(): Int {\n  var sum: Int = 0\n  for
(element in this) {\n    sum += element\n } \n return sum\n}\n\n/**\n * Returns the sum of all elements in the
sequence.\n *\n * The operation is _terminal_.\n *\n@kotlin.jvm.JvmName(\"sumOfShort\")\npublic fun
Sequence<Short>.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n } \n return
sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"sumOfInt\")\npublic fun Sequence<Int>.sum(): Int {\n  var sum: Int = 0\n  for
(element in this) {\n    sum += element\n } \n return sum\n}\n\n/**\n * Returns the sum of all elements in the
sequence.\n *\n * The operation is _terminal_.\n *\n@kotlin.jvm.JvmName(\"sumOfLong\")\npublic fun
Sequence<Long>.sum(): Long {\n  var sum: Long = 0L\n  for (element in this) {\n    sum += element\n } \n
return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"sumOfFloat\")\npublic fun Sequence<Float>.sum(): Float {\n  var sum: Float = 0.0f\n
for (element in this) {\n    sum += element\n } \n return sum\n}\n\n/**\n * Returns the sum of all elements in
the sequence.\n *\n * The operation is _terminal_.\n *\n@kotlin.jvm.JvmName(\"sumOfDouble\")\npublic fun
Sequence<Double>.sum(): Double {\n  var sum: Double = 0.0\n  for (element in this) {\n    sum += element\n
} \n return sum\n}\n\n\"/>\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n

```

```

*\n\n@file:kotlin.jvm.JvmMultifileClass\n\n@file:kotlin.jvm.JvmName("\\SetsKt\\")\n\npackage
kotlin.collections\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\n\nimport kotlin.random.*\n\nimport
kotlin.ranges.contains\n\nimport kotlin.ranges.reversed\n\n\n/**\n * Returns a set containing all elements of the original
set except the given [element].\n * \n * The returned set preserves the element iteration order of the original set.\n
*\n\npublic operator fun <T> Set<T>.minus(element: T): Set<T> {\n    val result =
LinkedHashSet<T>(mapCapacity(size))\n    var removed = false\n    return this.filterTo(result) { if (!removed && it
== element) { removed = true; false } else true }\n\n}\n\n/**\n * Returns a set containing all elements of the original
set except the elements contained in the given [elements] array.\n * \n * The returned set preserves the element
iteration order of the original set.\n * \n * Before Kotlin 1.6, the [elements] array may have been converted to a
[HashSet] to speed up the operation, thus the elements were required to have\n * a correct and stable implementation
of `hashCode()` that didn't change between successive invocations.\n * On JVM, you can enable this behavior back
with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.\n *\n\npublic operator
fun <T> Set<T>.minus(elements: Array<out T>): Set<T> {\n    val result = LinkedHashSet<T>(this)\n    result.removeAll(elements)\n    return result\n}\n\n/**\n * Returns a set containing all elements of the original set
except the elements contained in the given [elements] collection.\n * \n * The returned set preserves the element
iteration order of the original set.\n * \n * Before Kotlin 1.6, the [elements] collection may have been converted to a
[HashSet] to speed up the operation, thus the elements were required to have\n * a correct and stable implementation
of `hashCode()` that didn't change between successive invocations.\n * On JVM, you can enable this behavior back
with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.\n *\n\npublic operator
fun <T> Set<T>.minus(elements: Iterable<T>): Set<T> {\n    val other =
elements.convertToSetForSetOperationWith(this)\n    if (other.isEmpty())\n        return this.toSet()\n    if (other is
Set)\n        return this.filterNotTo(LinkedHashSet<T>()) { it in other }\n    val result = LinkedHashSet<T>(this)\n    result.removeAll(other)\n    return result\n}\n\n/**\n * Returns a set containing all elements of the original set
except the elements contained in the given [elements] sequence.\n * \n * The returned set preserves the element
iteration order of the original set.\n * \n * Before Kotlin 1.6, the [elements] sequence may have been converted to a
[HashSet] to speed up the operation, thus the elements were required to have\n * a correct and stable implementation
of `hashCode()` that didn't change between successive invocations.\n * On JVM, you can enable this behavior back
with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.\n *\n\npublic operator
fun <T> Set<T>.minus(elements: Sequence<T>): Set<T> {\n    val result = LinkedHashSet<T>(this)\n    result.removeAll(elements)\n    return result\n}\n\n/**\n * Returns a set containing all elements of the original set
except the given [element].\n * \n * The returned set preserves the element iteration order of the original set.\n
*\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> Set<T>.minusElement(element: T): Set<T> {\n    return
minus(element)\n}\n\n/**\n * Returns a set containing all elements of the original set and then the given [element] if
it isn't already in this set.\n * \n * The returned set preserves the element iteration order of the original set.\n
*\n\npublic operator fun <T> Set<T>.plus(element: T): Set<T> {\n    val result =
LinkedHashSet<T>(mapCapacity(size + 1))\n    result.addAll(this)\n    result.add(element)\n    return
result\n}\n\n/**\n * Returns a set containing all elements of the original set and the given [elements] array,\n *
which aren't already in this set.\n * \n * The returned set preserves the element iteration order of the original set.\n
*\n\npublic operator fun <T> Set<T>.plus(elements: Array<out T>): Set<T> {\n    val result =
LinkedHashSet<T>(mapCapacity(this.size + elements.size))\n    result.addAll(this)\n    result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a set containing all elements of the original set and the given [elements]
collection,\n * which aren't already in this set.\n * \n * The returned set preserves the element iteration order of the
original set.\n *\n\npublic operator fun <T> Set<T>.plus(elements: Iterable<T>): Set<T> {\n    val result =
LinkedHashSet<T>(mapCapacity(elements.collectionSizeOrNull()?.let { this.size + it } ?: this.size * 2))\n    result.addAll(this)\n    result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a set containing all elements of
the original set and the given [elements] sequence,\n * which aren't already in this set.\n * \n * The returned set
preserves the element iteration order of the original set.\n *\n\npublic operator fun <T> Set<T>.plus(elements:

```


Returns a character at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this char sequence.

```

*^@kotlin.internal.InlineOnly\npublic inline fun CharSequence.getOrElse(index: Int, defaultValue: (Int) -> Char): Char {
    return if (index >= 0 && index <= lastIndex) get(index) else
    defaultValue(index)
}

```

Returns a character at the given [index] or `null` if the [index] is out of bounds of this char sequence.

```

*^@sample samples.collections.Collections.Elements.getOrNull\n*^public fun CharSequence.getOrNull(index: Int): Char? {
    return if (index >= 0 && index <= lastIndex) get(index) else
    null
}

```

Returns index of the first character matching the given [predicate], or -1 if the char sequence does not contain such character.

```

*^public inline fun CharSequence.indexOfFirst(predicate: (Char) -> Boolean): Int {
    for (index in indices) {
        if (predicate(this[index])) {
            return index
        }
    }
    return -1
}

```

Returns index of the last character matching the given [predicate], or -1 if the char sequence does not contain such character.

```

*^public inline fun CharSequence.indexOfLast(predicate: (Char) -> Boolean): Int {
    for (index in indices.reversed()) {
        if (predicate(this[index])) {
            return index
        }
    }
    return -1
}

```

Returns the last character.

```

*^@throws NoSuchElementException if the char sequence is empty.
*^@sample samples.text.Strings.last\n*^public fun CharSequence.last(): Char {
    if (isEmpty())
        throw NoSuchElementException("Char sequence is empty.")
    return this[lastIndex]
}

```

Returns the last character matching the given [predicate].

```

*^@throws NoSuchElementException if no such character is found.
*^@sample samples.text.Strings.last\n*^public inline fun CharSequence.last(predicate: (Char) -> Boolean): Char {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Char sequence contains no character matching the predicate.")
}

```

Returns the last character, or `null` if the char sequence is empty.

```

*^@sample samples.text.Strings.last\n*^public fun CharSequence.lastOrNull(): Char? {
    return if (isEmpty())
    null else this[length - 1]
}

```

Returns the last character matching the given [predicate], or `null` if no such character was found.

```

*^@sample samples.text.Strings.last\n*^public inline fun CharSequence.lastOrNull(predicate: (Char) -> Boolean): Char? {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    return null
}

```

Returns a random character from this char sequence.

```

*^@throws NoSuchElementException if this char sequence is empty.
*^@SinceKotlin("1.3")\n*^@kotlin.internal.InlineOnly\npublic inline fun CharSequence.random(): Char {
    return random(Random)
}

```

Returns a random character from this char sequence using the specified source of randomness.

```

*^@throws NoSuchElementException if this char sequence is empty.
*^@SinceKotlin("1.3")\npublic fun CharSequence.random(random: Random): Char {
    if (isEmpty())
        throw NoSuchElementException("Char sequence is empty.")
    return get(random.nextInt(length))
}

```

Returns a random character from this char sequence, or `null` if this char sequence is empty.

```

*^@SinceKotlin("1.4")\n*^@WasExperimental(ExperimentalStdlibApi::class)\n*^@kotlin.internal.InlineOnly\npublic inline fun CharSequence.randomOrNull(): Char? {
    return randomOrNull(Random)
}

```

Returns a random character from this char sequence using the specified source of randomness, or `null` if this char sequence is empty.

```

*^@SinceKotlin("1.4")\n*^@WasExperimental(ExperimentalStdlibApi::class)\npublic fun CharSequence.randomOrNull(random: Random): Char? {
    if (isEmpty())
        return null
    return get(random.nextInt(length))
}

```

Returns the single character, or throws an exception if the char sequence is empty or has more than one character.

```

*^public fun CharSequence.single(): Char {
    return when (length) {
        0 -> throw NoSuchElementException("Char sequence is empty.")
        1 -> this[0]
        else -> throw
        IllegalArgumentException("Char sequence has more than one element.")
    }
}

```

Returns the single character matching the given [predicate], or throws exception if there is no or more than one matching character.

```

*^public inline fun CharSequence.single(predicate: (Char) -> Boolean): Char {
    var single: Char? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) throw
            IllegalArgumentException("Char sequence contains more than one matching element.")
            single =
            element
            found = true
        }
    }
    if (!found) throw NoSuchElementException("Char sequence
contains no character matching the predicate.")
    @Suppress("UNCHECKED_CAST")
    return single as
    Char
}

```

Returns single character, or `null` if the char sequence is empty or has more than one character.


```

*^public fun CharSequence.singleOrNull(): Char? {
    return if (length == 1) this[0] else null
}

Returns the single character matching the given [predicate], or `null` if character was not found or more than one character was found.

*^public inline fun CharSequence.singleOrNull(predicate: (Char) -> Boolean): Char? {
    var single: Char? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) return null
            single = element
            found = true
        }
    }
    if (!found) return null
    return single
}

Returns a subsequence of this char sequence with the first [n] characters removed.

* @throws IllegalArgumentException if [n] is negative.
* @sample samples.text.Strings.drop

*^public fun CharSequence.drop(n: Int): CharSequence {
    require(n >= 0) { "Requested character count $n is less than zero." }
    return subSequence(n.coerceAtMost(length), length)
}

Returns a string with the first [n] characters removed.

* @throws IllegalArgumentException if [n] is negative.
* @sample samples.text.Strings.drop

*^public fun String.drop(n: Int): String {
    require(n >= 0) { "Requested character count $n is less than zero." }
    return substring(n.coerceAtMost(length))
}

Returns a subsequence of this char sequence with the last [n] characters removed.

* @throws IllegalArgumentException if [n] is negative.
* @sample samples.text.Strings.drop

*^public fun CharSequence.dropLast(n: Int): CharSequence {
    require(n >= 0) { "Requested character count $n is less than zero." }
    return take((length - n).coerceAtLeast(0))
}

Returns a string with the last [n] characters removed.

* @throws IllegalArgumentException if [n] is negative.
* @sample samples.text.Strings.drop

*^public fun String.dropLast(n: Int): String {
    require(n >= 0) { "Requested character count $n is less than zero." }
    return take((length - n).coerceAtLeast(0))
}

Returns a subsequence of this char sequence containing all characters except last characters that satisfy the given [predicate].

* @sample samples.text.Strings.drop

*^public inline fun CharSequence.dropLastWhile(predicate: (Char) -> Boolean): CharSequence {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return subSequence(0, index + 1)
        }
    }
    return ""
}

Returns a string containing all characters except last characters that satisfy the given [predicate].

* @sample samples.text.Strings.drop

*^public inline fun String.dropLastWhile(predicate: (Char) -> Boolean): String {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return substring(0, index + 1)
        }
    }
    return ""
}

Returns a subsequence of this char sequence containing all characters except first characters that satisfy the given [predicate].

* @sample samples.text.Strings.drop

*^public inline fun CharSequence.dropWhile(predicate: (Char) -> Boolean): CharSequence {
    for (index in this.indices) {
        if (!predicate(this[index])) {
            return subSequence(index, length)
        }
    }
    return ""
}

Returns a string containing all characters except first characters that satisfy the given [predicate].

* @sample samples.text.Strings.drop

*^public inline fun String.dropWhile(predicate: (Char) -> Boolean): String {
    for (index in this.indices) {
        if (!predicate(this[index])) {
            return substring(index)
        }
    }
    return ""
}

Returns a char sequence containing only those characters from the original char sequence that match the given [predicate].

* @sample samples.text.Strings.filter

*^public inline fun CharSequence.filter(predicate: (Char) -> Boolean): CharSequence {
    return filterTo(StringBuilder(), predicate)
}

Returns a string containing only those characters from the original string that match the given [predicate].

* @sample samples.text.Strings.filter

*^public inline fun String.filter(predicate: (Char) -> Boolean): String {
    return filterTo(StringBuilder(), predicate).toString()
}

Returns a char sequence containing only those characters from the original char sequence that match the given [predicate].

* @param [predicate] function that takes the index of a character and the character itself
* and returns the result of predicate evaluation on the character.

* @sample samples.collections.Collections.Filtering.filterIndexed

*^public inline fun CharSequence.filterIndexed(predicate: (index: Int, Char) -> Boolean): CharSequence {
    return filterIndexedTo(StringBuilder(), predicate)
}

Returns a string containing only those characters from the original string that match the given [predicate].

* @param [predicate] function that takes the index of a character and the character itself
* and returns the result of predicate evaluation on the character.

* @sample samples.collections.Collections.Filtering.filterIndexed

*^public inline fun String.filterIndexed(predicate: (index: Int, Char) -> Boolean): String {
    return filterIndexedTo(StringBuilder(), predicate).toString()
}

Appends all characters matching the given [predicate] to the given [destination].

* @param [predicate] function

```

that takes the index of a character and the character itself and returns the result of predicate evaluation on the character.

```

@sample samples.collections.Collections.Filtering.filterIndexedTo
public inline fun <C : Appendable> CharSequence.filterIndexedTo(destination: C, predicate: (index: Int, Char) -> Boolean): C {
    for (index, element) in this {
        if (predicate(index, element)) destination.append(element)
    }
    return destination
}

```

Returns a char sequence containing only those characters from the original char sequence that do not match the given [predicate].

```

@sample samples.text.Strings.filterNot
public inline fun CharSequence.filterNot(predicate: (Char) -> Boolean): CharSequence {
    return filterNotTo(StringBuilder(), predicate)
}

```

Returns a string containing only those characters from the original string that do not match the given [predicate].

```

@sample samples.text.Strings.filterNot
public inline fun String.filterNot(predicate: (Char) -> Boolean): String {
    return filterNotTo(StringBuilder(), predicate).toString()
}

```

Appends all characters not matching the given [predicate] to the given [destination].

```

@sample samples.collections.Collections.Filtering.filterTo
public inline fun <C : Appendable> CharSequence.filterTo(destination: C, predicate: (Char) -> Boolean): C {
    for (element in this)
        if (!predicate(element)) destination.append(element)
    return destination
}

```

Appends all characters matching the given [predicate] to the given [destination].

```

@sample samples.collections.Collections.Filtering.filterTo
public inline fun <C : Appendable> CharSequence.filterTo(destination: C, predicate: (Char) -> Boolean): C {
    for (index in 0 until length) {
        val element = get(index)
        if (predicate(element)) destination.append(element)
    }
    return destination
}

```

Returns a char sequence containing characters of the original char sequence at the specified range of [indices].

```

public fun CharSequence.slice(indices: IntRange): CharSequence {
    if (indices.isEmpty()) return ""
    return subSequence(indices)
}

```

Returns a string containing characters of the original string at the specified range of [indices].

```

public fun String.slice(indices: IntRange): String {
    if (indices.isEmpty()) return ""
    return substring(indices)
}

```

Returns a char sequence containing characters of the original char sequence at specified [indices].

```

public fun CharSequence.slice(indices: Iterable<Int>): CharSequence {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return ""
    val result = StringBuilder(size)
    for (i in indices) {
        result.append(get(i))
    }
    return result
}

```

Returns a string containing characters of the original string at specified [indices].

```

@kotlin.internal.InlineOnly
public inline fun String.slice(indices: Iterable<Int>): String {
    return (this as CharSequence).slice(indices).toString()
}

```

Returns a subsequence of this char sequence containing the first [n] characters from this char sequence, or the entire char sequence if this char sequence is shorter.

```

@throws IllegalArgumentException if [n] is negative.
@sample samples.text.Strings.take
public fun CharSequence.take(n: Int): CharSequence {
    require(n >= 0) { "Requested character count $n is less than zero." }
    return subSequence(0, n.coerceAtMost(length))
}

```

Returns a string containing the first [n] characters from this string, or the entire string if this string is shorter.

```

@throws IllegalArgumentException if [n] is negative.
@sample samples.text.Strings.take
public fun String.take(n: Int): String {
    require(n >= 0) { "Requested character count $n is less than zero." }
    return substring(0, n.coerceAtMost(length))
}

```

Returns a subsequence of this char sequence containing the last [n] characters from this char sequence, or the entire char sequence if this char sequence is shorter.

```

@throws IllegalArgumentException if [n] is negative.
@sample samples.text.Strings.take
public fun CharSequence.takeLast(n: Int): CharSequence {
    require(n >= 0) { "Requested character count $n is less than zero." }
    val length = length
    return subSequence(length - n.coerceAtMost(length), length)
}

```

Returns a string containing the last [n] characters from this string, or the entire string if this string is shorter.

```

@throws IllegalArgumentException if [n] is negative.
@sample samples.text.Strings.take
public fun String.takeLast(n: Int): String {
    require(n >= 0) { "Requested character count $n is less than zero." }
    val length = length
    return substring(length - n.coerceAtMost(length))
}

```

Returns a subsequence of this char sequence containing last characters that satisfy the given [predicate].

```

@sample samples.text.Strings.take
public inline fun CharSequence.takeLastWhile(predicate: (Char) -> Boolean): CharSequence {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return
        }
    }
}

```

```

subSequence(index + 1, length)\n    }\n    }\n    return subSequence(0, length)\n}\n\n/**\n * Returns a string
containing last characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n */\npublic
inline fun String.takeLastWhile(predicate: (Char) -> Boolean): String {\n    for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n        return substring(index + 1)\n    }\n    }\n    return this\n}\n\n/**\n * Returns
a subsequence of this char sequence containing the first characters that satisfy the given [predicate].\n * \n *
@sample samples.text.Strings.take\n */\npublic inline fun CharSequence.takeWhile(predicate: (Char) -> Boolean):
CharSequence {\n    for (index in 0 until length)\n        if (!predicate(get(index))) {\n            return subSequence(0,
index)\n        }\n    return subSequence(0, length)\n}\n\n/**\n * Returns a string containing the first characters that
satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n */\npublic inline fun
String.takeWhile(predicate: (Char) -> Boolean): String {\n    for (index in 0 until length)\n        if
(!predicate(get(index))) {\n            return substring(0, index)\n        }\n    return this\n}\n\n/**\n * Returns a char
sequence with characters in reversed order.\n */\npublic fun CharSequence.reversed(): CharSequence {\n    return
StringBuilder(this).reverse()\n}\n\n/**\n * Returns a string with characters in reversed order.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun String.reversed(): String {\n    return (this as
CharSequence).reversed().toString()\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by
[transform] function\n * applied to characters of the given char sequence.\n * \n * If any of two pairs would have the
same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the
original char sequence.\n * \n * @sample samples.text.Strings.associate\n */\npublic inline fun <K, V>
CharSequence.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {\n    val capacity =
mapCapacity(length).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing the characters from the given char sequence indexed by the
key\n * returned from [keySelector] function applied to each character.\n * \n * If any two characters would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry
iteration order of the original char sequence.\n * \n * @sample samples.text.Strings.associateBy\n */\npublic inline
fun <K> CharSequence.associateBy(keySelector: (Char) -> K): Map<K, Char> {\n    val capacity =
mapCapacity(length).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, Char>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by
[keySelector] functions applied to characters of the given char sequence.\n * \n * If any two characters would have
the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the
entry iteration order of the original char sequence.\n * \n * @sample
samples.text.Strings.associateByWithValueTransform\n */\npublic inline fun <K, V>
CharSequence.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, V> {\n    val capacity
= mapCapacity(length).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value
pairs,\n * where key is provided by the [keySelector] function applied to each character of the given char sequence\n
* and value is the character itself.\n * \n * If any two characters would have the same key returned by [keySelector]
the last one gets added to the map.\n * \n * @sample samples.text.Strings.associateByTo\n */\npublic inline fun <K,
M : MutableMap<in K, in Char>> CharSequence.associateByTo(destination: M, keySelector: (Char) -> K): M {\n
for (element in this) {\n    destination.put(keySelector(element), element)\n    }\n    return destination\n}\n\n/**\n
* Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function and\n * and value is provided by the [valueTransform] function applied to characters of the
given char sequence.\n * \n * If any two characters would have the same key returned by [keySelector] the last one
gets added to the map.\n * \n * @sample samples.text.Strings.associateByToWithValueTransform\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> CharSequence.associateByTo(destination: M, keySelector: (Char)
-> K, valueTransform: (Char) -> V): M {\n    for (element in this) {\n        destination.put(keySelector(element),
valueTransform(element))\n    }\n    return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs\n * provided by [transform] function applied to each character of the given char
sequence.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * @sample

```

```

samples.text.Strings.associateTo\n *^\npublic inline fun <K, V, M : MutableMap<in K, in V>>
CharSequence.associateTo(destination: M, transform: (Char) -> Pair<K, V>): M {\n  for (element in this) {\n
destination += transform(element)\n  }\n  return destination\n}\n\n/**\n * Returns a [Map] where keys are
characters from the given char sequence and values are\n * produced by the [valueSelector] function applied to each
character.\n * \n * If any two characters are equal, the last one gets added to the map.\n * \n * The returned map
preserves the entry iteration order of the original char sequence.\n * \n * @sample
samples.text.Strings.associateWith\n *^\n@SinceKotlin("1.3")\npublic inline fun <V>
CharSequence.associateWith(valueSelector: (Char) -> V): Map<Char, V> {\n  val result = LinkedHashMap<Char,
V>(mapCapacity(length.coerceAtMost(128)).coerceAtLeast(16))\n  return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each
character of the given char sequence,\n * where key is the character itself and value is provided by the
[valueSelector] function applied to that key.\n * \n * If any two characters are equal, the last one overwrites the
former value in the map.\n * \n * @sample samples.text.Strings.associateWithTo\n
*^\n@SinceKotlin("1.3")\npublic inline fun <V, M : MutableMap<in Char, in V>>
CharSequence.associateWithTo(destination: M, valueSelector: (Char) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Appends all characters to
the given [destination] collection.\n *^\npublic fun <C : MutableCollection<in Char>>
CharSequence.toCollection(destination: C): C {\n  for (item in this) {\n  destination.add(item)\n  }\n  return
destination\n}\n\n/**\n * Returns a new [HashSet] of all characters.\n *^\npublic fun CharSequence.toHashSet():
HashSet<Char> {\n  return toCollection(HashSet<Char>(mapCapacity(length.coerceAtMost(128))))\n}\n\n/**\n *
Returns a [List] containing all characters.\n *^\npublic fun CharSequence.toList(): List<Char> {\n  return when
(length) {\n    0 -> emptyList()\n    1 -> listOf(this[0])\n    else -> this.toMutableList()\n  }\n}\n\n/**\n *
Returns a new [MutableList] filled with all characters of this char sequence.\n *^\npublic fun
CharSequence.toMutableList(): MutableList<Char> {\n  return toCollection(ArrayList<Char>(length))\n}\n\n/**\n
* Returns a [Set] of all characters.\n * \n * The returned set preserves the element iteration order of the original char
sequence.\n *^\npublic fun CharSequence.toSet(): Set<Char> {\n  return when (length) {\n    0 -> emptySet()\n
1 -> setOf(this[0])\n    else -> toCollection(LinkedHashSet<Char>(mapCapacity(length.coerceAtMost(128))))\n
}\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on
each character of original char sequence.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n *^\npublic inline fun <R>
CharSequence.flatMap(transform: (Char) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each character\n * and its index in the original char sequence.\n * \n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n
*^\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> CharSequence.flatMapIndexed(transform: (index: Int, Char) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each character\n * and its index in the original char sequence, to the given
[destination].\n
*^\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic
c inline fun <R, C : MutableCollection<in R>> CharSequence.flatMapIndexedTo(destination: C, transform: (index:
Int, Char) -> Iterable<R>): C {\n  var index = 0\n  for (element in this) {\n    val list = transform(index++,
element)\n    destination.addAll(list)\n  }\n  return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each character of original char sequence, to the given
[destination].\n *^\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.flatMapTo(destination: C,
transform: (Char) -> Iterable<R>): C {\n  for (element in this) {\n    val list = transform(element)\n

```

```

destination.addAll(list)\n } return destination\n}\n\n/**\n * Groups characters of the original char sequence by
the key returned by the given [keySelector] function\n * applied to each character and returns a map where each
group key is associated with a list of corresponding characters.\n * \n * The returned map preserves the entry
iteration order of the keys produced from the original char sequence.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
CharSequence.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {\n return
groupByTo(LinkedHashMap<K, MutableList<Char>>(), keySelector)\n}\n\n/**\n * Groups values returned by the
[valueTransform] function applied to each character of the original char sequence\n * by the key returned by the
given [keySelector] function applied to the character\n * and returns a map where each group key is associated with
a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original char sequence.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V>
CharSequence.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
characters of the original char sequence by the key returned by the given [keySelector] function\n * applied to each
character and puts to the [destination] map each group key associated with a list of corresponding characters.\n * \n
* @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Char>>> CharSequence.groupByTo(destination: M,
keySelector: (Char) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Char>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n *
Groups values returned by the [valueTransform] function applied to each character of the original char sequence\n *
by the key returned by the given [keySelector] function applied to the character\n * and puts to the [destination] map
each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n *
@sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> CharSequence.groupByTo(destination: M, keySelector: (Char) -> K,
valueTransform: (Char) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Creates a [Grouping] source from a char sequence to be used later with one of group-and-
fold operations\n * using the specified [keySelector] function to extract a key from each character.\n * \n * @sample
samples.collections.Grouping.groupingByEachCount\n */\n@SinceKotlin("1.1")\npublic inline fun <K>
CharSequence.groupingBy(crossinline keySelector: (Char) -> K): Grouping<Char, K> {\n return object :
Grouping<Char, K> {\n override fun sourceIterator(): Iterator<Char> = this@groupingBy.iterator()\n
override fun keyOf(element: Char): K = keySelector(element)\n }\n}\n\n/**\n * Returns a list containing the
results of applying the given [transform] function\n * to each character in the original char sequence.\n * \n *
@sample samples.text.Strings.map\n */\npublic inline fun <R> CharSequence.map(transform: (Char) -> R):
List<R> {\n return mapTo(ArrayList<R>(length), transform)\n}\n\n/**\n * Returns a list containing the results of
applying the given [transform] function\n * to each character and its index in the original char sequence.\n *
@param [transform] function that takes the index of a character and the character itself\n * and returns the result of
the transform applied to the character.\n */\npublic inline fun <R> CharSequence.mapIndexed(transform: (index:
Int, Char) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(length), transform)\n}\n\n/**\n * Returns a list
containing only the non-null results of applying the given [transform] function\n * to each character and its index in
the original char sequence.\n * @param [transform] function that takes the index of a character and the character
itself\n * and returns the result of the transform applied to the character.\n */\npublic inline fun <R : Any>
CharSequence.mapIndexedNotNull(transform: (index: Int, Char) -> R?): List<R> {\n return
mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each
character and its index in the original char sequence\n * and appends only the non-null results to the given
[destination].\n * @param [transform] function that takes the index of a character and the character itself\n * and
returns the result of the transform applied to the character.\n */\npublic inline fun <R : Any, C :

```

```

MutableCollection<in R>> CharSequence.mapIndexedNotNullTo(destination: C, transform: (index: Int, Char) ->
R?): C {\n  forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n  return
destination\n}\n\n/**\n * Applies the given [transform] function to each character and its index in the original char
sequence\n * and appends the results to the given [destination].\n * @param [transform] function that takes the
index of a character and the character itself\n * and returns the result of the transform applied to the character.\n
*/\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.mapIndexedTo(destination: C, transform:
(index: Int, Char) -> R): C {\n  var index = 0\n  for (item in this)\n    destination.add(transform(index++,
item))\n  return destination\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given
[transform] function\n * to each character in the original char sequence.\n * \n * @sample
samples.collections.Collections.Transformations.mapNotNull\n */\npublic inline fun <R : Any>
CharSequence.mapNotNull(transform: (Char) -> R?): List<R> {\n  return mapNotNullTo(ArrayList<R>()),
transform)\n}\n\n/**\n * Applies the given [transform] function to each character in the original char sequence\n *
and appends only the non-null results to the given [destination].\n */\npublic inline fun <R : Any, C :
MutableCollection<in R>> CharSequence.mapNotNullTo(destination: C, transform: (Char) -> R?): C {\n  forEach
{ element -> transform(element)?.let { destination.add(it) } }\n  return destination\n}\n\n/**\n * Applies the given
[transform] function to each character of the original char sequence\n * and appends the results to the given
[destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.mapTo(destination: C,
transform: (Char) -> R): C {\n  for (item in this)\n    destination.add(transform(item))\n  return
destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each character of the original char sequence\n * into an
[IndexValue] containing the index of that character and the character itself.\n */\npublic fun
CharSequence.withIndex(): Iterable<IndexedValue<Char>> {\n  return IndexingIterable { iterator() }\n}\n\n/**\n *
Returns `true` if all characters match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n */\npublic inline fun CharSequence.all(predicate: (Char) ->
Boolean): Boolean {\n  for (element in this) if (!predicate(element)) return false\n  return true\n}\n\n/**\n *
Returns `true` if char sequence has at least one character.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n */\npublic fun CharSequence.any(): Boolean {\n  return
!isEmpty()\n}\n\n/**\n * Returns `true` if at least one character matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun CharSequence.any(predicate:
(Char) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return
false\n}\n\n/**\n * Returns the length of this char sequence.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.count(): Int {\n  return length\n}\n\n/**\n * Returns the number of characters matching the given
[predicate].\n */\npublic inline fun CharSequence.count(predicate: (Char) -> Boolean): Int {\n  var count = 0\n
for (element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from left to right\n * to current accumulator value and each character.\n *
\n * Returns the specified [initial] value if the char sequence is empty.\n * \n * @param [operation] function that takes
current accumulator value and a character, and calculates the next accumulator value.\n */\npublic inline fun <R>
CharSequence.fold(initial: R, operation: (acc: R, Char) -> R): R {\n  var accumulator = initial\n  for (element in
this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
character with its index in the original char sequence.\n * \n * Returns the specified [initial] value if the char
sequence is empty.\n * \n * @param [operation] function that takes the index of a character, current accumulator
value\n * and the character itself, and calculates the next accumulator value.\n */\npublic inline fun <R>
CharSequence.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R {\n  var index = 0\n  var
accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each character and current accumulator value.\n * \n * Returns the specified [initial] value if the char
sequence is empty.\n * \n * @param [operation] function that takes a character and current accumulator value, and
calculates the next accumulator value.\n */\npublic inline fun <R> CharSequence.foldRight(initial: R, operation:

```

```

(Char, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

* Accumulates value starting with [initial] value and applying [operation] from right to left * to each character with its index in the original char sequence and current accumulator value.

* Returns the specified [initial] value if the char sequence is empty.

* @param [operation] function that takes the index of a character, the character itself * and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R>
CharSequence.foldRightIndexed(initial: R, operation: (index: Int, Char, acc: R) -> R): R {
    var index =
lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(index, get(index),
accumulator)
        --index
    }
    return accumulator
}

```

* Performs the given [action] on each character.

```

public inline fun CharSequence.forEach(action: (Char) -> Unit): Unit {
    for (element in this)
action(element)
}

```

* Performs the given [action] on each character, providing sequential index with the character.

* @param [action] function that takes the index of a character and the character itself * and performs the action on the character.

```

public inline fun CharSequence.forEachIndexed(action: (index: Int, Char) -> Unit):
Unit {
    var index = 0
    for (item in this)
action(index++, item)
}

```

@Deprecated("Use maxOrNull instead.", ReplaceWith("this.maxOrNull()"))

@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")

```

public fun CharSequence.max(): Char? {
    return
maxOrNull()
}

```

@Deprecated("Use maxByOrNull instead.", ReplaceWith("this.maxByOrNull(selector)"))

@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")

```

public inline fun <R : Comparable<R>> CharSequence.maxBy(selector: (Char) ->
R): Char? {
    return maxByOrNull(selector)
}

```

* Returns the first character yielding the largest value of the given function or `null` if there are no characters.

* @sample samples.collections.Collections.Aggregates.maxByOrNull

@SinceKotlin("1.4")

```

public inline fun <R :
Comparable<R>> CharSequence.maxByOrNull(selector: (Char) -> R): Char? {
    if (isEmpty())
return null
    var
maxElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0)
return maxElem
    var maxV =
selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxV < v) {
            maxElem = e
            maxV = v
        }
    }
    return maxElem
}

```

* Returns the largest value among all values produced by [selector] function * applied to each character in the char sequence.

* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

* @throws NoSuchElementException if the char sequence is empty.

@SinceKotlin("1.4")

@OptIn(kotlin.experimental.ExperimentalTypeInference::class)

@OverloadResolutionByLambdaReturnType

@kotlin.internal.InlineOnly

```

public inline fun CharSequence.maxOf(selector: (Char) ->
Double): Double {
    if (isEmpty())
throw NoSuchElementException()
    var maxV =
selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxV = maxOf(maxV, v)
    }
    return
maxV
}

```

* Returns the largest value among all values produced by [selector] function * applied to each character in the char sequence.

* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

* @throws NoSuchElementException if the char sequence is empty.

@SinceKotlin("1.4")

@OptIn(kotlin.experimental.ExperimentalTypeInference::class)

@OverloadResolutionByLambdaReturnType

@kotlin.internal.InlineOnly

```

public inline fun CharSequence.maxOf(selector: (Char) ->
Float): Float {
    if (isEmpty())
throw NoSuchElementException()
    var maxV =
selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxV = maxOf(maxV, v)
    }
    return
maxV
}

```

* Returns the largest value among all values produced by [selector] function * applied to each character in the char sequence.

* @throws NoSuchElementException if the char sequence is empty.

@SinceKotlin("1.4")

@OptIn(kotlin.experimental.ExperimentalTypeInference::class)

@OverloadResolutionByLambdaReturnType

@kotlin.internal.InlineOnly

```

public inline fun <R : Comparable<R>>
CharSequence.maxOf(selector: (Char) -> R): R {
    if (isEmpty())
throw NoSuchElementException()
    var
maxV =
selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (maxV < v) {
            maxV = v
        }
    }
    return
maxV
}

```

* Returns the largest value among all values produced by [selector] function * applied to each character in the char sequence or `null` if there are no

characters. If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun CharSequence.maxOrNull(selector:
(Char) -> Double): Double? {
    if (isEmpty()) return null
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return
maxValue
}

```

Returns the largest value among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun CharSequence.maxOrNull(selector:
(Char) -> Float): Float? {
    if (isEmpty()) return null
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return
maxValue
}

```

Returns the largest value among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>
CharSequence.maxOrNull(selector: (Char) -> R): R? {
    if (isEmpty()) return null
    var maxValue =
selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue
}

```

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each character in the char sequence.

@throws NoSuchElementException if the char sequence is empty.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R> CharSequence.maxOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R {
    if (isEmpty()) throw NoSuchElementException
    var
maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if
(comparator.compare(maxValue, v) < 0) {
            maxValue = v
        }
    }
    return maxValue
}

```

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R>
CharSequence.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {
    if (isEmpty())
return null
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if
(comparator.compare(maxValue, v) < 0) {
            maxValue = v
        }
    }
    return maxValue
}

```

Returns the largest character or `null` if there are no characters.

```

* Since Kotlin("1.4")
public fun
CharSequence.maxOrNull(): Char? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (max < e) max = e
    }
    return max
}

```

@Deprecated("Use maxWithOrNull instead.", ReplaceWith("this.maxWithOrNull(comparator)"))

```

@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")
public fun CharSequence.maxWith(comparator: Comparator<in
Char>): Char? {
    return maxWithOrNull(comparator)
}

```

Returns the first character having the largest value according to the provided [comparator] or `null` if there are no characters.

```

* Since Kotlin("1.4")
public fun CharSequence.maxWithOrNull(comparator: Comparator<in Char>): Char?
{
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if
(comparator.compare(max, e) < 0) max = e
    }
    return max
}

```

@Deprecated("Use minOrNull instead.", ReplaceWith("this.minOrNull()"))

```

@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")
public fun CharSequence.min(): Char? {
    return minOrNull()
}

```

@Deprecated("Use minByOrNull instead.", ReplaceWith("this.minByOrNull(selector)"))

```

@DeprecatedSinceKotlin(warningSince =
"1.4", errorSince = "1.5", hiddenSince = "1.6")
public inline fun <R : Comparable<R>>
CharSequence.minBy(selector: (Char) -> R): Char? {
    return minByOrNull(selector)
}

```

Returns the

first character yielding the smallest value of the given function or `null` if there are no characters.

```

@sample
samples.collections.Collections.Aggregates.minByOrNull
@SinceKotlin("1.4")
public inline fun <R : Comparable<R>> CharSequence.minByOrNull(selector: (Char) -> R): Char? {
    if (isEmpty()) return null
    var minElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return minElem
    var minValue = selector(minElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (minValue > v) {
            minElem = e
            minValue = v
        }
    }
    return minElem
}

```

* Returns the smallest value among all values produced by [selector] function applied to each character in the char sequence. If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@throws NoSuchElementException if the char sequence is empty.

```

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun CharSequence.minOf(selector: (Char) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

```

* Returns the smallest value among all values produced by [selector] function applied to each character in the char sequence. If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@throws NoSuchElementException if the char sequence is empty.

```

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun CharSequence.minOf(selector: (Char) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

```

* Returns the smallest value among all values produced by [selector] function applied to each character in the char sequence. @throws NoSuchElementException if the char sequence is empty.

```

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>> CharSequence.minOf(selector: (Char) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

```

* Returns the smallest value among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters. If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

```

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun CharSequence.minOrNull(selector: (Char) -> Double): Double? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

```

* Returns the smallest value among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters. If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

```

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun CharSequence.minOrNull(selector: (Char) -> Float): Float? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

```

* Returns the smallest value among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters.

```

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>> CharSequence.minOrNull(selector: (Char) -> R): R? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

```

* Returns the smallest value according to the provided [comparator] among all values produced by [selector] function applied to each character in the char sequence.

```

* \n * @throws NoSuchElementException if the char sequence is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharSequence.minOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n*\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each character in the char sequence or `null` if there are no characters.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharSequence.minOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n    if (isEmpty())
return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n*\n *
Returns the smallest character or `null` if there are no characters.\n
*\n@SinceKotlin("1.4")\npublic fun
CharSequence.minOrNull(): Char? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n
        val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n@Deprecated("Use minWithOrNull
instead.", ReplaceWith("this.minWithOrNull(comparator)"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun CharSequence.minWith(comparator: Comparator<in
Char>): Char? {\n    return minWithOrNull(comparator)\n}\n\n*\n * Returns the first character having the smallest
value according to the provided [comparator] or `null` if there are no characters.\n
*\n@SinceKotlin("1.4")\npublic fun CharSequence.minWithOrNull(comparator: Comparator<in Char>): Char?
{\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n*\n * Returns `true` if the char sequence has
no characters.\n
*\n * @sample samples.collections.Collections.Aggregates.none\n
*\npublic fun
CharSequence.none(): Boolean {\n    return isEmpty()\n}\n\n*\n * Returns `true` if no characters match the given
[predicate].\n
*\n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\npublic inline fun
CharSequence.none(predicate: (Char) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
false\n    return true\n}\n\n*\n * Performs the given [action] on each character and returns the char sequence itself
afterwards.\n
*\n@SinceKotlin("1.1")\npublic inline fun <S : CharSequence> S.onEach(action: (Char) -> Unit): S
{\n    return apply { for (element in this) action(element) }\n}\n\n*\n * Performs the given [action] on each
character, providing sequential index with the character,\n * and returns the char sequence itself afterwards.\n
*\n * @param [action] function that takes the index of a character and the character itself\n * and performs the action on
the character.\n
*\n@SinceKotlin("1.4")\npublic inline fun <S : CharSequence> S.onEachIndexed(action: (index:
Int, Char) -> Unit): S {\n    return apply { forEachIndexed(action) }\n}\n\n*\n * Accumulates value starting with
the first character and applying [operation] from left to right\n * to current accumulator value and each character.\n
*\n * Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way,\n
*\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n
*\n * @param [operation] function
that takes current accumulator value and a character,\n * and calculates the next accumulator value.\n
*\n * @sample samples.collections.Collections.Aggregates.reduce\n
*\npublic inline fun
CharSequence.reduce(operation: (acc: Char, Char) -> Char): Char {\n    if (isEmpty())\n        throw
UnsupportedOperationException("Empty char sequence can't be reduced.")\n    var accumulator = this[0]\n    for
(index in 1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return
accumulator\n}\n\n*\n * Accumulates value starting with the first character and applying [operation] from left to
right\n * to current accumulator value and each character with its index in the original char sequence.\n
*\n * Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way,\n
*\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n
*\n * @param [operation]
function that takes the index of a character, current accumulator value and the character itself,\n * and calculates the
next accumulator value.\n
*\n * @sample samples.collections.Collections.Aggregates.reduce\n
*\npublic inline fun

```

```

CharSequence.reduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): Char {
    if (isEmpty())
        throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first character and applying [operation] from left to right to current accumulator value and each character with its index in the original char sequence.
 Returns `null` if the char sequence is empty.
 @param [operation] function that takes the index of a character, current accumulator value and the character itself, and calculates the next accumulator value.
 @sample samples.collections.Collections.Aggregates.reduceOrNull

```

CharSequence.reduceIndexedOrNull(operation: (index: Int, acc: Char, Char) -> Char): Char? {
    if (isEmpty())
        return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first character and applying [operation] from left to right to current accumulator value and each character.
 Returns `null` if the char sequence is empty.
 @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.
 @sample samples.collections.Collections.Aggregates.reduceOrNull

```

@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public inline fun
CharSequence.reduceOrNull(operation: (acc: Char, Char) -> Char): Char? {
    if (isEmpty())
        return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character and current accumulator value.
 Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.
 @param [operation] function that takes a character and current accumulator value, and calculates the next accumulator value.
 @sample samples.collections.Collections.Aggregates.reduceRight

```

public inline fun
CharSequence.reduceRight(operation: (Char, acc: Char) -> Char): Char {
    var index = lastIndex
    if (index < 0)
        throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character with its index in the original char sequence and current accumulator value.
 Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.
 @param [operation] function that takes the index of a character, the character itself and current accumulator value, and calculates the next accumulator value.
 @sample samples.collections.Collections.Aggregates.reduceRight

```

public inline fun
CharSequence.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char {
    var index = lastIndex
    if (index < 0)
        throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character with its index in the original char sequence and current accumulator value.
 Returns `null` if the char sequence is empty.
 @param [operation] function that takes the index of a character, the character itself and current accumulator value, and calculates the next accumulator value.
 @sample samples.collections.Collections.Aggregates.reduceRightOrNull

```

@SinceKotlin("1.4")
public inline fun
CharSequence.reduceRightIndexedOrNull(operation: (index: Int, Char, acc: Char) -> Char): Char? {
    var index = lastIndex
    if (index < 0)
        return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character and current accumulator value.
 Returns `null` if the char sequence is empty.
 @param [operation] function that takes a character and current accumulator value, and calculates the next accumulator value.
 @sample samples.collections.Collections.Aggregates.reduceRightOrNull

```

*^@SinceKotlin("1.4")^@WasExperimental(ExperimentalStdlibApi::class)^public inline fun
CharSequence.reduceRightOrNull(operation: (Char, acc: Char) -> Char): Char? {^n  var index = lastIndex^n  if
(index < 0) return null^n  var accumulator = get(index--)^n  while (index >= 0) {^n    accumulator =
operation(get(index--), accumulator)^n  }^n  return accumulator^n}^n/n/**^n * Returns a list containing successive
accumulation values generated by applying [operation] from left to right^n * to each character and current
accumulator value that starts with [initial] value.^n * ^n * Note that `acc` value passed to [operation] function should
not be mutated;^n * otherwise it would affect the previous value in resulting list.^n * ^n * @param [operation]
function that takes current accumulator value and a character, and calculates the next accumulator value.^n * ^n *
@sample samples.collections.Collections.Aggregates.runningFold^
*^@SinceKotlin("1.4")^public inline fun
<R> CharSequence.runningFold(initial: R, operation: (acc: R, Char) -> R): List<R> {^n  if (isEmpty()) return
listOf(initial)^n  val result = ArrayList<R>(length + 1).apply { add(initial) }^n  var accumulator = initial^n  for
(element in this) {^n    accumulator = operation(accumulator, element)^n    result.add(accumulator)^n  }^n
return result^n}^n/n/**^n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right^n * to each character, its index in the original char sequence and current accumulator
value that starts with [initial] value.^n * ^n * Note that `acc` value passed to [operation] function should not be
mutated;^n * otherwise it would affect the previous value in resulting list.^n * ^n * @param [operation] function that
takes the index of a character, current accumulator value^n * and the character itself, and calculates the next
accumulator value.^n * ^n * @sample samples.collections.Collections.Aggregates.runningFold^n
*^@SinceKotlin("1.4")^public inline fun <R> CharSequence.runningFoldIndexed(initial: R, operation: (index:
Int, acc: R, Char) -> R): List<R> {^n  if (isEmpty()) return listOf(initial)^n  val result = ArrayList<R>(length +
1).apply { add(initial) }^n  var accumulator = initial^n  for (index in indices) {^n    accumulator =
operation(index, accumulator, this[index])^n    result.add(accumulator)^n  }^n  return result^n}^n/n/**^n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right^n * to
each character and current accumulator value that starts with the first character of this char sequence.^n * ^n * Note
that `acc` value passed to [operation] function should not be mutated;^n * otherwise it would affect the previous
value in resulting list.^n * ^n * @param [operation] function that takes current accumulator value and a character,
and calculates the next accumulator value.^n * ^n * @sample
samples.collections.Collections.Aggregates.runningReduce^
*^@SinceKotlin("1.4")^public inline fun
CharSequence.runningReduce(operation: (acc: Char, Char) -> Char): List<Char> {^n  if (isEmpty()) return
emptyList()^n  var accumulator = this[0]^n  val result = ArrayList<Char>(length).apply { add(accumulator) }^n
for (index in 1 until length) {^n    accumulator = operation(accumulator, this[index])^n
result.add(accumulator)^n  }^n  return result^n}^n/n/**^n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right^n * to each character, its index in the original char
sequence and current accumulator value that starts with the first character of this char sequence.^n * ^n * Note that
`acc` value passed to [operation] function should not be mutated;^n * otherwise it would affect the previous value in
resulting list.^n * ^n * @param [operation] function that takes the index of a character, current accumulator value^n *
and the character itself, and calculates the next accumulator value.^n * ^n * @sample
samples.collections.Collections.Aggregates.runningReduce^
*^@SinceKotlin("1.4")^public inline fun
CharSequence.runningReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char> {^n  if
(isEmpty()) return emptyList()^n  var accumulator = this[0]^n  val result = ArrayList<Char>(length).apply {
add(accumulator) }^n  for (index in 1 until length) {^n    accumulator = operation(index, accumulator,
this[index])^n    result.add(accumulator)^n  }^n  return result^n}^n/n/**^n * Returns a list containing successive
accumulation values generated by applying [operation] from left to right^n * to each character and current
accumulator value that starts with [initial] value.^n * ^n * Note that `acc` value passed to [operation] function should
not be mutated;^n * otherwise it would affect the previous value in resulting list.^n * ^n * @param [operation]
function that takes current accumulator value and a character, and calculates the next accumulator value.^n * ^n *
@sample samples.collections.Collections.Aggregates.scan^n
*^@SinceKotlin("1.4")^@WasExperimental(ExperimentalStdlibApi::class)^public inline fun <R>

```

```

CharSequence.scan(initial: R, operation: (acc: R, Char) -> R): List<R> {\n  return runningFold(initial,
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each character, its index in the original char sequence and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of a character, current accumulator value\n * and the character itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <R>
CharSequence.scanIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each character in the char sequence.\n *\n@Deprecated("Use sumOf instead."),
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
CharSequence.sumBy(selector: (Char) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each character in the char sequence.\n *\n@Deprecated("Use sumOf instead."),
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
CharSequence.sumByDouble(selector: (Char) -> Double): Double {\n  var sum: Double = 0.0\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each character in the char sequence.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.sumOf(selector: (Char) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each character in the char sequence.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.sumOf(selector: (Char) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n   
sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each character in the char sequence.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.sumOf(selector: (Char) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n
sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each character in the char sequence.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> UInt): UInt {\n
var sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each character in the char
sequence.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedType
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> ULong):
ULong {\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n
return sum\n}\n\n/**\n * Splits this char sequence into a list of strings each not exceeding the given [size].\n * \n *
The last string in the resulting list may have fewer characters than the given [size].\n * \n * @param size the number
of elements to take in each string, must be positive and can be greater than the number of elements in this char
sequence.\n * \n * @sample samples.text.Strings.chunked\n *\n@SinceKotlin("1.2")\npublic fun

```

CharSequence.chunked(size: Int): List<String> {\n return windowed(size, size, partialWindows = true)\n}\n\n/**\n * Splits this char sequence into several char sequences each not exceeding the given [size]\n * and applies the given [transform] function to an each.\n * \n * @return list of results of the [transform] applied to an each char sequence.\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * The last char sequence may have fewer characters than the given [size].\n * \n * @param size the number of elements to take in each char sequence, must be positive and can be greater than the number of elements in this char sequence.\n * \n * @sample samples.text.Strings.chunkedTransform\n */\n\n@SinceKotlin("1.2")\npublic fun <R> CharSequence.chunked(size: Int, transform: (CharSequence) -> R): List<R> {\n return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Splits this char sequence into a sequence of strings each not exceeding the given [size].\n * \n * The last string in the resulting sequence may have fewer characters than the given [size].\n * \n * @param size the number of elements to take in each string, must be positive and can be greater than the number of elements in this char sequence.\n * \n * @sample samples.collections.Collections.Transformations.chunked\n */\n\n@SinceKotlin("1.2")\npublic fun CharSequence.chunkedSequence(size: Int): Sequence<String> {\n return chunkedSequence(size) { it.toString() }\n}\n\n/**\n * Splits this char sequence into several char sequences each not exceeding the given [size]\n * and applies the given [transform] function to an each.\n * \n * @return sequence of results of the [transform] applied to an each char sequence.\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * The last char sequence may have fewer characters than the given [size].\n * \n * @param size the number of elements to take in each char sequence, must be positive and can be greater than the number of elements in this char sequence.\n * \n * @sample samples.text.Strings.chunkedTransformToSequence\n */\n\n@SinceKotlin("1.2")\npublic fun <R> CharSequence.chunkedSequence(size: Int, transform: (CharSequence) -> R): Sequence<R> {\n return windowedSequence(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Splits the original char sequence into pair of char sequences,\n * where *first* char sequence contains characters for which [predicate] yielded `true`,\n * while *second* char sequence contains characters for which [predicate] yielded `false`.\n * \n * @sample samples.text.Strings.partition\n */\n\npublic inline fun CharSequence.partition(predicate: (Char) -> Boolean): Pair<CharSequence, CharSequence> {\n val first = StringBuilder()\n val second = StringBuilder()\n for (element in this) {\n if (predicate(element)) {\n first.append(element)\n } else {\n second.append(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original string into pair of strings,\n * where *first* string contains characters for which [predicate] yielded `true`,\n * while *second* string contains characters for which [predicate] yielded `false`.\n * \n * @sample samples.text.Strings.partition\n */\n\npublic inline fun String.partition(predicate: (Char) -> Boolean): Pair<String, String> {\n val first = StringBuilder()\n val second = StringBuilder()\n for (element in this) {\n if (predicate(element)) {\n first.append(element)\n } else {\n second.append(element)\n }\n }\n return Pair(first.toString(), second.toString())\n}\n\n/**\n * Returns a list of snapshots of the window of the given [size]\n * sliding along this char sequence with the given [step], where each\n * snapshot is a string.\n * \n * Several last strings may have fewer characters than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n * \n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.takeWindows\n */\n\n@SinceKotlin("1.2")\npublic fun CharSequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<String> {\n return windowed(size, step, partialWindows) { it.toString() }\n}\n\n/**\n * Returns a list of results of applying the given [transform] function to\n * an each char sequence representing a view over the window of the given [size]\n * sliding along this char sequence with the given [step].\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some


```

Boolean): String =\n (this as CharSequence).trim(predicate).toString()\n\n/**\n * Returns a sub sequence of this
char sequence having leading characters matching the [predicate] removed.\n */\npublic inline fun
CharSequence.trimStart(predicate: (Char) -> Boolean): CharSequence {\n for (index in this.indices)\n if
(!predicate(this[index]))\n return subSequence(index, length)\n\n return ""\n}\n\n/**\n * Returns a string
having leading characters matching the [predicate] removed.\n */\npublic inline fun String.trimStart(predicate:
(Char) -> Boolean): String =\n (this as CharSequence).trimStart(predicate).toString()\n\n/**\n * Returns a sub
sequence of this char sequence having trailing characters matching the [predicate] removed.\n */\npublic inline fun
CharSequence.trimEnd(predicate: (Char) -> Boolean): CharSequence {\n for (index in this.indices.reversed())\n
if (!predicate(this[index]))\n return subSequence(0, index + 1)\n\n return ""\n}\n\n/**\n * Returns a string
having trailing characters matching the [predicate] removed.\n */\npublic inline fun String.trimEnd(predicate: (Char)
-> Boolean): String =\n (this as CharSequence).trimEnd(predicate).toString()\n\n/**\n * Returns a sub sequence of
this char sequence having leading and trailing characters from the [chars] array removed.\n */\npublic fun
CharSequence.trim(vararg chars: Char): CharSequence = trim { it in chars }\n\n/**\n * Returns a string having
leading and trailing characters from the [chars] array removed.\n */\npublic fun String.trim(vararg chars: Char):
String = trim { it in chars }\n\n/**\n * Returns a sub sequence of this char sequence having leading characters from
the [chars] array removed.\n */\npublic fun CharSequence.trimStart(vararg chars: Char): CharSequence = trimStart {
it in chars }\n\n/**\n * Returns a string having leading characters from the [chars] array removed.\n */\npublic fun
String.trimStart(vararg chars: Char): String = trimStart { it in chars }\n\n/**\n * Returns a sub sequence of this char
sequence having trailing characters from the [chars] array removed.\n */\npublic fun CharSequence.trimEnd(vararg
chars: Char): CharSequence = trimEnd { it in chars }\n\n/**\n * Returns a string having trailing characters from the
[chars] array removed.\n */\npublic fun String.trimEnd(vararg chars: Char): String = trimEnd { it in chars }\n\n/**
 * Returns a sub sequence of this char sequence having leading and trailing whitespace removed.\n */\npublic fun
CharSequence.trim(): CharSequence = trim(Char::isWhitespace)\n\n/**\n * Returns a string having leading and
trailing whitespace removed.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.trim(): String = (this as
CharSequence).trim().toString()\n\n/**\n * Returns a sub sequence of this char sequence having leading whitespace
removed.\n */\npublic fun CharSequence.trimStart(): CharSequence = trimStart(Char::isWhitespace)\n\n/**\n *
Returns a string having leading whitespace removed.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
String.trimStart(): String = (this as CharSequence).trimStart().toString()\n\n/**\n * Returns a sub sequence of this
char sequence having trailing whitespace removed.\n */\npublic fun CharSequence.trimEnd(): CharSequence =
trimEnd(Char::isWhitespace)\n\n/**\n * Returns a string having trailing whitespace removed.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun String.trimEnd(): String = (this as
CharSequence).trimEnd().toString()\n\n/**\n * Returns a char sequence with content of this char sequence padded at
the beginning\n * to the specified [length] with the specified character or space.\n * @param length the desired
string length.\n * @param padChar the character to pad string with, if it has length less than the [length] specified.
Space is used by default.\n * @return Returns a char sequence of length at least [length] consisting of `this` char
sequence prepended with [padChar] as many times\n * as are necessary to reach that length.\n * @sample
samples.text.Strings.padStart\n */\npublic fun CharSequence.padStart(length: Int, padChar: Char = ' '):
CharSequence {\n if (length < 0)\n throw IllegalArgumentException("Desired length $length is less than
zero.")\n if (length <= this.length)\n return this.subSequence(0, this.length)\n\n val sb =
StringBuilder(length)\n for (i in 1..(length - this.length))\n sb.append(padChar)\n sb.append(this)\n return
sb\n}\n\n/**\n * Pads the string to the specified [length] at the beginning with the specified character or space.\n
*/\n * @param length the desired string length.\n * @param padChar the character to pad string with, if it has length less
than the [length] specified. Space is used by default.\n * @return Returns a string of length at least [length]
consisting of `this` string prepended with [padChar] as many times\n * as are necessary to reach that length.\n
*/\n * @sample samples.text.Strings.padStart\n */\npublic fun String.padStart(length: Int, padChar: Char = ' '): String =\n
(this as CharSequence).padStart(length, padChar).toString()\n\n/**\n * Returns a char sequence with content of this
char sequence padded at the end\n * to the specified [length] with the specified character or space.\n * @param
length the desired string length.\n * @param padChar the character to pad string with, if it has length less than the

```

[length] specified. Space is used by default.

```

 * @return Returns a char sequence of length at least [length]
 consisting of `this` char sequence appended with [padChar] as many times
 * as are necessary to reach that length.
 * @sample samples.text.Strings.padEnd
 */
public fun CharSequence.padEnd(length: Int, padChar: Char = ' '): CharSequence {
    if (length < 0) throw IllegalArgumentException("Desired length $length is less than zero.")
    if (length <= this.length) return this.subSequence(0, this.length)
    val sb = StringBuilder(length)
    sb.append(this)
    for (i in 1..(length - this.length)) sb.append(padChar)
    return sb
}

```

* Pads the string to the specified [length] at the end with the specified character or space.

* @param length the desired string length.

* @param padChar the character to pad string with, if it has length less than the [length] specified. Space is used by default.

* @return Returns a string of length at least [length] consisting of `this` string appended with [padChar] as many times * as are necessary to reach that length.

```

 * @sample samples.text.Strings.padEnd
 */
public fun String.padEnd(length: Int, padChar: Char = ' '): String =
    (this as CharSequence).padEnd(length, padChar).toString()

```

* Returns `true` if this nullable char sequence is either `null` or empty.

```

 * @sample samples.text.Strings.stringIsNullOrEmpty
 */
@kotlin.internal.InlineOnly
public inline fun CharSequence?.isNullOrEmpty(): Boolean {
    contract {
        returns(false) implies (this@isNullOrEmpty != null)
    }
    return this == null || this.length == 0
}

```

* Returns `true` if this char sequence is empty (contains no characters).

```

 * @sample samples.text.Strings.stringIsEmpty
 */
@kotlin.internal.InlineOnly
public inline fun CharSequence.isEmpty(): Boolean = length == 0

```

* Returns `true` if this char sequence is not empty.

```

 * @sample samples.text.Strings.stringIsNotEmpty
 */
@kotlin.internal.InlineOnly
public inline fun CharSequence.isNotEmpty(): Boolean = length > 0

```

// implemented differently in JVM and JS

```

 public fun String.isBlank(): Boolean = length() == 0 || all { it.isWhitespace() }

```

* Returns `true` if this char sequence is not empty and contains some characters except of whitespace characters.

```

 * @sample samples.text.Strings.stringIsNotBlank
 */
@kotlin.internal.InlineOnly
public inline fun CharSequence.isNotBlank(): Boolean = !isBlank()

```

* Returns `true` if this nullable char sequence is either `null` or empty or consists solely of whitespace characters.

```

 * @sample samples.text.Strings.stringIsNullOrBlank
 */
@kotlin.internal.InlineOnly
public inline fun CharSequence?.isNullOrBlank(): Boolean {
    contract {
        returns(false) implies (this@isNullOrBlank != null)
    }
    return this == null || this.isBlank()
}

```

* Iterator for characters of the given char sequence.

```

 * public operator fun CharSequence.iterator(): CharIterator = object : CharIterator() {
     private var index = 0
     public override fun nextChar(): Char = get(index++)
     public override fun hasNext(): Boolean = index < length
 }

```

* Returns the string if it is not `null`, or the empty string otherwise.

```

 * @kotlin.internal.InlineOnly
 public inline fun String?.orEmpty(): String = this ?: ""

```

* Returns this char sequence if it's not empty * or the result of calling [defaultValue] function if the char sequence is empty.

```

 * @sample samples.text.Strings.stringIfEmpty
 */
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun <C, R> C.ifEmpty(defaultValue: () -> R): R where C : CharSequence, C : R =
    if (isEmpty()) defaultValue() else this

```

* Returns this char sequence if it is not empty and doesn't consist solely of whitespace characters, * or the result of calling [defaultValue] function otherwise.

```

 * @sample samples.text.Strings.stringIfBlank
 */
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun <C, R> C.ifBlank(defaultValue: () -> R): R where C : CharSequence, C : R =
    if (isBlank()) defaultValue() else this

```

* Returns the range of valid character indices for this char sequence.

```

 * public val CharSequence.indices: IntRange
     get() = 0..length - 1

```

* Returns the index of the last character in the char sequence or -1 if it is empty.

```

 * public val CharSequence.lastIndex: Int
     get() = this.length - 1

```

* Returns `true` if this CharSequence has Unicode surrogate pair at the specified [index].

```

 * public fun CharSequence.hasSurrogatePairAt(index: Int): Boolean {
    return index in 0..length - 2
        && this[index].isHighSurrogate()
        && this[index + 1].isLowSurrogate()
 }

```

* Returns a substring specified by the given [range] of indices.

```

 * public fun String.substring(range: IntRange): String = substring(range.start, range.endInclusive + 1)

```

* Returns a subsequence of this char sequence specified by the given [range] of indices.

```

 * public fun

```

```

CharSequence.subSequence(range: IntRange): CharSequence = subSequence(range.start, range.endInclusive +
1)\n\n/**\n * Returns a subsequence of this char sequence.\n * This extension is chosen only for invocation with
old-named parameters.\n * Replace parameter names with the same as those of [CharSequence.subSequence].\n
*\n * @kotlin.internal.InlineOnly\n * @Suppress("\u0027EXTENSION_SHADOWED_BY_MEMBER\u0027") // false
warning\n * @Deprecated("\u0027Use parameters named startIndex and endIndex.\u0027", ReplaceWith("\u0027subSequence(startIndex
= start, endIndex = end)\u0027"))\n * public inline fun CharSequence.subSequence(start: Int, end: Int): CharSequence =
subSequence(start, end)\n\n/**\n * Returns a substring of chars from a range of this char sequence starting at the
[startIndex] and ending right before the [endIndex].\n * @param startIndex the start index (inclusive).\n *
@param endIndex the end index (exclusive). If not specified, the length of the char sequence is used.\n
*\n * @kotlin.internal.InlineOnly\n * public inline fun CharSequence.substring(startIndex: Int, endIndex: Int = length):
String = subSequence(startIndex, endIndex).toString()\n\n/**\n * Returns a substring of chars at indices from the
specified [range] of this char sequence.\n * @public fun CharSequence.substring(range: IntRange): String =
subSequence(range.start, range.endInclusive + 1).toString()\n\n/**\n * Returns a substring before the first
occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which
defaults to the original string.\n * @public fun String.substringBefore(delimiter: Char, missingDelimiterValue:
String = this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else
substring(0, index)\n}\n\n/**\n * Returns a substring before the first occurrence of [delimiter].\n * If the string does
not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n * @public fun
String.substringBefore(delimiter: String, missingDelimiterValue: String = this): String {\n    val index =
indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n * Returns
a substring after the first occurrence of [delimiter].\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n * @public fun String.substringAfter(delimiter:
Char, missingDelimiterValue: String = this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1)
missingDelimiterValue else substring(index + 1, length)\n}\n\n/**\n * Returns a substring after the first occurrence
of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the
original string.\n * @public fun String.substringAfter(delimiter: String, missingDelimiterValue: String = this):
String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(index +
delimiter.length, length)\n}\n\n/**\n * Returns a substring before the last occurrence of [delimiter].\n * If the string
does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n * @public
fun String.substringBeforeLast(delimiter: Char, missingDelimiterValue: String = this): String {\n    val index =
lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n *
Returns a substring before the last occurrence of [delimiter].\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n * @public fun String.substringBeforeLast(delimiter:
String, missingDelimiterValue: String = this): String {\n    val index = lastIndexOf(delimiter)\n    return if (index ==
-1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n * Returns a substring after the last occurrence of
[delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the
original string.\n * @public fun String.substringAfterLast(delimiter: Char, missingDelimiterValue: String = this):
String {\n    val index = lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else
substring(index + 1, length)\n}\n\n/**\n * Returns a substring after the last occurrence of [delimiter].\n * If the
string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n
*\n * @public fun String.substringAfterLast(delimiter: String, missingDelimiterValue: String = this): String {\n    val
index = lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(index +
delimiter.length, length)\n}\n\n/**\n * Returns a char sequence with content of this char sequence where its part at
the given range\n * is replaced with the [replacement] char sequence.\n * @param startIndex the index of the first
character to be replaced.\n * @param endIndex the index of the first character after the replacement to keep in the
string.\n * @public fun CharSequence.replaceRange(startIndex: Int, endIndex: Int, replacement: CharSequence):
CharSequence {\n    if (endIndex < startIndex)\n        throw IndexOutOfBoundsException("\u0027End index ($endIndex)
is less than start index ($startIndex).\u0027")\n    val sb = StringBuilder()\n    sb.appendRange(this, 0, startIndex)\n

```

```

sb.append(replacement)\n sb.appendRange(this, endIndex, length)\n return sb\n}\n\n/**\n * Replaces the part of
the string at the given range with the [replacement] char sequence.\n * @param startIndex the index of the first
character to be replaced.\n * @param endIndex the index of the first character after the replacement to keep in the
string.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.replaceRange(startIndex: Int, endIndex: Int,
replacement: CharSequence): String =\n (this as CharSequence).replaceRange(startIndex, endIndex,
replacement).toString()\n\n/**\n * Returns a char sequence with content of this char sequence where its part at the
given [range]\n * is replaced with the [replacement] char sequence.\n * \n * The end index of the [range] is included
in the part to be replaced.\n */\npublic fun CharSequence.replaceRange(range: IntRange, replacement:
CharSequence): CharSequence =\n replaceRange(range.start, range.endInclusive + 1, replacement)\n\n\n/**\n *
Replace the part of string at the given [range] with the [replacement] string.\n * \n * The end index of the [range] is
included in the part to be replaced.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.replaceRange(range:
IntRange, replacement: CharSequence): String =\n (this as CharSequence).replaceRange(range,
replacement).toString()\n\n\n/**\n * Returns a char sequence with content of this char sequence where its part at the
given range is removed.\n * \n * @param startIndex the index of the first character to be removed.\n * @param
endIndex the index of the first character after the removed part to keep in the string.\n * \n * [endIndex] is not
included in the removed part.\n */\npublic fun CharSequence.removeRange(startIndex: Int, endIndex: Int):
CharSequence {\n if (endIndex < startIndex)\n throw IndexOutOfBoundsException("\nEnd index ($endIndex)
is less than start index ($startIndex).")\n if (endIndex == startIndex)\n return this.subSequence(0,
length)\n val sb = StringBuilder(length - (endIndex - startIndex))\n sb.appendRange(this, 0, startIndex)\n
sb.appendRange(this, endIndex, length)\n return sb\n}\n\n\n/**\n * Removes the part of a string at a given range.\n *
\n * @param startIndex the index of the first character to be removed.\n * @param endIndex the index of the first
character after the removed part to keep in the string.\n * \n * [endIndex] is not included in the removed part.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun String.removeRange(startIndex: Int, endIndex: Int): String =\n
(this as CharSequence).removeRange(startIndex, endIndex).toString()\n\n\n/**\n * Returns a char sequence with
content of this char sequence where its part at the given [range] is removed.\n * \n * The end index of the [range] is
included in the removed part.\n */\npublic fun CharSequence.removeRange(range: IntRange): CharSequence =
removeRange(range.start, range.endInclusive + 1)\n\n\n/**\n * Removes the part of a string at the given [range].\n *
\n * The end index of the [range] is included in the removed part.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
String.removeRange(range: IntRange): String =\n (this as CharSequence).removeRange(range).toString()\n\n\n\n/**\n *
If this char sequence starts with the given [prefix], returns a new char sequence\n * with the prefix removed.
Otherwise, returns a new char sequence with the same characters.\n */\npublic fun
CharSequence.removePrefix(prefix: CharSequence): CharSequence {\n if (startsWith(prefix)) {\n return
subSequence(prefix.length, length)\n }\n return subSequence(0, length)\n}\n\n\n\n/**\n * If this string starts with the
given [prefix], returns a copy of this string\n * with the prefix removed. Otherwise, returns this string.\n */\npublic
fun String.removePrefix(prefix: CharSequence): String {\n if (startsWith(prefix)) {\n return
substring(prefix.length)\n }\n return this\n}\n\n\n\n/**\n * If this char sequence ends with the given [suffix], returns
a new char sequence\n * with the suffix removed. Otherwise, returns a new char sequence with the same
characters.\n */\npublic fun CharSequence.removeSuffix(suffix: CharSequence): CharSequence {\n if
(endsWith(suffix)) {\n return subSequence(0, length - suffix.length)\n }\n return subSequence(0,
length)\n}\n\n\n\n/**\n * If this string ends with the given [suffix], returns a copy of this string\n * with the suffix
removed. Otherwise, returns this string.\n */\npublic fun String.removeSuffix(suffix: CharSequence): String {\n if
(endsWith(suffix)) {\n return substring(0, length - suffix.length)\n }\n return this\n}\n\n\n\n\n/**\n * When this
char sequence starts with the given [prefix] and ends with the given [suffix],\n * returns a new char sequence having
both the given [prefix] and [suffix] removed.\n * Otherwise returns a new char sequence with the same characters.\n
*/\npublic fun CharSequence.removeSurrounding(prefix: CharSequence, suffix: CharSequence): CharSequence {\n
if ((length >= prefix.length + suffix.length) && startsWith(prefix) && endsWith(suffix)) {\n return
subSequence(prefix.length, length - suffix.length)\n }\n return subSequence(0, length)\n}\n\n\n\n\n/**\n * Removes
from a string both the given [prefix] and [suffix] if and only if\n * it starts with the [prefix] and ends with the

```

```

[suffix].\n * Otherwise returns this string unchanged.\n */\npublic fun String.removeSurrounding(prefix:
CharSequence, suffix: CharSequence): String {\n    if ((length >= prefix.length + suffix.length) &&
startsWith(prefix) && endsWith(suffix)) {\n        return substring(prefix.length, length - suffix.length)\n    }\n    return this\n}\n\n/**\n * When this char sequence starts with and ends with the given [delimiter],\n * returns a new
char sequence having this [delimiter] removed both from the start and end.\n * Otherwise returns a new char
sequence with the same characters.\n */\npublic fun CharSequence.removeSurrounding(delimiter: CharSequence):
CharSequence = removeSurrounding(delimiter, delimiter)\n\n/**\n * Removes the given [delimiter] string from both
the start and the end of this string\n * if and only if it starts with and ends with the [delimiter].\n * Otherwise returns
this string unchanged.\n */\npublic fun String.removeSurrounding(delimiter: CharSequence): String =
removeSurrounding(delimiter, delimiter)\n\n/**\n * Replace part of string before the first occurrence of given
delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceBefore(delimiter: Char,
replacement: String, missingDelimiterValue: String = this): String {\n    val index = indexOf(delimiter)\n    return if
(index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n/**\n * Replace part of string
before the first occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the
delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.replaceBefore(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n    val
index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else replaceRange(0, index,
replacement)\n}\n\n/**\n * Replace part of string after the first occurrence of given delimiter with the [replacement]
string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original
string.\n */\npublic fun String.replaceAfter(delimiter: Char, replacement: String, missingDelimiterValue: String =
this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else
replaceRange(index + 1, length, replacement)\n}\n\n/**\n * Replace part of string after the first occurrence of given
delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.replaceAfter(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n    val
index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else replaceRange(index + delimiter.length,
length, replacement)\n}\n\n/**\n * Replace part of string after the last occurrence of given delimiter with the
[replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults
to the original string.\n */\npublic fun
String.replaceAfterLast(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n    val
index = lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else replaceRange(index +
delimiter.length, length, replacement)\n}\n\n/**\n * Replace part of string after the last occurrence of given
delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.replaceAfterLast(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n    val
index = lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else replaceRange(index + 1,
length, replacement)\n}\n\n/**\n * Replace part of string before the last occurrence of given delimiter with the
[replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults
to the original string.\n */\npublic fun
String.replaceBeforeLast(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n    val
index = lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else replaceRange(0, index,
replacement)\n}\n\n/**\n * Replace part of string before the last occurrence of given delimiter with the
[replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults
to the original string.\n */\npublic fun
String.replaceBeforeLast(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n    val
index = lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else replaceRange(0, index,
replacement)\n}\n\n// public fun String.replace(oldChar: Char, newChar: Char, ignoreCase: Boolean): String // JVM- and
JS-specific\n// public fun String.replace(oldValue: String, newValue: String, ignoreCase: Boolean): String // JVM- and
JS-specific\n\n/**\n * Returns a new string obtained by replacing each substring of this char sequence that matches the
given regular expression\n * with the given

```

```

[replacement].\n *\n * The [replacement] can consist of any combination of literal text and $-substitutions. To treat
the replacement string\n * literally escape it with the [kotlin.text.Regex.Companion.escapeReplacement] method.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replace(regex: Regex, replacement: String): String
= regex.replace(this, replacement)\n\n/**\n * Returns a new string obtained by replacing each substring of this char
sequence that matches the given regular expression\n * with the result of the given function [transform] that takes
[MatchResult] and returns a string to be used as a\n * replacement for that match.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replace(regex: Regex, noinline transform:
(MatchResult) -> CharSequence): String =\n    regex.replace(this, transform)\n\n/**\n * Replaces the first
occurrence of the given regular expression [regex] in this char sequence with specified [replacement] expression.\n
*\n * @param replacement A replacement expression that can include substitutions. See [Regex.replaceFirst] for
details.\n *\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replaceFirst(regex: Regex, replacement:
String): String = regex.replaceFirst(this, replacement)\n\n/**\n * Returns a copy of this string having its first
character replaced with the result of the specified [transform],\n * or the original string if it's empty.\n *\n * @param
transform function that takes the first character and returns the result of the transform applied to the character.\n *\n
* @sample samples.text.Strings.replaceFirstChar\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@OptIn(kotlin.experimental.Exper
imentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@JvmName("\replaceFirstCharWithC
har")\n@kotlin.internal.InlineOnly\npublic inline fun String.replaceFirstChar(transform: (Char) -> Char): String {\n
    return if (isEmpty()) transform(this[0]) + substring(1) else this\n}\n\n/**\n * Returns a copy of this string
having its first character replaced with the result of the specified [transform],\n * or the original string if it's empty.\n
*\n * @param transform function that takes the first character and returns the result of the transform applied to the
character.\n *\n * @sample samples.text.Strings.replaceFirstChar\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@OptIn(kotlin.experimental.Exper
imentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@JvmName("\replaceFirstCharWithC
harSequence")\n@kotlin.internal.InlineOnly\npublic inline fun String.replaceFirstChar(transform: (Char) ->
CharSequence): String {\n    return if (isEmpty()) transform(this[0]).toString() + substring(1) else
this\n}\n\n/**\n * Returns `true` if this char sequence matches the given regular expression.\n
*\n@kotlin.internal.InlineOnly\npublic inline infix fun CharSequence.matches(regex: Regex): Boolean =
regex.matches(this)\n\n/**\n * Implementation of [regionMatches] for CharSequences.\n * Invoked when it's
already known that arguments are not Strings, so that no additional type checks are performed.\n *\n@internal fun
CharSequence.regionMatchesImpl(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int, ignoreCase:
Boolean): Boolean {\n    if ((otherOffset < 0) || (thisOffset < 0) || (thisOffset > this.length - length) || (otherOffset >
other.length - length)) {\n        return false\n    }\n    for (index in 0 until length) {\n        if (!this[thisOffset +
index].equals(other[otherOffset + index], ignoreCase))\n            return false\n    }\n    return true\n}\n\n/**\n *
Returns `true` if this char sequence starts with the specified character.\n *\n@public fun
CharSequence.startsWith(char: Char, ignoreCase: Boolean = false): Boolean =\n    this.length > 0 &&
this[0].equals(char, ignoreCase)\n\n/**\n * Returns `true` if this char sequence ends with the specified character.\n
*\n@public fun CharSequence.endsWith(char: Char, ignoreCase: Boolean = false): Boolean =\n    this.length > 0 &&
this[lastIndex].equals(char, ignoreCase)\n\n/**\n * Returns `true` if this char sequence starts with the specified
prefix.\n *\n@public fun CharSequence.startsWith(prefix: CharSequence, ignoreCase: Boolean = false): Boolean {\n
if (!ignoreCase && this is String && prefix is String)\n    return this.startsWith(prefix)\n else\n    return
regionMatchesImpl(0, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if a substring of this char
sequence starting at the specified offset [startIndex] starts with the specified prefix.\n *\n@public fun
CharSequence.startsWith(prefix: CharSequence, startIndex: Int, ignoreCase: Boolean = false): Boolean {\n    if
(!ignoreCase && this is String && prefix is String)\n        return this.startsWith(prefix, startIndex)\n else\n
return regionMatchesImpl(startIndex, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if this char
sequence ends with the specified suffix.\n *\n@public fun CharSequence.endsWith(suffix: CharSequence,
ignoreCase: Boolean = false): Boolean {\n    if (!ignoreCase && this is String && suffix is String)\n        return

```

```

this.endsWith(suffix)\n else\n     return regionMatchesImpl(length - suffix.length, suffix, 0, suffix.length,
ignoreCase)\n}\n\n// common prefix and suffix\n\n/**\n * Returns the longest string `prefix` such that this char
sequence and [other] char sequence both start with this prefix,\n * taking care not to split surrogate pairs.\n * If this
and [other] have no common prefix, returns the empty string.\n\n * @param ignoreCase `true` to ignore character
case when matching a character. By default `false`.\n\n * @sample samples.text.Strings.commonPrefixWith\n
*/\n\npublic fun CharSequence.commonPrefixWith(other: CharSequence, ignoreCase: Boolean = false): String {\n
val shortestLength = minOf(this.length, other.length)\n\n var i = 0\n while (i < shortestLength &&
this[i].equals(other[i], ignoreCase = ignoreCase)) {\n     i++\n }\n if (this.hasSurrogatePairAt(i - 1) ||
other.hasSurrogatePairAt(i - 1)) {\n     i--\n }\n return subSequence(0, i).toString()\n}\n\n/**\n * Returns the
longest string `suffix` such that this char sequence and [other] char sequence both end with this suffix,\n * taking
care not to split surrogate pairs.\n * If this and [other] have no common suffix, returns the empty string.\n\n *
@param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n\n * @sample
samples.text.Strings.commonSuffixWith\n
*/\n\npublic fun CharSequence.commonSuffixWith(other: CharSequence,
ignoreCase: Boolean = false): String {\n     val thisLength = this.length\n     val otherLength = other.length\n
val shortestLength = minOf(thisLength, otherLength)\n\n var i = 0\n while (i < shortestLength && this[thisLength
- i - 1].equals(other[otherLength - i - 1], ignoreCase = ignoreCase)) {\n     i++\n }\n if
(this.hasSurrogatePairAt(thisLength - i - 1) || other.hasSurrogatePairAt(otherLength - i - 1)) {\n     i--\n
}\n return subSequence(thisLength - i, thisLength).toString()\n}\n\n// indexOfAny()\n\n/**\n * Finds the index of the
first occurrence of any of the specified [chars] in this char sequence,\n * starting from the specified [startIndex] and
optionally ignoring the case.\n\n * @param ignoreCase `true` to ignore character case when matching a character.
By default `false`.\n\n * @return An index of the first occurrence of matched character from [chars] or -1 if none of
[chars] are found.\n\n */\n\npublic fun CharSequence.indexOfAny(chars: CharArray, startIndex: Int = 0, ignoreCase:
Boolean = false): Int {\n     if (!ignoreCase && chars.size == 1 && this is String) {\n         val char = chars.single()\n
return nativeIndexOf(char, startIndex)\n     }\n\n for (index in startIndex.coerceAtLeast(0)..lastIndex) {\n         val
charAtIndex = get(index)\n         if (chars.any { it.equals(charAtIndex, ignoreCase) })\n             return index\n
}\n\n return -1\n}\n\n/**\n * Finds the index of the last occurrence of any of the specified [chars] in this char
sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n\n * @param startIndex The
index of character to start searching at. The search proceeds backward toward the beginning of the string.\n\n *
@param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n\n * @return An
index of the last occurrence of matched character from [chars] or -1 if none of [chars] are found.\n\n */\n\npublic
fun CharSequence.lastIndexOfAny(chars: CharArray, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n
if (!ignoreCase && chars.size == 1 && this is String) {\n     val char = chars.single()\n     return
nativeLastIndexOf(char, startIndex)\n }\n\n for (index in startIndex.coerceAtMost(lastIndex) downTo 0) {\n     val
charAtIndex = get(index)\n     if (chars.any { it.equals(charAtIndex, ignoreCase) })\n         return index\n
}\n\n return -1\n}\n\nprivate fun CharSequence.indexOf(other: CharSequence, startIndex: Int, endIndex: Int,
ignoreCase: Boolean, last: Boolean = false): Int {\n     val indices = if (!last)\n         startIndex.coerceAtLeast(0)..endIndex.coerceAtMost(length)\n     else\n         startIndex.coerceAtMost(lastIndex)
downTo endIndex.coerceAtLeast(0)\n\n if (this is String && other is String) { // smart cast\n     for (index in
indices) {\n         if (other.regionMatches(0, this, index, other.length, ignoreCase))\n             return index\n
}\n     } else {\n         for (index in indices) {\n             if (other.regionMatchesImpl(0, this, index, other.length,
ignoreCase))\n                 return index\n         }\n     }\n\n return -1\n}\n\nprivate fun CharSequence.findAnyOf(strings:
Collection<String>, startIndex: Int, ignoreCase: Boolean, last: Boolean): Pair<Int, String>? {\n     if (!ignoreCase
&& strings.size == 1) {\n         val string = strings.single()\n         val index = if (!last) indexOf(string,
startIndex) else\n         lastIndexOf(string, startIndex)\n         return if (index < 0) null else index to string\n
}\n\n val indices = if (!last)\n     startIndex.coerceAtLeast(0)..length else\n     startIndex.coerceAtMost(lastIndex)
downTo 0\n\n if (this is String) {\n     for (index in indices) {\n         val matchingString = strings.firstOrNull
{ it.regionMatches(0, this, index, it.length, ignoreCase) }\n         if (matchingString != null)\n             return
index to matchingString\n     }\n     } else {\n         for (index in indices) {\n             val matchingString =
strings.firstOrNull { it.regionMatchesImpl(0, this, index,

```

```

it.length, ignoreCase) }
    if (matchingString != null)
        return index to matchingString
    }
}
return null
}

```

`findAnyOf` Finds the first occurrence of any of the specified [strings] in this char sequence, starting from the specified [startIndex] and optionally ignoring the case. @param ignoreCase `true` to ignore character case when matching a string. By default `false`. @return A pair of an index of the first occurrence of matched string from [strings] and the string matched or `null` if none of [strings] are found. To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from the beginning to the end of this string, and finds at each position the first element in [strings] that matches this string at that position.

```

public fun CharSequence.findAnyOf(strings: Collection<String>, startIndex: Int = 0, ignoreCase: Boolean = false): Pair<Int, String>? = findAnyOf(strings, startIndex, ignoreCase, last = false)

```

`findLastAnyOf` Finds the last occurrence of any of the specified [strings] in this char sequence, starting from the specified [startIndex] and optionally ignoring the case. @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the string. @param ignoreCase `true` to ignore character case when matching a string. By default `false`. @return A pair of an index of the last occurrence of matched string from [strings] and the string matched or `null` if none of [strings] are found. To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from the end toward the beginning of this string, and finds at each position the first element in [strings] that matches this string at that position.

```

public fun CharSequence.findLastAnyOf(strings: Collection<String>, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Pair<Int, String>? = findAnyOf(strings, startIndex, ignoreCase, last = true)

```

`indexOfAny` Finds the index of the first occurrence of any of the specified [strings] in this char sequence, starting from the specified [startIndex] and optionally ignoring the case. @param ignoreCase `true` to ignore character case when matching a string. By default `false`. @return An index of the first occurrence of matched string from [strings] or -1 if none of [strings] are found. To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from the beginning to the end of this string, and finds at each position the first element in [strings] that matches this string at that position.

```

public fun CharSequence.indexOfAny(strings: Collection<String>, startIndex: Int = 0, ignoreCase: Boolean = false): Int = findAnyOf(strings, startIndex, ignoreCase, last = false)?.first ?: -1

```

`lastIndexOfAny` Finds the index of the last occurrence of any of the specified [strings] in this char sequence, starting from the specified [startIndex] and optionally ignoring the case. @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the string. @param ignoreCase `true` to ignore character case when matching a string. By default `false`. @return An index of the last occurrence of matched string from [strings] or -1 if none of [strings] are found. To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from the end toward the beginning of this string, and finds at each position the first element in [strings] that matches this string at that position.

```

public fun CharSequence.lastIndexOfAny(strings: Collection<String>, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int = findAnyOf(strings, startIndex, ignoreCase, last = true)?.first ?: -1

```

`indexOf` Returns the index within this string of the first occurrence of the specified character, starting from the specified [startIndex]. @param ignoreCase `true` to ignore character case when matching a character. By default `false`. @return An index of the first occurrence of [char] or -1 if none is found.

```

public fun CharSequence.indexOf(char: Char, startIndex: Int = 0, ignoreCase: Boolean = false): Int {
    return if (ignoreCase || this !is String)
        indexOfAny(charArrayOf(char), startIndex, ignoreCase)
    else
        nativeIndexOf(char, startIndex)
}

```

`lastIndexOf` Returns the index within this char sequence of the first occurrence of the specified [string], starting from the specified [startIndex]. @param ignoreCase `true` to ignore character case when matching a string. By default `false`. @return An index of the first occurrence of [string] or -1 if none is found. @sample samples.text.Strings.indexOf

```

public fun CharSequence.indexOf(string: String, startIndex: Int = 0, ignoreCase: Boolean = false): Int {
    return if (ignoreCase || this !is String)
        indexOf(string, startIndex, length, ignoreCase)
    else
        nativeIndexOf(string, startIndex)
}

```

`lastIndexOf` Returns the index within this char sequence of the last occurrence of the specified character, starting from the specified [startIndex]. @param startIndex The index of character to start searching at. The search proceeds backward

toward the beginning of the string.\n * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @return An index of the last occurrence of [char] or -1 if none is found.\n

```

*\npublic fun CharSequence.lastIndexOf(char: Char, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int
{\n    return if (ignoreCase || this !is String)\n        lastIndexOfAny(charArrayOf(char), startIndex, ignoreCase)\n    else\n        nativeLastIndexOf(char, startIndex)\n}\n\n/**\n * Returns the index within this char sequence of the last occurrence of the specified [string],\n * starting from the specified [startIndex].\n * @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the string.\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return An index of the last occurrence of [string] or -1 if none is found.\n */\npublic fun CharSequence.lastIndexOf(string: String, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n    return if (ignoreCase || this !is String)\n        indexOf(string, startIndex, 0, ignoreCase, last = true)\n    else\n        nativeLastIndexOf(string, startIndex)\n}\n\n/**\n * Returns `true` if this char sequence contains the specified [other] sequence of characters as a substring.\n * @param ignoreCase `true` to ignore character case when comparing strings. By default `false`.\n */\n@Suppress("INAPPLICABLE_OPERATOR_MODIFIER")\npublic operator fun CharSequence.contains(other: CharSequence, ignoreCase: Boolean = false): Boolean =\n    if (other is String)\n        indexOf(other, ignoreCase = ignoreCase) >= 0\n    else\n        indexOf(other, 0, length, ignoreCase) >= 0\n\n\n/**\n * Returns `true` if this char sequence contains the specified character [char].\n * @param ignoreCase `true` to ignore character case when comparing characters. By default `false`.\n */\n@Suppress("INAPPLICABLE_OPERATOR_MODIFIER")\npublic operator fun CharSequence.contains(char: Char, ignoreCase: Boolean = false): Boolean =\n    indexOf(char, ignoreCase = ignoreCase) >= 0\n\n\n/**\n * Returns `true` if this char sequence contains at least one match of the specified regular expression [regex].\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun CharSequence.contains(regex: Regex): Boolean =\n    regex.containsMatchIn(this)\n\n\n// rangesDelimitedBy\n\nprivate class DelimitedRangesSequence(\n    private val input: CharSequence,\n    private val startIndex: Int,\n    private val limit: Int,\n    private val getNextMatch: CharSequence.(currentIndex: Int) -> Pair<Int, Int>? ) : Sequence<IntRange> {\n    override fun iterator(): Iterator<IntRange> = object : Iterator<IntRange> {\n        var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue\n        var currentStartIndex: Int = startIndex.coerceIn(0, input.length)\n        var nextSearchIndex: Int = currentStartIndex\n        var nextItem: IntRange? = null\n        var counter: Int = 0\n        private fun calcNext() {\n            if (nextSearchIndex < 0) {\n                nextState = 0\n                nextItem = null\n            } else {\n                if (limit > 0 && ++counter >= limit || nextSearchIndex > input.length) {\n                    nextItem =\n                        currentStartIndex..input.lastIndex\n                    nextSearchIndex = -1\n                } else {\n                    val match =\n                        input.getNextMatch(nextSearchIndex)\n                    if (match == null) {\n                        nextItem =\n                            currentStartIndex..input.lastIndex\n                    } else {\n                        val\n                            (index, length) = match\n                        nextItem = currentStartIndex until index\n                        currentStartIndex\n                            = index + length\n                        nextSearchIndex = currentStartIndex + if (length == 0) 1 else 0\n                    }\n                }\n                nextState = 1\n            }\n        }\n        override fun next(): IntRange {\n            if (nextState ==\n                -1)\n                calcNext()\n            if (nextState == 0)\n                throw NoSuchElementException()\n            val\n                result = nextItem as IntRange\n            // Clean next to avoid keeping reference on yielded instance\n            nextItem = null\n            nextState = -1\n            return result\n        }\n        override fun hasNext(): Boolean {\n            if (nextState == -1)\n                calcNext()\n            return nextState == 1\n        }\n    }\n}\n\n/**\n * Returns a sequence of index ranges of substrings in this char sequence around occurrences of the specified [delimiters].\n * @param delimiters One or more characters to be used as delimiters.\n * @param startIndex The index to start searching delimiters from.\n * No range having its start value less than [startIndex] is returned.\n * [startIndex] is coerced to be non-negative and not greater than length of this string.\n * @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return. Zero by default means no limit is set.\n */\nprivate fun CharSequence.rangesDelimitedBy(delimiters: CharArray, startIndex: Int = 0, ignoreCase: Boolean = false, limit: Int = 0): Sequence<IntRange> {\n    requireNonNegativeLimit(limit)\n    return DelimitedRangesSequence(this, startIndex, limit, { currentIndex ->\n
```



```

requireNonNegativeLimit(limit)\n\n    var currentOffset = 0\n    var nextIndex = indexOf(delimiter, currentOffset,
ignoreCase)\n    if (nextIndex == -1 || limit == 1) {\n        return listOf(this.toString())\n    }\n\n    val isLimited =
limit > 0\n    val result = ArrayList<String>(if (isLimited) limit.coerceAtMost(10) else 10)\n    do {\n        result.add(substring(currentOffset, nextIndex))\n        currentOffset = nextIndex + delimiter.length\n        // Do not
search for next occurrence if we're reaching limit\n        if (isLimited && result.size == limit - 1) break\n        nextIndex = indexOf(delimiter, currentOffset, ignoreCase)\n    } while (nextIndex != -1)\n\n    result.add(substring(currentOffset, length))\n    return result\n}\n\n/**\n * Splits this char sequence to a list of
strings around matches of the given regular expression.\n * @param limit Non-negative value specifying the
maximum number of substrings to return.\n * Zero by default means no limit is set.\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.split(regex: Regex, limit: Int = 0): List<String> =
regex.split(this, limit)\n\n/**\n * Splits this char sequence to a sequence of strings around matches of the given
regular expression.\n * @param limit Non-negative value specifying the maximum number of substrings to
return.\n * Zero by default means no limit is set.\n * @sample samples.text.Strings.splitToSequence\n
*/\n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun CharSequence.splitToSequence(regex: Regex, limit: Int = 0): Sequence<String> =
regex.splitToSequence(this, limit)\n\n/**\n * Splits this char sequence to a sequence of lines delimited by any of the
following character sequences: CRLF, LF or CR.\n * @param limit Non-negative value specifying the maximum number of substrings to
return.\n * The lines returned do not include terminating line
separators.\n */\n\npublic fun CharSequence.lineSequence(): Sequence<String> = splitToSequence("\\r\\n", "\\n",
"\\r")\n\n/**\n * Splits this char sequence to a list of lines delimited by any of the following character sequences:
CRLF, LF or CR.\n * The lines returned do not include terminating line separators.\n */\n\npublic fun
CharSequence.lines(): List<String> = lineSequence().toList()\n\n/**\n * Returns `true` if the contents of this char
sequence are equal to the contents of the specified [other],\n * i.e. both char sequences contain the same number of
the same characters in the same order.\n * @sample samples.text.Strings.contentEquals\n
*/\n\n@SinceKotlin("1.5")\npublic expect infix fun CharSequence?.contentEquals(other: CharSequence?):
Boolean\n\n/**\n * Returns `true` if the contents of this char sequence are equal to the contents of the specified
[other], optionally ignoring case difference.\n * @param ignoreCase `true` to ignore character case when
comparing contents.\n * @sample samples.text.Strings.contentEquals\n */\n\n@SinceKotlin("1.5")\npublic
expect fun CharSequence?.contentEquals(other: CharSequence?, ignoreCase: Boolean): Boolean\n\ninternal fun
CharSequence?.contentEqualsIgnoreCaseImpl(other: CharSequence?): Boolean {\n    if (this is String && other is
String) {\n        return this.equals(other, ignoreCase = true)\n    }\n\n    if (this === other) return true\n    if (this ==
null || other == null || this.length != other.length) return false\n\n    for (i in 0 until length) {\n        if
(!this[i].equals(other[i], ignoreCase = true)) {\n            return false\n        }\n    }\n\n    return true\n}\n\ninternal fun
CharSequence?.contentEqualsImpl(other: CharSequence?): Boolean {\n    if (this is String && other is String) {\n
return this == other\n    }\n\n    if (this === other) return true\n    if (this == null || other == null || this.length !=
other.length) return false\n\n    for (i in 0 until length) {\n        if (this[i] != other[i]) {\n            return false\n        }\n    }\n\n    return true\n}\n\n/**\n * Returns `true` if the content of this string is equal to the word `true`, `false` if it is
equal to `false`,\n * and throws an exception otherwise.\n * There is also a lenient version of the function
available on nullable String, [String?.toBoolean].\n * Note that this function is case-sensitive.\n * @sample
samples.text.Strings.toBooleanStrict\n */\n\n@SinceKotlin("1.5")\npublic fun String.toBooleanStrict(): Boolean =
when (this) {\n    "true" -> true\n    "false" -> false\n    else -> throw IllegalArgumentException("The string
doesn't represent a boolean value: $this")\n}\n\n/**\n * Returns `true` if the content of this string is equal to the
word `true`, `false` if it is equal to `false`,\n * and `null` otherwise.\n * There is also a lenient version of the
function available on nullable String, [String?.toBoolean].\n * Note that this function is case-sensitive.\n * @sample
samples.text.Strings.toBooleanStrictOrNull\n */\n\n@SinceKotlin("1.5")\npublic fun
String.toBooleanStrictOrNull(): Boolean? = when (this) {\n    "true" -> true\n    "false" -> false\n    else ->
null\n}\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n//
Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport

```



```

method for this method.\n    @Suppress(\"USELESS_CAST\")\n    if ((element as Any?) !is UInt) return
false\n\n    return storage.contains(element.toInt())\n    }\n\n    override fun containsAll(elements:
Collection<UInt>): Boolean {\n        return (elements as Collection<*>).all { it is UInt &&
storage.contains(it.toInt()) }\n    }\n\n    override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n * Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init]
function.\n * The function [init] is called for each array element sequentially starting from the first one.\n * It
should return the value for an array element given its index.\n
*/\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray(size: Int, init: (Int) -> UInt): UIntArray {\n    return UIntArray(IntArray(size) { index ->
init(index).toInt()
})\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
uintArrayOf(vararg elements: UInt): UIntArray = elements\n\", \"/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\nimport kotlin.jvm.*\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@JvmInline\npublic
value class UIntArray\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: LongArray) :
Collection<ULong> {\n\n    /** Creates a new array of the specified [size], with all elements initialized to zero. */\n
public constructor(size: Int) : this(LongArray(size))\n\n    /**\n     * Returns the array element at the given [index].
This method can be called using the index operator.\n     * If the [index] is out of bounds of this array, throws
an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is unspecified.\n     */\n    public
operator fun get(index: Int): ULong = storage[index].toULong()\n\n    /**\n     * Sets the element at the given
[index] to the given [value]. This method can be called using the index operator.\n     * If the [index] is out of
bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is
unspecified.\n     */\n    public operator fun set(index: Int, value: ULong) {\n        storage[index] = value.toLong()\n
}\n\n    /** Returns the number of elements in the array. */\n    public override val size: Int get() = storage.size\n
}\n\n    /** Creates an iterator over the elements of the array. */\n    public override operator fun iterator():
kotlin.collections.Iterator<ULong> = Iterator(storage)\n\n    @Suppress(\"DEPRECATION_ERROR\")\n    private
class Iterator(private val array: LongArray) : ULongIterator() {\n        private var index = 0\n        override fun
hasNext() = index < array.size\n        override fun nextULong() = if (index < array.size) array[index++].toULong()
else throw NoSuchElementException(index.toString())\n    }\n\n    override fun contains(element: ULong): Boolean
{\n        // TODO: Eliminate this check after KT-30016 gets fixed.\n        // Currently JS BE does not generate
special bridge method for this method.\n        @Suppress(\"USELESS_CAST\")\n        if ((element as Any?) !is
ULong) return false\n\n        return storage.contains(element.toLong())\n    }\n\n    override fun
containsAll(elements: Collection<ULong>): Boolean {\n        return (elements as Collection<*>).all { it is ULong
&& storage.contains(it.toLong()) }\n    }\n\n    override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**
 * Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init]
function.\n * The function [init] is called for each array element sequentially starting from the first one.\n * It
should return the value for an array element given its index.\n
*/\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray(size: Int, init: (Int) -> ULong): ULongArray {\n    return ULongArray(LongArray(size) { index ->
init(index).toLong()
})\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ulongArrayOf(vararg elements: ULong): ULongArray = elements\n\", \"/*\n * Copyright 2010-2021 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\nimport kotlin.jvm.*\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@JvmInline\npublic
value class UShortArray\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: ShortArray) :
Collection<UShort> {\n\n    /** Creates a new array of the specified [size], with all elements initialized to zero. */\n

```


If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UIntArray.component2(): UInt {\n    return get(1)\n}\n/**\n * Returns 2nd *element* from the array.\n * \n * If  
the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the  
behavior is unspecified.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
ULongArray.component2(): ULong {\n    return get(1)\n}\n/**\n * Returns 2nd *element* from the array.\n * \n *  
If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the  
behavior is unspecified.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UByteArray.component2(): UByte {\n    return get(1)\n}\n/**\n * Returns 2nd *element* from the array.\n * \n *  
If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the  
behavior is unspecified.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UShortArray.component2(): UShort {\n    return get(1)\n}\n/**\n * Returns 3rd *element* from the array.\n * \n *  
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the  
behavior is unspecified.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UIntArray.component3(): UInt {\n    return get(2)\n}\n/**\n * Returns 3rd *element* from the array.\n * \n *  
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the  
behavior is unspecified.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
ULongArray.component3(): ULong {\n    return get(2)\n}\n/**\n * Returns 3rd *element* from the array.\n * \n *  
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the  
behavior is unspecified.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UByteArray.component3(): UByte {\n    return get(2)\n}\n/**\n * Returns 3rd *element* from the array.\n * \n *  
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the  
behavior is unspecified.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UShortArray.component3(): UShort {\n    return get(2)\n}\n/**\n * Returns 4th *element* from the array.\n * \n *  
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the  
behavior is unspecified.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UIntArray.component4(): UInt {\n    return get(3)\n}\n/**\n * Returns 4th *element* from the array.\n * \n *  
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the behavior  
is unspecified.\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic  
inline operator fun ULongArray.component4(): ULong {\n    return get(3)\n}\n/**\n * Returns 4th *element* from  
the array.\n * \n *  
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in  
Kotlin/JS where the behavior is unspecified.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UByteArray.component4(): UByte {\n    return get(3)\n}\n/**\n * Returns 4th *element* from the array.\n * \n *  
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the  
behavior is unspecified.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UShortArray.component4(): UShort {\n    return get(3)\n}\n/**\n * Returns 5th *element* from the array.\n * \n *  
If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the
```

behavior is unspecified.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UIntArray.component5(): UInt {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the  
size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior  
is unspecified.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic  
inline operator fun  
ULongArray.component5(): ULong {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from  
the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in  
Kotlin/JS\n * where the behavior is unspecified.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UByteArray.component5(): UByte {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n *  
If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the  
behavior is unspecified.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UShortArray.component5(): UShort {\n    return get(4)\n}\n\n/**\n * Returns an element at the given [index] or  
throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample  
samples.collections.Collections.Elements.elementAt\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.elementAt(index: Int):  
UInt\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is  
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.elementAt(index: Int):  
ULong\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index]  
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.elementAt(index: Int):  
UByte\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index]  
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.elementAt(index: Int):  
UShort\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the  
[index] is out of bounds of this array.\n * \n * @sample  
samples.collections.Collections.Elements.elementAtOrElse\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UInt): UInt {\n    return if (index >= 0 && index <=  
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of  
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample  
samples.collections.Collections.Elements.elementAtOrElse\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> ULong): ULong {\n    return if (index >= 0 &&  
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the  
result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample  
samples.collections.Collections.Elements.elementAtOrElse\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UByte): UByte {\n    return if (index >= 0 && index  
<= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result  
of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample  
samples.collections.Collections.Elements.elementAtOrElse\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UShort): UShort {\n    return if (index >= 0 &&  
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or  
'null' if the [index] is out of bounds of this array.\n * \n * @sample  

```



```

samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.elementAtOrNull(index: Int): UInt? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.elementAtOrNull(index: Int): ULong? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.elementAtOrNull(index: Int): UByte? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.elementAtOrNull(index: Int): UShort? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.find(predicate: (UInt) -> Boolean): UInt? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.find(predicate: (ULong) -> Boolean): ULong? {\n    return firstOrNull(predicate)\n}\n\n/**\n *
Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.find(predicate: (UByte) -> Boolean): UByte? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns
the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.find(predicate: (UShort) -> Boolean): UShort? {\n    return firstOrNull(predicate)\n}\n\n/**\n *
Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.findLast(predicate: (UInt) -> Boolean): UInt? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the
last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.findLast(predicate: (ULong) -> Boolean): ULong? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.findLast(predicate: (UByte) -> Boolean): UByte? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns
the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.findLast(predicate: (UShort) -> Boolean): UShort? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.first(): UInt {\n    return storage.first().toUInt()\n}\n\n/**\n * Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.first(): ULong {\n    return storage.first().toULong()\n}\n\n/**\n * Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.first(): UByte {\n    return storage.first().toUByte()\n}\n\n/**\n * Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.first(): UShort {\n    return storage.first().toUShort()\n}\n\n/**\n * Returns the first element matching
the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.first(predicate: (UInt) -> Boolean): UInt {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.first(predicate: (ULong) -> Boolean): ULong {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.first(predicate: (UByte) -> Boolean): UByte {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.first(predicate: (UShort) -> Boolean): UShort {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.firstOrNull(): UInt? {\n    return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.firstOrNull(): ULong? {\n    return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.firstOrNull(): UByte? {\n    return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.firstOrNull(): UShort? {\n    return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null`
if element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.firstOrNull(predicate: (UInt) -> Boolean): UInt? {\n    for (element in this) if (predicate(element)) return
element\n    return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element
was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.firstOrNull(predicate: (ULong) -> Boolean): ULong? {\n    for (element in this) if
(predicate(element)) return element\n    return null\n}\n\n/**\n * Returns the first element matching the given
[predicate], or `null` if element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

ByteArray.firstOrNull(predicate: (UByte) -> Boolean): UByte? {\n  for (element in this) if (predicate(element))
return element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if
element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.firstOrNull(predicate: (UShort) -> Boolean): UShort? {\n  for (element in this) if (predicate(element))
return element\n  return null\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the
[defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.getOrNull(index: Int, defaultValue: (Int) -> UInt): UInt {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.getOrNull(index: Int, defaultValue: (Int) -> ULong): ULong {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.getOrNull(index: Int, defaultValue: (Int) -> UByte): UByte {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.getOrNull(index: Int, defaultValue: (Int) -> UShort): UShort {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.getOrNull(index: Int): UInt? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given
[index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.getOrNull(index: Int):
ULong? {\n  return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at
the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.getOrNull(index: Int): UByte?
{\n  return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the
given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.getOrNull(index: Int):
UShort? {\n  return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of
[element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOf(element: UInt): Int {\n  return storage.indexOf(element.toInt())\n}\n\n/**\n * Returns first
index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.indexOf(element: ULong): Int {\n  return storage.indexOf(element.toLong())\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOf(element: UByte): Int {\n  return storage.indexOf(element.toByte())\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

UShortArray.indexOf(element: UShort): Int {\n  return storage.indexOf(element.toShort())\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UIntArray.indexOfFirst(predicate: (UInt) -> Boolean): Int {\n  return storage.indexOfFirst { predicate(it.toUInt()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
ULongArray.indexOfFirst(predicate: (ULong) -> Boolean): Int {\n  return storage.indexOfFirst { predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UByteArray.indexOfFirst(predicate: (UByte) -> Boolean): Int {\n  return storage.indexOfFirst { predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UShortArray.indexOfFirst(predicate: (UShort) -> Boolean): Int {\n  return storage.indexOfFirst { predicate(it.toUShort()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UIntArray.indexOfLast(predicate: (UInt) -> Boolean): Int {\n  return storage.indexOfLast { predicate(it.toUInt()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
ULongArray.indexOfLast(predicate: (ULong) -> Boolean): Int {\n  return storage.indexOfLast { predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UByteArray.indexOfLast(predicate: (UByte) -> Boolean): Int {\n  return storage.indexOfLast { predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UShortArray.indexOfLast(predicate: (UShort) -> Boolean): Int {\n  return storage.indexOfLast { predicate(it.toUShort()) }\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UIntArray.last(): UInt {\n  return storage.last().toUInt()\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
ULongArray.last(): ULong {\n  return storage.last().toULong()\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UByteArray.last(): UByte {\n  return storage.last().toUByte()\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UShortArray.last(): UShort {\n  return storage.last().toUShort()\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample samples.collections.Collections.Elements.last\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun

```

```

UIntArray.last(predicate: (UInt) -> Boolean): UInt {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}
/** Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 * @sample samples.collections.Collections.Elements.last
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
ULongArray.last(predicate: (ULong) -> Boolean): ULong {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw
NoSuchElementException("Array contains no element matching the predicate.")
}
/** Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 * @sample samples.collections.Collections.Elements.last
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UByteArray.last(predicate: (UByte) -> Boolean): UByte {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw
NoSuchElementException("Array contains no element matching the predicate.")
}
/** Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 * @sample samples.collections.Collections.Elements.last
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.last(predicate: (UShort) -> Boolean): UShort {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw
NoSuchElementException("Array contains no element matching the predicate.")
}
/** Returns last index of [element], or -1 if the array does not contain element.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.lastIndexOf(element: UInt): Int {
    return storage.lastIndexOf(element.toInt())
}
/** Returns last index of [element], or -1 if the array does not contain element.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
ULongArray.lastIndexOf(element: ULong): Int {
    return storage.lastIndexOf(element.toLong())
}
/** Returns last index of [element], or -1 if the array does not contain element.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UByteArray.lastIndexOf(element: UByte): Int {
    return storage.lastIndexOf(element.toByte())
}
/** Returns last index of [element], or -1 if the array does not contain element.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.lastIndexOf(element: UShort): Int {
    return storage.lastIndexOf(element.toShort())
}
/** Returns the last element, or `null` if the array is empty.
 * @sample samples.collections.Collections.Elements.last
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun
UIntArray.lastOrNull(): UInt? {
    return if (isEmpty()) null else this[size - 1]
}
/** Returns the last element, or `null` if the array is empty.
 * @sample samples.collections.Collections.Elements.last
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun
ULongArray.lastOrNull(): ULong? {
    return if (isEmpty()) null else this[size - 1]
}
/** Returns the last element, or `null` if the array is empty.
 * @sample samples.collections.Collections.Elements.last
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun
UByteArray.lastOrNull(): UByte? {
    return if (isEmpty()) null else this[size - 1]
}
/** Returns the last element, or `null` if the array is empty.
 * @sample samples.collections.Collections.Elements.last
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun
UShortArray.lastOrNull(): UShort? {
    return if (isEmpty()) null else this[size - 1]
}
/** Returns the last element matching the given [predicate], or `null` if no such element was found.
 * @sample samples.collections.Collections.Elements.last
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.lastOrNull(predicate: (UInt) -> Boolean): UInt? {
    for (index in this.indices.reversed()) {
        val

```

```

element = this[index]\n    if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.lastOrNull(predicate: (ULong) -> Boolean): ULong? {\n    for (index in this.indices.reversed()) {\n
val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the
last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.lastOrNull(predicate: (UByte) -> Boolean): UByte? {\n    for (index in this.indices.reversed()) {\n
val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the
last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.lastOrNull(predicate: (UShort) -> Boolean): UShort? {\n    for (index in this.indices.reversed()) {\n
val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns a
random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.random(): UInt {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n
* \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.random(): UByte {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this
array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.random(): UShort {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this
array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.random(random: Random): UInt
{\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.random(random: Random):
ULong {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.random(random: Random):
UByte {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.random(random: Random):
UShort {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UIntArray.randomOrNull(): UInt? {\n    return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n

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@kotlin.internal.InlineOnly\npublic inline fun ULongArray.randomOrNull(): ULong? {\n    return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UByteArray.randomOrNull(): UByte? {\n    return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UShortArray.randomOrNull(): UShort? {\n    return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
public fun UIntArray.randomOrNull(random: Random): UInt? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
public fun ULongArray.randomOrNull(random: Random): ULong? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
public fun UByteArray.randomOrNull(random: Random): UByte? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
public fun UShortArray.randomOrNull(random: Random): UShort? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or
has more than one element.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(): UInt {\n    return storage.single().toUInt()\n}\n\n/**\n * Returns the single element, or throws an
exception if the array is empty or has more than one element.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.single(): ULong {\n    return storage.single().toULong()\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.single(): UByte {\n    return storage.single().toUByte()\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.single(): UShort {\n    return storage.single().toUShort()\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(predicate: (UInt) -> Boolean): UInt {\n    var single: UInt? = null\n    var found = false\n    for
(element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as UInt\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.single(predicate: (ULong) -> Boolean): ULong {\n    var single: ULong? = null\n    var found = false\n
for (element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if

```



```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.drop(n: Int): List<UInt> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.drop(n: Int): List<ULong> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.drop(n: Int): List<UByte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.drop(n: Int): List<UShort> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.dropLast(n: Int): List<UInt> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.dropLast(n: Int):
List<ULong> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.dropLast(n: Int): List<UByte>
{\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.dropLast(n: Int):
List<UShort> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.dropLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.dropLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  for (index in lastIndex downTo 0)
{\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample

```

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samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.dropLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  for (index in lastIndex downTo 0)
{\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.dropLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n  for (index in lastIndex downTo
0) {\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return
emptyList()\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.dropWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  var yielding = false\n  val list =
ArrayList<UInt>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n
      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.dropWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  var yielding = false\n  val list =
ArrayList<ULong>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))
{\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.dropWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  var yielding = false\n  val list =
ArrayList<UByte>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))
{\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.dropWhile(predicate: (UShort) -> Boolean): List<UShort> {\n  var yielding = false\n  val list =
ArrayList<UShort>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))
{\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing only
elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filter(predicate: (UInt) -> Boolean): List<UInt> {\n  return filterTo(ArrayList<UInt>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filter(predicate: (ULong) -> Boolean): List<ULong> {\n  return filterTo(ArrayList<ULong>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filter(predicate: (UByte) -> Boolean): List<UByte> {\n  return filterTo(ArrayList<UByte>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filter(predicate: (UShort) -> Boolean): List<UShort> {\n  return filterTo(ArrayList<UShort>(),

```



```

MutableCollection<in UShort>> UShortArray.filterIndexedTo(destination: C, predicate: (index: Int, UShort) -> Boolean): C {
    forEachIndexed { index, element ->
        if (predicate(index, element))
            destination.add(element)
    }
    return destination
}

Returns a list containing all elements not matching the given [predicate].

@sample samples.collections.Collections.Filtering.filter

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.filterNot(predicate: (UInt) -> Boolean): List<UInt> {
    return filterNotTo(ArrayList<UInt>(),
        predicate)
}

Returns a list containing all elements not matching the given [predicate].

@sample samples.collections.Collections.Filtering.filter

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
ULongArray.filterNot(predicate: (ULong) -> Boolean): List<ULong> {
    return filterNotTo(ArrayList<ULong>(),
        predicate)
}

Returns a list containing all elements not matching the given [predicate].

@sample samples.collections.Collections.Filtering.filter

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UByteArray.filterNot(predicate: (UByte) -> Boolean): List<UByte> {
    return filterNotTo(ArrayList<UByte>(),
        predicate)
}

Returns a list containing all elements not matching the given [predicate].

@sample samples.collections.Collections.Filtering.filter

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.filterNot(predicate: (UShort) -> Boolean): List<UShort> {
    return
        filterNotTo(ArrayList<UShort>(), predicate)
}

Appends all elements not matching the given [predicate] to the given [destination].

@sample samples.collections.Collections.Filtering.filterTo

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <C :
MutableCollection<in UInt>> UIntArray.filterNotTo(destination: C, predicate: (UInt) -> Boolean): C {
    for
        (element in this) if (!predicate(element)) destination.add(element)
    return destination
}

Appends all elements not matching the given [predicate] to the given [destination].

@sample samples.collections.Collections.Filtering.filterTo

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <C :
MutableCollection<in ULong>> ULongArray.filterNotTo(destination: C, predicate: (ULong) -> Boolean): C {
    for
        (element in this) if (!predicate(element)) destination.add(element)
    return destination
}

Appends all elements not matching the given [predicate] to the given [destination].

@sample samples.collections.Collections.Filtering.filterTo

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <C :
MutableCollection<in UByte>> UByteArray.filterNotTo(destination: C, predicate: (UByte) -> Boolean): C {
    for
        (element in this) if (!predicate(element)) destination.add(element)
    return destination
}

Appends all elements not matching the given [predicate] to the given [destination].

@sample samples.collections.Collections.Filtering.filterTo

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <C :
MutableCollection<in UShort>> UShortArray.filterNotTo(destination: C, predicate: (UShort) -> Boolean): C {
    for
        (element in this) if (!predicate(element)) destination.add(element)
    return destination
}

Appends all elements matching the given [predicate] to the given [destination].

@sample samples.collections.Collections.Filtering.filterTo

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <C :
MutableCollection<in UInt>> UIntArray.filterTo(destination: C, predicate: (UInt) -> Boolean): C {
    for
        (element in this) if (predicate(element)) destination.add(element)
    return destination
}

Appends all elements matching the given [predicate] to the given [destination].

@sample samples.collections.Collections.Filtering.filterTo

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <C :
MutableCollection<in ULong>> ULongArray.filterTo(destination: C, predicate: (ULong) -> Boolean): C {
    for
        (element in this) if (predicate(element)) destination.add(element)
    return destination
}

Appends all

```

elements matching the given [predicate] to the given [destination].\n * \n * @sample

samples.collections.Collections.Filtering.filterTo\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :  
MutableCollection<in UByte>> UByteArray.filterTo(destination: C, predicate: (UByte) -> Boolean): C {\n for  
(element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all  
elements matching the given [predicate] to the given [destination].\n * \n * @sample
```

samples.collections.Collections.Filtering.filterTo\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :  
MutableCollection<in UShort>> UShortArray.filterTo(destination: C, predicate: (UShort) -> Boolean): C {\n for  
(element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Returns a list  
containing elements at indices in the specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: IntRange):  
List<UInt> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive +  
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: IntRange):  
List<ULong> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive +  
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: IntRange):  
List<UByte> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive +  
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: IntRange):  
List<UShort> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive +  
1).asList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: Iterable<Int>):  
List<UInt> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =  
ArrayList<UInt>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: Iterable<Int>):  
List<ULong> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =  
ArrayList<ULong>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: Iterable<Int>):  
List<UByte> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =  
ArrayList<UByte>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: Iterable<Int>):  
List<UShort> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =  
ArrayList<UShort>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sliceArray(indices:  
Collection<Int>): UIntArray {\n return UIntArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array  
containing elements of this array at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sliceArray(indices:  
Collection<Int>): ULongArray {\n return ULongArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array  
containing elements of this array at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sliceArray(indices:  
Collection<Int>): UByteArray {\n return UByteArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array  
containing elements of this array at specified [indices].\n
```

```

*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun UShortArray.sliceArray(indices:
Collection<Int>): UShortArray {\/n    return UShortArray(storage.sliceArray(indices))\/n}\/n\/n**\/n * Returns an
array containing elements at indices in the specified [indices] range.\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun UIntArray.sliceArray(indices: IntRange):
UIntArray {\/n    return UIntArray(storage.sliceArray(indices))\/n}\/n\/n**\/n * Returns an array containing elements at
indices in the specified [indices] range.\/n *\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun
ULongArray.sliceArray(indices: IntRange): ULongArray {\/n    return
ULongArray(storage.sliceArray(indices))\/n}\/n\/n**\/n * Returns an array containing elements at indices in the
specified [indices] range.\/n *\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun
UByteArray.sliceArray(indices: IntRange): UByteArray {\/n    return
UByteArray(storage.sliceArray(indices))\/n}\/n\/n**\/n * Returns an array containing elements at indices in the
specified [indices] range.\/n *\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun
UShortArray.sliceArray(indices: IntRange): UShortArray {\/n    return
UShortArray(storage.sliceArray(indices))\/n}\/n\/n**\/n * Returns a list containing first [n] elements.\/n *\/n *
@throws IllegalArgumentException if [n] is negative.\/n *\/n * @sample
samples.collections.Collections.Transformations.take\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun UIntArray.take(n: Int): List<UInt> {\/n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\/n    if (n == 0) return emptyList()\/n    if (n >=
size) return toList()\/n    if (n == 1) return listOf(this[0])\/n    var count = 0\/n    val list = ArrayList<UInt>(n)\/n    for
(item in this) {\/n        list.add(item)\/n        if (++count == n)\/n            break\/n    }\/n    return list\/n}\/n\/n**\/n * Returns
a list containing first [n] elements.\/n *\/n * @throws IllegalArgumentException if [n] is negative.\/n *\/n * @sample
samples.collections.Collections.Transformations.take\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun ULongArray.take(n: Int): List<ULong> {\/n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\/n    if (n == 0) return emptyList()\/n    if (n >=
size) return toList()\/n    if (n == 1) return listOf(this[0])\/n    var count = 0\/n    val list = ArrayList<ULong>(n)\/n    for
(item in this) {\/n        list.add(item)\/n        if (++count == n)\/n            break\/n    }\/n    return list\/n}\/n\/n**\/n * Returns
a list containing first [n] elements.\/n *\/n * @throws IllegalArgumentException if [n] is negative.\/n *\/n * @sample
samples.collections.Collections.Transformations.take\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun UByteArray.take(n: Int): List<UByte> {\/n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\/n    if (n == 0) return emptyList()\/n    if (n >=
size) return toList()\/n    if (n == 1) return listOf(this[0])\/n    var count = 0\/n    val list = ArrayList<UByte>(n)\/n    for
(item in this) {\/n        list.add(item)\/n        if (++count == n)\/n            break\/n    }\/n    return list\/n}\/n\/n**\/n * Returns
a list containing first [n] elements.\/n *\/n * @throws IllegalArgumentException if [n] is negative.\/n *\/n * @sample
samples.collections.Collections.Transformations.take\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun UShortArray.take(n: Int): List<UShort> {\/n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\/n    if (n == 0) return emptyList()\/n    if (n >=
size) return toList()\/n    if (n == 1) return listOf(this[0])\/n    var count = 0\/n    val list = ArrayList<UShort>(n)\/n    for
(item in this) {\/n        list.add(item)\/n        if (++count == n)\/n            break\/n    }\/n    return list\/n}\/n\/n**\/n * Returns
a list containing last [n] elements.\/n *\/n * @throws IllegalArgumentException if [n] is negative.\/n *\/n * @sample
samples.collections.Collections.Transformations.take\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun UIntArray.takeLast(n: Int): List<UInt> {\/n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\/n    if (n == 0) return emptyList()\/n    val size =
size\/n    if (n >= size) return toList()\/n    if (n == 1) return listOf(this[size - 1])\/n    val list = ArrayList<UInt>(n)\/n
for (index in size - n until size)\/n        list.add(this[index])\/n    return list\/n}\/n\/n**\/n * Returns a list containing last
[n] elements.\/n *\/n * @throws IllegalArgumentException if [n] is negative.\/n *\/n * @sample
samples.collections.Collections.Transformations.take\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun ULongArray.takeLast(n: Int): List<ULong>
{\/n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\/n    if (n == 0) return emptyList()\/n    val

```

```

size = size\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[size - 1])\n  val list =
ArrayList<ULong>(n)\n  for (index in size - n until size)\n    list.add(this[index])\n  return list\n}\n\n/**\n *
Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public fun UByteArray.takeLast(n: Int): List<UByte>
{\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  if (n == 0) return emptyList()\n  val
size = size\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[size - 1])\n  val list =
ArrayList<UByte>(n)\n  for (index in size - n until size)\n    list.add(this[index])\n  return list\n}\n\n/**\n *
Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public fun UShortArray.takeLast(n: Int): List<UShort>
{\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  if (n == 0) return emptyList()\n  val
size = size\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[size - 1])\n  val list =
ArrayList<UShort>(n)\n  for (index in size - n until size)\n    list.add(this[index])\n  return list\n}\n\n/**\n *
Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UIntArray.takeLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n    return drop(index + 1)\n  }\n }\n  return toList()\n}\n\n/**\n * Returns a
list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
ULongArray.takeLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  for (index in lastIndex downTo 0)
{\n  if (!predicate(this[index])) {\n    return drop(index + 1)\n  }\n }\n  return toList()\n}\n\n/**\n *
Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UByteArray.takeLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  for (index in lastIndex downTo 0)
{\n  if (!predicate(this[index])) {\n    return drop(index + 1)\n  }\n }\n  return toList()\n}\n\n/**\n *
Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UShortArray.takeLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n  for (index in lastIndex downTo 0)
{\n  if (!predicate(this[index])) {\n    return drop(index + 1)\n  }\n }\n  return toList()\n}\n\n/**\n *
Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UIntArray.takeWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  val list = ArrayList<UInt>()\n  for (item in
this) {\n  if (!predicate(item))\n    break\n  list.add(item)\n }\n  return list\n}\n\n/**\n * Returns a list
containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
ULongArray.takeWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  val list = ArrayList<ULong>()\n  for
(item in this) {\n  if (!predicate(item))\n    break\n  list.add(item)\n }\n  return list\n}\n\n/**\n *
Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UByteArray.takeWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  val list = ArrayList<UByte>()\n  for

```

```

(item in this) {\n    if (!predicate(item))\n        break\n    list.add(item)\n } return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.take\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n\n public inline fun\n UShortArray.takeWhile(predicate: (UShort) -> Boolean): List<UShort> {\n    val list = ArrayList<UShort>()\n    for\n (item in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n /**\n * Reverses elements in the array in-place.\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n\n public inline fun\n UIntArray.reverse(): Unit {\n    storage.reverse()\n}\n\n /**\n * Reverses elements in the array in-place.\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n\n public inline fun\n ULongArray.reverse(): Unit {\n    storage.reverse()\n}\n\n /**\n * Reverses elements in the array in-place.\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n\n public inline fun\n UByteArray.reverse(): Unit {\n    storage.reverse()\n}\n\n /**\n * Reverses elements of the array in the specified\n range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end\n of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero\n or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater\n than [toIndex].\n\n *\n @SinceKotlin("1.4")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n\n public\n inline fun UIntArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    storage.reverse(fromIndex,\n toIndex)\n}\n\n /**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex\n the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this\n array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n\n *\n @SinceKotlin("1.4")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n\n public inline fun\n ULongArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    storage.reverse(fromIndex, toIndex)\n}\n\n /**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range\n (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws\n IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n\n *\n @SinceKotlin("1.4")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n\n public inline fun\n UByteArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    storage.reverse(fromIndex, toIndex)\n}\n\n /**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range\n (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws\n IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n\n *\n @SinceKotlin("1.4")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n\n public inline fun\n UShortArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    storage.reverse(fromIndex, toIndex)\n}\n\n /**\n * Returns a list with elements in reversed order.\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n\n public\n fun UIntArray.reversed(): List<UInt> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n /**\n * Returns a list with elements in reversed order.\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n\n public fun\n ULongArray.reversed(): List<ULong> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n /**\n * Returns\n a list with elements in reversed order.\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n\n public fun\n UByteArray.reversed(): List<UByte> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n /**\n * Returns a list with elements in reversed order.\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n\n public fun\n UShortArray.reversed(): List<UShort> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n /**\n * Returns

```


an array with elements of this array in reversed order.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntArray.reversedArray(): UIntArray {\n    return UIntArray(storage.reversedArray())\n}\n\n/**\n * Returns an\n array with elements of this array in reversed order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.reversedArray(): ULongArray {\n    return ULongArray(storage.reversedArray())\n}\n\n/**\n * Returns an\n array with elements of this array in reversed order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.reversedArray(): UByteArray {\n    return UByteArray(storage.reversedArray())\n}\n\n/**\n * Returns\n an array with elements of this array in reversed order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.reversedArray(): UShortArray {\n    return UShortArray(storage.reversedArray())\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place.\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place.\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place.\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place.\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place using the specified [random]\n instance as the source of randomness.\n * \n * See:
```

https://en.wikipedia.org/wiki/Fisher%20%93Yates_shuffle#The_modern_algorithm\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.shuffle(random: Random): Unit\n{\n    for (i in lastIndex downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] =\n this[j]\n        this[j] = copy\n    }\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place using the specified\n [random] instance as the source of randomness.\n * \n * See:
```

https://en.wikipedia.org/wiki/Fisher%20%93Yates_shuffle#The_modern_algorithm\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.shuffle(random: Random):\nUnit {\n    for (i in lastIndex downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] =\n this[j]\n        this[j] = copy\n    }\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place using the specified\n [random] instance as the source of randomness.\n * \n * See:
```

https://en.wikipedia.org/wiki/Fisher%20%93Yates_shuffle#The_modern_algorithm\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.shuffle(random: Random):\nUnit {\n    for (i in lastIndex downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] =\n this[j]\n        this[j] = copy\n    }\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place using the specified\n [random] instance as the source of randomness.\n * \n * See:
```

https://en.wikipedia.org/wiki/Fisher%20%93Yates_shuffle#The_modern_algorithm\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.shuffle(random: Random):\nUnit {\n    for (i in lastIndex downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] =\n this[j]\n        this[j] = copy\n    }\n}\n\n/**\n * Sorts\n elements in the array in-place descending according to their\n natural sort order.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
```

```
UIntArray.sortDescending(): Unit {\n    if (size > 1) {\n        sort()\n        reverse()\n    }\n}\n\n/**\n * Sorts\n elements in the array in-place descending according to their\n natural sort order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortDescending(): Unit {\n    if\n (size > 1) {\n        sort()\n        reverse()\n    }\n}\n\n/**\n * Sorts\n elements in the array in-place descending according to their\n natural sort order.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
```

```
UByteArray.sortDescending(): Unit {\n    if (size > 1) {\n        sort()\n        reverse()\n    }\n}\n\n/**\n * Sorts
```

elements in the array in-place descending according to their natural sort order.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortDescending(): Unit {\n
if (size > 1) {\n    sort()\n    reverse()\n }\n}\n\n/**\n * Returns a list of all elements sorted according to their
natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sorted():
List<UInt> {\n    return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted
according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.sorted(): List<ULong> {\n    return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all
elements sorted according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sorted(): List<UByte> {\n
return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural
sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sorted():
List<UShort> {\n    return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns an array with all elements of this
array sorted according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedArray(): UIntArray {\n
if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArray(): ULongArray
{\n    if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedArray(): UByteArray {\n
if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements
of this array sorted according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedArray(): UShortArray
{\n    if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted descending according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedArrayDescending():
UIntArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns
an array with all elements of this array sorted descending according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArrayDescending():
ULongArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n *
Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedArrayDescending():
UByteArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n *
Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedArrayDescending():
UShortArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n *
Returns a list of all elements sorted descending according to their natural sort order.\n */\n * The sort is _stable_. It
means that equal elements preserve their order relative to each other after sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedDescending(): List<UInt>
{\n    return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending
according to their natural sort order.\n */\n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.sortedDescending(): List<ULong> {\n    return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns
a list of all elements sorted descending according to their natural sort order.\n */\n * The sort is _stable_. It
means that equal elements preserve their order relative to each other after sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedDescending():
List<UByte> {\n    return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted
descending according to their natural sort order.\n */\n * The sort is _stable_. It means that equal elements preserve
```

```

their order relative to each other after sorting.\n *^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UShortArray.sortedDescending(): List<UShort> {\n    return copyOf().apply { sort() }.reversed()\n}\n\n/**\n *
Returns an array of type [ByteArray], which is a view of this array where each element is a signed reinterpretation\n
* of the corresponding element of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.asByteArray(): ByteArray {\n    return storage\n}\n\n/**\n * Returns an array of type [IntArray], which
is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this
array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.asIntArray(): IntArray {\n    return storage\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.asList():
List<UInt>\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.asList():
List<ULong>\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.asList():
List<UByte>\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.asList():
List<UShort>\n\n/**\n * Returns an array of type [LongArray], which is a view of this array where each element is
a signed reinterpretation\n * of the corresponding element of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.asLongArray(): LongArray {\n    return storage\n}\n\n/**\n * Returns an array of type [ShortArray],
which is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this
array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.asShortArray(): ShortArray {\n    return storage\n}\n\n/**\n * Returns an array of type [UByteArray],
which is a view of this array where each element is an unsigned reinterpretation\n * of the corresponding element of
this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun ByteArray.asUByteArray(): UByteArray {\n    return UByteArray(this)\n}\n\n/**\n * Returns an array of type
[UIntArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.asUIntArray(): UIntArray {\n    return UIntArray(this)\n}\n\n/**\n * Returns an array of type
[ULongArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.asULongArray(): ULongArray {\n    return ULongArray(this)\n}\n\n/**\n * Returns an array of type
[UShortArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.asUShortArray(): UShortArray {\n    return UShortArray(this)\n}\n\n/**\n * Returns `true` if the two
specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the
same order.\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray.contentEquals(other: UIntArray): Boolean {\n
    return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to
one another,\n * i.e. contain the same number of the same elements in the same order.\n
*\n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray.contentEquals(other: ULongArray):
Boolean {\n    return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are

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*structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\n")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.contentEquals(other: UByteArray): Boolean
{\n    return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal
to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.\n")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray.contentEquals(other: UShortArray):
Boolean {\n    return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are
*structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray?.contentEquals(other:
UIntArray?): Boolean {\n    return this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the two
specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in
the same order.\n */\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic infix fun
ULongArray?.contentEquals(other: ULongArray?): Boolean {\n    return
this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally*
equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray?.contentEquals(other:
UByteArray?): Boolean {\n    return this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the
two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements
in the same order.\n */\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic infix fun
UShortArray?.contentEquals(other: UShortArray?): Boolean {\n    return
this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns a hash code based on the contents of this array as
if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\n")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n
*/\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\n")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n
*/\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\n")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n
*/\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\n")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray?.contentHashCode(): Int {\n
return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if
it is [List].\n */\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray?.contentHashCode(): Int {\n    return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a hash
code based on the contents of this array as if it is [List].\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray?.contentHashCode(): Int {\n
return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if
it is [List].\n */\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun

```

```

UShortArray?.contentHashCode(): Int {\n    return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentToString(): String {\n    return
this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.contentToString(): String {\n    return
this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentToString(): String {\n    return
this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentToString(): String {\n    return
this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray?.contentToString(): String {\n
return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n * Returns a string representation of the contents of
the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray?.contentToString(): String {\n
return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n * Returns a string representation of the contents of
the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray?.contentToString(): String {\n
return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n * Returns a string representation of the contents of
the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray?.contentToString(): String {\n
return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n * Copies this array or its subrange into the
[destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even
specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy
to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param
startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive)
of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n
*\n * @return the [destination] array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyInto(destination: UIntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
UIntArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return

```

```

destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n *
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,
0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n *
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyInto(destination: ULongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
ULongArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n *
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,
0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n *
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyInto(destination: UByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
UByteArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n *
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,
0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n *
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyInto(destination: UShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int =
size): UShortArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return
destination\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyOfOf(): UIntArray {\n    return UIntArray(storage.copyOfOf())\n}\n\n/**\n * Returns new array which is
a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyOfOf(): ULongArray {\n    return ULongArray(storage.copyOfOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOfOf(): UByteArray {\n    return UByteArray(storage.copyOfOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

UShortArray.copyOf(): UShortArray {
return UShortArray(storage.copyOf())
}\n\n/**
Returns new array which is a copy of the original array, resized to the given [newSize].
The copy is either truncated or padded at the end with zero values if necessary.
If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].
If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.copyOf(newSize: Int): UIntArray {  
return UIntArray(storage.copyOf(newSize))  
}\n\n/**  
Returns new array which is a copy of the original array, resized to the given [newSize].  
The copy is either truncated or padded at the end with zero values if necessary.  
If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].  
If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.copyOf(newSize: Int): ULongArray {  
return ULongArray(storage.copyOf(newSize))  
}\n\n/**  
Returns new array which is a copy of the original array, resized to the given [newSize].  
The copy is either truncated or padded at the end with zero values if necessary.  
If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].  
If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.copyOf(newSize: Int): UByteArray {  
return UByteArray(storage.copyOf(newSize))  
}\n\n/**  
Returns new array which is a copy of the original array, resized to the given [newSize].  
The copy is either truncated or padded at the end with zero values if necessary.  
If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].  
If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.copyOf(newSize: Int, fromIndex: Int, toIndex: Int): UShortArray {  
return UShortArray(storage.copyOfRange(newSize, fromIndex, toIndex))  
}\n\n/**  
Returns a new array which is a copy of the specified range of the original array.  
@param fromIndex the start of the range (inclusive) to copy.  
@param toIndex the end of the range (exclusive) to copy.  
@throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.copyOfRange(fromIndex: Int, toIndex: Int): UIntArray {  
return  
UIntArray(storage.copyOfRange(fromIndex, toIndex))  
}\n\n/**  
Returns a new array which is a copy of the specified range of the original array.  
@param fromIndex the start of the range (inclusive) to copy.  
@param toIndex the end of the range (exclusive) to copy.  
@throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
@throws  
IllegalArgumentException if [fromIndex] is greater than [toIndex].
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.copyOfRange(fromIndex: Int, toIndex: Int): ULongArray {  
return  
ULongArray(storage.copyOfRange(fromIndex, toIndex))  
}\n\n/**  
Returns a new array which is a copy of the specified range of the original array.  
@param fromIndex the start of the range (inclusive) to copy.  
@param toIndex the end of the range (exclusive) to copy.  
@throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
@throws  
IllegalArgumentException if [fromIndex] is greater than [toIndex].
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.copyOfRange(fromIndex: Int, toIndex: Int): UByteArray {  
return  
UByteArray(storage.copyOfRange(fromIndex, toIndex))  
}\n\n/**  
Returns a new array which is a copy of the specified range of the original array.  
@param fromIndex the start of the range (inclusive) to copy.  
@param toIndex the end of the range (exclusive) to copy.  
@throws IndexOutOfBoundsException if
```

```

[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyOfRange(fromIndex: Int, toIndex: Int): UShortArray {\n    return
UShortArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Fills this array or its subrange with the
specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n *
@param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.fill(element: UInt, fromIndex:
Int = 0, toIndex: Int = size): Unit {\n    storage.fill(element.toInt(), fromIndex, toIndex)\n}\n\n/**\n * Fills this array
or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to
fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n *
\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.fill(element: ULong,
fromIndex: Int = 0, toIndex: Int = size): Unit {\n    storage.fill(element.toLong(), fromIndex, toIndex)\n}\n\n/**\n *
Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.fill(element: UByte,
fromIndex: Int = 0, toIndex: Int = size): Unit {\n    storage.fill(element.toByte(), fromIndex, toIndex)\n}\n\n/**\n *
Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.fill(element: UShort,
fromIndex: Int = 0, toIndex: Int = size): Unit {\n    storage.fill(element.toShort(), fromIndex, toIndex)\n}\n\n/**\n *
Returns the range of valid indices for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UIntArray.indices: IntRange\n    get()
= storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val ULongArray.indices: IntRange\n
    get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UByteArray.indices: IntRange\n
    get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UShortArray.indices: IntRange\n
    get() = storage.indices\n\n/**\n * Returns the last valid index for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UIntArray.lastIndex: Int\n    get() =
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val ULongArray.lastIndex: Int\n    get() =
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UByteArray.lastIndex: Int\n    get() =
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UShortArray.lastIndex: Int\n    get() =
storage.lastIndex\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n * \n * @param element the element to append.\n * \n * @return an array containing all elements of the
original array and then the given [element].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UIntArray.plus(element: UInt): UIntArray {\n    return UIntArray(storage +

```



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element.toInt())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *^@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun ULongArray.plus(element: ULong): ULongArray {\n    return ULongArray(storage +
element.toLong())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *^@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UByteArray.plus(element: UByte): UByteArray {\n    return UByteArray(storage +
element.toByte())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *^@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UShortArray.plus(element: UShort): UShortArray {\n    return UShortArray(storage +
element.toShort())\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n *^@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun UIntArray.plus(elements: Collection<UInt>): UIntArray {\n    var index = size\n    val result =
storage.copyOfOf(size + elements.size)\n    for (element in elements) result[index++] = element.toInt()\n    return
UIntArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n *^@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun ULongArray.plus(elements: Collection<ULong>): ULongArray {\n    var index = size\n    val result =
storage.copyOfOf(size + elements.size)\n    for (element in elements) result[index++] = element.toLong()\n    return
ULongArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all
elements of the given [elements] collection.\n *^@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
operator fun UByteArray.plus(elements: Collection<UByte>): UByteArray {\n    var index = size\n    val result =
storage.copyOfOf(size + elements.size)\n    for (element in elements) result[index++] = element.toByte()\n    return
UByteArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n *^@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun UShortArray.plus(elements: Collection<UShort>): UShortArray {\n    var index = size\n    val result =
storage.copyOfOf(size + elements.size)\n    for (element in elements) result[index++] = element.toShort()\n    return
UShortArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all
elements of the given [elements] array.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.plus(elements: UIntArray): UIntArray {\n    return UIntArray(storage + elements.storage)\n}\n\n/**\n *
Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.plus(elements: ULongArray): ULongArray {\n    return ULongArray(storage +
elements.storage)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] array.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.plus(elements: UByteArray): UByteArray {\n    return UByteArray(storage +
elements.storage)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] array.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.plus(elements: UShortArray): UShortArray {\n    return UShortArray(storage +
elements.storage)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n *^@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UIntArray.sort(): Unit {\n    if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n *
@sample samples.collections.Arrays.Sorting.sortArray\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sort(): Unit {\n    if (size > 1)
sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n *^@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UByteArray.sort(): Unit {\n    if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n *

```

```

@sample samples.collections.Arrays.Sorting.sortArray\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sort(): Unit {\n    if (size > 1)\n        sortArray(this, 0, size)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the\n * range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array\n * by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater\n * than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sort(fromIndex: Int = 0, toIndex:\nInt = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this, fromIndex,\n    toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the\n * range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by\n * default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than\n * the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sort(fromIndex: Int = 0,\ntoIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this,\n    fromIndex, toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the\n * range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array\n * by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater\n * than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sort(fromIndex: Int = 0,\ntoIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this,\n    fromIndex, toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the\n * range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array\n * by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater\n * than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sort(fromIndex: Int = 0,\ntoIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this,\n    fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * \n * The elements are\n * sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive)\n * to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException\n * if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws\n * IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortDescending(fromIndex: Int,\ntoIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of\n * the array in the specified range in-place.\n * \n * The elements are sorted descending according to their natural sort\n * order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range\n * (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is\n * greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortDescending(fromIndex:\nInt, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements\n * of the array in the specified range in-place.\n * \n * The elements are sorted descending according to their natural sort\n * order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range\n * (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is\n * greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortDescending(fromIndex:

```

```

Int, toIndex: Int): Unit {
    sort(fromIndex, toIndex)
    reverse(fromIndex, toIndex)
}

/**
 * Sorts elements of the array in the specified range in-place.
 * The elements are sorted descending according to their natural sort order.
 * @param fromIndex the start of the range (inclusive) to sort.
 * @param toIndex the end of the range (exclusive) to sort.
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
public fun UShortArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {
    sort(fromIndex, toIndex)
    reverse(fromIndex, toIndex)
}

/**
 * Returns an array of type [ByteArray], which is a copy of this array where each element is a signed reinterpretation of the corresponding element of this array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun UByteArray.toByteArray(): ByteArray {
    return storage.copyOf()
}

/**
 * Returns an array of type [IntArray], which is a copy of this array where each element is a signed reinterpretation of the corresponding element of this array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun UIntArray.toIntArray(): IntArray {
    return storage.copyOf()
}

/**
 * Returns an array of type [LongArray], which is a copy of this array where each element is a signed reinterpretation of the corresponding element of this array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun ULongArray.toLongArray(): LongArray {
    return storage.copyOf()
}

/**
 * Returns an array of type [ShortArray], which is a copy of this array where each element is a signed reinterpretation of the corresponding element of this array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun UShortArray.toShortArray(): ShortArray {
    return storage.copyOf()
}

/**
 * Returns a *typed* object array containing all of the elements of this primitive array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UIntArray.toTypedArray(): Array<UInt> {
    return Array(size) { index -> this[index] }
}

/**
 * Returns a *typed* object array containing all of the elements of this primitive array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun ULongArray.toTypedArray(): Array<ULong> {
    return Array(size) { index -> this[index] }
}

/**
 * Returns a *typed* object array containing all of the elements of this primitive array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UByteArray.toTypedArray(): Array<UByte> {
    return Array(size) { index -> this[index] }
}

/**
 * Returns a *typed* object array containing all of the elements of this primitive array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UShortArray.toTypedArray(): Array<UShort> {
    return Array(size) { index -> this[index] }
}

/**
 * Returns an array of UByte containing all of the elements of this generic array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun Array<out UByte>.toUByteArray(): UByteArray {
    return UByteArray(size) { index -> this[index] }
}

/**
 * Returns an array of type [UByteArray], which is a copy of this array where each element is an unsigned reinterpretation of the corresponding element of this array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun ByteArray.toUByteArray(): UByteArray {
    return UByteArray(this.copyOf())
}

/**
 * Returns an array of UInt containing all of the elements of this generic array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun Array<out UInt>.toUIntArray(): UIntArray {
    return UIntArray(size) { index -> this[index] }
}

/**
 * Returns an array of type [UIntArray], which is a copy of this array where each element is an unsigned reinterpretation of the corresponding element of this array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun IntArray.toUIntArray(): UIntArray {
    return UIntArray(this.copyOf())
}

/**
 * Returns an array of ULong containing all of the elements of this generic array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun Array<out ULong>.toULongArray(): ULongArray {
    return ULongArray(size) { index -> this[index] }
}

/**
 * Returns an array of type

```

[UIntArray], which is a copy of this array where each element is an unsigned reinterpretation of the corresponding element of this array.

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
LongArray.toUIntArray(): UIntArray {\n    return UIntArray(this.copyOf())\n}\n\n/**\n * Returns an array  
of UShort containing all of the elements of this generic array.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out UShort>.toUShortArray():  
UShortArray {\n    return UShortArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type  
[UShortArray], which is a copy of this array where each element is an unsigned reinterpretation  
of the  
corresponding element of this array.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ShortArray.toUShortArray(): UShortArray {\n    return UShortArray(this.copyOf())\n}\n\n/**\n * Returns a [Map]  
where keys are elements from the given array and values are  
produced by the [valueSelector] function applied to  
each element.  
If any two elements are equal, the last one gets added to the map.  
The returned map  
preserves the entry iteration order of the original array.  
@sample  
samples.collections.Collections.Transformations.associateWith
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>  
UIntArray.associateWith(valueSelector: (UInt) -> V): Map<UInt, V> {\n    val result = LinkedHashMap<UInt,  
V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a  
[Map] where keys are elements from the given array and values are  
produced by the [valueSelector] function  
applied to each element.  
If any two elements are equal, the last one gets added to the map.  
The  
returned map preserves the entry iteration order of the original array.  
@sample  
samples.collections.Collections.Transformations.associateWith
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>  
UIntArray.associateWith(valueSelector: (ULong) -> V): Map<ULong, V> {\n    val result =  
LinkedHashMap<ULong, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,  
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are  
produced by the [valueSelector] function applied to each element.  
If any two elements are equal, the last one  
gets added to the map.  
The returned map preserves the entry iteration order of the original array.  
@sample  
samples.collections.Collections.Transformations.associateWith
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>  
UByteArray.associateWith(valueSelector: (UByte) -> V): Map<UByte, V> {\n    val result =  
LinkedHashMap<UByte, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,  
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are  
produced by the [valueSelector] function applied to each element.  
If any two elements are equal, the last one  
gets added to the map.  
The returned map preserves the entry iteration order of the original array.  
@sample  
samples.collections.Collections.Transformations.associateWith
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>  
UShortArray.associateWith(valueSelector: (UShort) -> V): Map<UShort, V> {\n    val result =  
LinkedHashMap<UShort, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,  
valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each  
element of the given array,  
where key is the element itself and value is provided by the [valueSelector] function  
applied to that key.  
If any two elements are equal, the last one overwrites the former value in the map.  
@sample  
samples.collections.Collections.Transformations.associateWithTo
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M :  
MutableMap<in UInt, in V>> UIntArray.associateWithTo(destination: M, valueSelector: (UInt) -> V): M {\n    for  
(element in this) {\n        destination.put(element, valueSelector(element))\n    }\n    return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,  
where key is the element itself and value is provided by the [valueSelector] function applied to that key.  
If
```

any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M :  

MutableMap<in ULong, in V>> ULongArray.associateWithTo(destination: M, valueSelector: (ULong) -> V): M  

{\n  for (element in this) {\n    destination.put(element, valueSelector(element))\n  }\n  return  

destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element  

of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied  

to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n *  

@sample samples.collections.Collections.Transformations.associateWithTo\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M :  

MutableMap<in UByte, in V>> UByteArray.associateWithTo(destination: M, valueSelector: (UByte) -> V): M {\n  

for (element in this) {\n  destination.put(element, valueSelector(element))\n }\n return  

destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element  

of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied  

to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n *  

@sample samples.collections.Collections.Transformations.associateWithTo\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M :  

MutableMap<in UShort, in V>> UShortArray.associateWithTo(destination: M, valueSelector: (UShort) -> V): M  

{\n  for (element in this) {\n    destination.put(element, valueSelector(element))\n  }\n  return  

destination\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being  

invoked on each element of original array.\n * \n * @sample  

samples.collections.Collections.Transformations.flatMap\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  

UIntArray.flatMap(transform: (UInt) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),  

transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being  

invoked on each element of original array.\n * \n * @sample  

samples.collections.Collections.Transformations.flatMap\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  

ULongArray.flatMap(transform: (ULong) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),  

transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being  

invoked on each element of original array.\n * \n * @sample  

samples.collections.Collections.Transformations.flatMap\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  

UByteArray.flatMap(transform: (UByte) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),  

transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being  

invoked on each element of original array.\n * \n * @sample  

samples.collections.Collections.Transformations.flatMap\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  

UShortArray.flatMap(transform: (UShort) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),  

transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being  

invoked on each element\n * and its index in the original array.\n * \n * @sample  

samples.collections.Collections.Transformations.flatMapIndexed\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  

ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  

UIntArray.flatMapIndexed(transform: (index: Int, UInt) -> Iterable<R>): List<R> {\n  return  

flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from  

results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *  

@sample samples.collections.Collections.Transformations.flatMapIndexed\n
```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.flatMapIndexed(transform: (index: Int, ULong) -> Iterable<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.flatMapIndexed(transform: (index: Int, UByte) -> Iterable<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.flatMapIndexed(transform: (index: Int, UShort) -> Iterable<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UIntArray.flatMapIndexedTo(destination: C, transform: (index: Int, UInt) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> ULongArray.flatMapIndexedTo(destination: C, transform: (index: Int, ULong) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UByteArray.flatMapIndexedTo(destination: C, transform: (index: Int, UByte) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UShortArray.flatMapIndexedTo(destination: C, transform: (index: Int, UShort) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UIntArray.flatMapTo(destination: C, transform: (UInt) -> Iterable<R>): C {\n    for
(element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return

```

```

destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> ULongArray.flatMapTo(destination: C, transform: (ULong) -> Iterable<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UByteArray.flatMapTo(destination: C, transform: (UByte) -> Iterable<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UShortArray.flatMapTo(destination: C, transform: (UShort) -> Iterable<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>
UIntArray.groupBy(keySelector: (UInt) -> K): Map<K, List<UInt>> {\n return groupByTo(LinkedHashMap<K,
MutableList<UInt>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>
ULongArray.groupBy(keySelector: (ULong) -> K): Map<K, List<ULong>> {\n return
groupByTo(LinkedHashMap<K, MutableList<ULong>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>
UByteArray.groupBy(keySelector: (UByte) -> K): Map<K, List<UByte>> {\n return
groupByTo(LinkedHashMap<K, MutableList<UByte>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>
UShortArray.groupBy(keySelector: (UShort) -> K): Map<K, List<UShort>> {\n return
groupByTo(LinkedHashMap<K, MutableList<UShort>>(), keySelector)\n}\n\n/**\n * Groups values returned by
the [valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of
corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>
UIntArray.groupBy(keySelector: (UInt) -> K, valueTransform: (UInt) -> V): Map<K, List<V>> {\n return

```

```

groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n *
by the key returned by the given [keySelector] function applied to the element\n * and
returns a map where each group key is associated with a list of corresponding values.\n *
\n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>
ULongArray.groupBy(keySelector: (ULong) -> K, valueTransform: (ULong) -> V): Map<K, List<V>> {\n
return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n *
by the key returned by the given [keySelector] function applied to the element\n * and
returns a map where each group key is associated with a list of corresponding values.\n *
\n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>
UByteArray.groupBy(keySelector: (UByte) -> K, valueTransform: (UByte) -> V): Map<K, List<V>> {\n
return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n *
by the key returned by the given [keySelector] function applied to the element\n * and
returns a map where each group key is associated with a list of corresponding values.\n *
\n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>
UShortArray.groupBy(keySelector: (UShort) -> K, valueTransform: (UShort) -> V): Map<K, List<V>> {\n
return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
of the original array by the key returned by the given [keySelector] function\n * applied to
each element and puts to the [destination] map each group key associated with a list of
corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UInt>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K): M {\n
for (element in this) {\n
val key = keySelector(element)\n
val list = destination.getOrPut(key) {
ArrayList<UInt>() }\n
list.add(element)\n
}\n
return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of
corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<ULong>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K):
M {\n
for (element in this) {\n
val key = keySelector(element)\n
val list = destination.getOrPut(key) {
ArrayList<ULong>() }\n
list.add(element)\n
}\n
return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of
corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UByte>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K):
M {\n
for (element in this) {\n
val key = keySelector(element)\n
val list = destination.getOrPut(key) {
ArrayList<UByte>() }\n
list.add(element)\n
}\n
return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of
corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n

```



```

[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UShort>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K):
M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) {
ArrayList<UShort>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups values returned by
the [valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K,
valueTransform: (UInt) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K,
valueTransform: (ULong) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list
= destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K,
valueTransform: (UByte) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list
= destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K,
valueTransform: (UShort) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list
= destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each
element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.map(transform: (UInt) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n *
Returns a list containing the results of applying the given [transform] function\n * to each element in the original
array.\n * \n * @sample samples.collections.Collections.Transformations.map\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.map(transform: (ULong) -> R): List<R> {\n return mapTo(ArrayList<R>(size),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each
element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>

```

```

UByteArray.map(transform: (UByte) -> R): List<R> {\n  return mapTo(ArrayList<R>(size),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each
element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n
*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.map(transform: (UShort) -> R): List<R> {\n  return mapTo(ArrayList<R>(size),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each
element and its index in the original array.\n * @param [transform] function that takes the index of an element and
the element itself\n * and returns the result of the transform applied to the element.\n
*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.mapIndexed(transform: (index: Int, UInt) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function
that takes the index of an element and the element itself\n * and returns the result of the transform applied to the
element.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun <R> ULongArray.mapIndexed(transform: (index: Int, ULong) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function
that takes the index of an element and the element itself\n * and returns the result of the transform applied to the
element.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun <R> UByteArray.mapIndexed(transform: (index: Int, UByte) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function
that takes the index of an element and the element itself\n * and returns the result of the transform applied to the
element.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun <R> UShortArray.mapIndexed(transform: (index: Int, UShort) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Applies the given [transform] function to each
element and its index in the original array\n * and appends the results to the given [destination].\n * @param
[transform] function that takes the index of an element and the element itself\n * and returns the result of the
transform applied to the element.\n
*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UIntArray.mapIndexedTo(destination: C, transform: (index: Int, UInt) -> R): C {\n  var
index = 0\n  for (item in this)\n    destination.add(transform(index++, item))\n  return destination\n}\n\n/**\n *
Applies the given [transform] function to each element and its index in the original array\n * and appends the results
to the given [destination].\n * @param [transform] function that takes the index of an element and the element
itself\n * and returns the result of the transform applied to the element.\n
*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> ULongArray.mapIndexedTo(destination: C, transform: (index: Int, ULong) -> R): C {\n  var
index = 0\n  for (item in this)\n    destination.add(transform(index++, item))\n  return
destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n
* and appends the results to the given [destination].\n * @param [transform] function that takes the index of an
element and the element itself\n * and returns the result of the transform applied to the element.\n
*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UByteArray.mapIndexedTo(destination: C, transform: (index: Int, UByte) -> R): C {\n  var
index = 0\n  for (item in this)\n    destination.add(transform(index++, item))\n  return
destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n
* and appends the results to the given [destination].\n * @param [transform] function that takes the index of an
element and the element itself\n * and returns the result of the transform applied to the element.\n
*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :

```

```

MutableCollection<in R>> UShortArray.mapIndexedTo(destination: C, transform: (index: Int, UShort) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}

```

* Applies the given [transform] function to each element of the original array * and appends the results to the given [destination].

```

* @SinceKotlin("1.3") @ExperimentalUnsignedTypes @kotlin.internal.InlineOnly public inline fun <R, C :
MutableCollection<in R>> UIntArray.mapTo(destination: C, transform: (UInt) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

* Applies the given [transform] function to each element of the original array * and appends the results to the given [destination].

```

* @SinceKotlin("1.3") @ExperimentalUnsignedTypes @kotlin.internal.InlineOnly public inline fun <R, C :
MutableCollection<in R>> ULongArray.mapTo(destination: C, transform: (ULong) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

* Applies the given [transform] function to each element of the original array * and appends the results to the given [destination].

```

* @SinceKotlin("1.3") @ExperimentalUnsignedTypes @kotlin.internal.InlineOnly public inline fun <R, C :
MutableCollection<in R>> UByteArray.mapTo(destination: C, transform: (UByte) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

* Applies the given [transform] function to each element of the original array * and appends the results to the given [destination].

```

* @SinceKotlin("1.3") @ExperimentalUnsignedTypes @kotlin.internal.InlineOnly public inline fun <R, C :
MutableCollection<in R>> UShortArray.mapTo(destination: C, transform: (UShort) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

* Returns a lazy [Iterable] that wraps each element of the original array * into an [IndexedValue] containing the index of that element and the element itself.

```

* @SinceKotlin("1.3") @ExperimentalUnsignedTypes public fun UIntArray.withIndex():
Iterable<IndexedValue<UInt>> {
    return IndexingIterable { iterator() }
}

```

* Returns a lazy [Iterable] that wraps each element of the original array * into an [IndexedValue] containing the index of that element and the element itself.

```

* @SinceKotlin("1.3") @ExperimentalUnsignedTypes public fun ULongArray.withIndex():
Iterable<IndexedValue<ULong>> {
    return IndexingIterable { iterator() }
}

```

* Returns a lazy [Iterable] that wraps each element of the original array * into an [IndexedValue] containing the index of that element and the element itself.

```

* @SinceKotlin("1.3") @ExperimentalUnsignedTypes public fun UByteArray.withIndex():
Iterable<IndexedValue<UByte>> {
    return IndexingIterable { iterator() }
}

```

* Returns a lazy [Iterable] that wraps each element of the original array * into an [IndexedValue] containing the index of that element and the element itself.

```

* @SinceKotlin("1.3") @ExperimentalUnsignedTypes public fun UShortArray.withIndex():
Iterable<IndexedValue<UShort>> {
    return IndexingIterable { iterator() }
}

```

* Returns `true` if all elements match the given [predicate].

```

* @sample samples.collections.Collections.Aggregates.all
* @SinceKotlin("1.3") @ExperimentalUnsignedTypes @kotlin.internal.InlineOnly public inline fun
UIntArray.all(predicate: (UInt) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

* Returns `true` if all elements match the given [predicate].

```

* @sample samples.collections.Collections.Aggregates.all
* @SinceKotlin("1.3") @ExperimentalUnsignedTypes @kotlin.internal.InlineOnly public inline fun
ULongArray.all(predicate: (ULong) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

* Returns `true` if all elements match the given [predicate].

```

* @sample samples.collections.Collections.Aggregates.all
* @SinceKotlin("1.3") @ExperimentalUnsignedTypes @kotlin.internal.InlineOnly public inline fun
UByteArray.all(predicate: (UByte) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

* Returns `true` if all elements match the given [predicate].

```

* @sample samples.collections.Collections.Aggregates.all
* @SinceKotlin("1.3") @ExperimentalUnsignedTypes @kotlin.internal.InlineOnly public inline fun
UShortArray.all(predicate: (UShort) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

* Returns `true` if array has at least one element.

```

* @sample samples.collections.Collections.Aggregates.any

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one
element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one
element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if at least one element matches
the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.any(predicate: (UInt) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return true\n
return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.any(predicate: (ULong) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
true\n    return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n *
@sample samples.collections.Collections.Aggregates.anyWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.any(predicate: (UByte) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
true\n    return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n *
@sample samples.collections.Collections.Aggregates.anyWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.any(predicate: (UShort) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
true\n    return false\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.count(predicate: (UInt) -> Boolean): Int {\n    var count = 0\n    for (element in this) if
(predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n * \n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.count(predicate: (ULong) -> Boolean): Int {\n    var count = 0\n    for (element in this) if
(predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n * \n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.count(predicate: (UByte) -> Boolean): Int {\n    var count = 0\n    for (element in this) if
(predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n * \n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.count(predicate: (UShort) -> Boolean): Int {\n    var count = 0\n    for (element in this) if
(predicate(element)) ++count\n    return count\n}\n\n/**\n * Accumulates value starting with [initial] value and
applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator
value and an element, and calculates the next accumulator value.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.fold(initial: R, operation: (acc: R, UInt) -> R): R {\n    var accumulator = initial\n    for (element in this)
accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n

```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
ULongArray.fold(initial: R, operation: (acc: R, ULong) -> R): R {\n    var accumulator = initial\n    for (element in  
this) accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value  
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each  
element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that  
takes current accumulator value and an element, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
UByteArray.fold(initial: R, operation: (acc: R, UByte) -> R): R {\n    var accumulator = initial\n    for (element in  
this) accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value  
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each  
element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that  
takes current accumulator value and an element, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
UShortArray.fold(initial: R, operation: (acc: R, UShort) -> R): R {\n    var accumulator = initial\n    for (element in  
this) accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value  
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each  
element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element  
itself, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
UIntArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): R {\n    var index = 0\n    var  
accumulator = initial\n    for (element in this) accumulator = operation(index++, accumulator, element)\n    return  
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to  
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the  
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an  
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
ULongArray.foldIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): R {\n    var index = 0\n    var  
accumulator = initial\n    for (element in this) accumulator = operation(index++, accumulator, element)\n    return  
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to  
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the  
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an  
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
UByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): R {\n    var index = 0\n    var  
accumulator = initial\n    for (element in this) accumulator = operation(index++, accumulator, element)\n    return  
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to  
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the  
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an  
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
UShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): R {\n    var index = 0\n    var  
accumulator = initial\n    for (element in this) accumulator = operation(index++, accumulator, element)\n    return  
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to  
left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is  
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the  
next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
```

UIntArray.foldRight(initial: R, operation: (UInt, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}

Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.
Returns the specified [initial] value if the array is empty.
@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R> ULongArray.foldRight(initial: R, operation: (ULong, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}

Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.
Returns the specified [initial] value if the array is empty.
@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R> UByteArray.foldRight(initial: R, operation: (UByte, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}

Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.
Returns the specified [initial] value if the array is empty.
@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R> UShortArray.foldRight(initial: R, operation: (UShort, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
Returns the specified [initial] value if the array is empty.
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R> UIntArray.foldRightIndexed(initial: R, operation: (index: Int, UInt, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(index, get(index), accumulator)
 --index
 }
 return accumulator
}

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
Returns the specified [initial] value if the array is empty.
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R> ULongArray.foldRightIndexed(initial: R, operation: (index: Int, ULong, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(index, get(index), accumulator)
 --index
 }
 return accumulator
}

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
Returns the specified [initial] value if the array is empty.
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R> UByteArray.foldRightIndexed(initial: R, operation: (index: Int, UByte, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(index, get(index), accumulator)
 --index
 }
 return accumulator
}

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
Returns the specified [initial] value if the array is empty.
@param [operation]

function that takes the index of an element, the element itself `\n *` and current accumulator value, and calculates the next accumulator value.`\n`

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
UShortArray.foldRightIndexed(initial: R, operation: (index: Int, UShort, acc: R) -> R): R {\n    var index =  
lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index),  
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Performs the given [action] on each  
element.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline  
fun UIntArray.forEach(action: (UInt) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.forEach(action: (ULong) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.forEach(action: (UByte) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.forEach(action: (UShort) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action]  
function that takes the index of an element and the element itself \n * and performs the action on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.forEachIndexed(action: (index: Int, UInt) -> Unit): Unit {\n    var index = 0\n    for (item in this)  
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with  
the element.\n * @param [action] function that takes the index of an element and the element itself \n * and performs  
the action on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.forEachIndexed(action: (index: Int, ULong) -> Unit): Unit {\n    var index = 0\n    for (item in this)  
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with  
the element.\n * @param [action] function that takes the index of an element and the element itself \n * and performs  
the action on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.forEachIndexed(action: (index: Int, UByte) -> Unit): Unit {\n    var index = 0\n    for (item in this)  
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with  
the element.\n * @param [action] function that takes the index of an element and the element itself \n * and performs  
the action on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.forEachIndexed(action: (index: Int, UShort) -> Unit): Unit {\n    var index = 0\n    for (item in this)  
action(index++, item)\n}\n\n@Deprecated("Use maxOrNull instead.")  
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",  
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.max():  
UInt? {\n    return maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.")  
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",  
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.max():  
ULong? {\n    return maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.")  
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",  
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.max():  
UByte? {\n    return maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.")  
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",  
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.max():
```

```

UShort? {\n    return maxOrNull()\n}\n\n@Deprecated("Use maxByOrNull instead."),
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UIntArray.maxBy(selector: (UInt) -> R): UInt? {\n    return
maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead."),
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> ULongArray.maxBy(selector: (ULong) -> R): ULong? {\n    return
maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead."),
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UByteArray.maxBy(selector: (UByte) -> R): UByte? {\n    return
maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead."),
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UShortArray.maxBy(selector: (UShort) -> R): UShort? {\n    return
maxByOrNull(selector)\n}\n\n**\n * Returns the first element yielding the largest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.maxByOrNull(selector: (UInt) -> R): UInt? {\n    if (isEmpty()) return null\n    var
maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue =
selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v)
{\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.maxByOrNull(selector: (ULong) -> R): ULong? {\n    if (isEmpty()) return null\n    var
maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue =
selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v)
{\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UByteArray.maxByOrNull(selector: (UByte) -> R): UByte? {\n    if (isEmpty()) return null\n    var
maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue =
selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v)
{\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UShortArray.maxByOrNull(selector: (UShort) -> R): UShort? {\n    if (isEmpty()) return null\n    var
maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue =
selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v)
{\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n**\n * Returns the largest

```


value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.maxOf(selector: (UInt) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.maxOf(selector: (ULong) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.maxOf(selector: (UByte) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.maxOf(selector: (UShort) -> Double): Double {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.maxOf(selector: (UInt) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.maxOf(selector: (ULong) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

ByteArray.maxOf(selector: (UByte) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var
    maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue =
        maxOf(maxValue, v)
    }
    return maxValue
}
/**
 * Returns the largest value among all values produced
 * by [selector] function
 * applied to each element in the array.
 * If any of values produced by [selector]
 * function is `NaN`, the returned result is `NaN`.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.maxOf(selector: (UShort) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var
    maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue =
        maxOf(maxValue, v)
    }
    return maxValue
}
/**
 * Returns the largest value among all values produced
 * by [selector] function
 * applied to each element in the array.
 * @throws NoSuchElementException if the
 * array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R :
Comparable<R>> UIntArray.maxOf(selector: (UInt) -> R): R {
    if (isEmpty()) throw
    NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v =
        selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue
}
/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the
 * array.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R :
Comparable<R>> ULongArray.maxOf(selector: (ULong) -> R): R {
    if (isEmpty()) throw
    NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v =
        selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue
}
/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the
 * array.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R :
Comparable<R>> UByteArray.maxOf(selector: (UByte) -> R): R {
    if (isEmpty()) throw
    NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v =
        selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue
}
/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the
 * array.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R :
Comparable<R>> UShortArray.maxOf(selector: (UShort) -> R): R {
    if (isEmpty()) throw
    NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v =
        selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue
}
/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the array
 * or `null` if there are no elements.
 * If any of values produced by [selector] function is `NaN`, the returned
 * result is `NaN`.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.maxOfOrNull(selector: (UInt) -> Double): Double? {
    if (isEmpty()) return null
    var maxValue =
    selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}
/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the array or `null` if there are no elements.
 * If any of values produced by [selector]
 * function is `NaN`, the returned result is `NaN`.
 */

```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.maxOfOrNull(selector: (ULong) -> Double): Double? {\n    if (isEmpty()) return null\n    var\n    maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =\n        maxOf(maxValue, v)\n    }\n    return maxValue\n}\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of\n * values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.maxOfOrNull(selector: (UByte) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue\n    = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue,\n        v)\n    }\n    return maxValue\n}\n/**\n * Returns the largest value among all values produced by [selector]\n * function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced\n * by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.maxOfOrNull(selector: (UShort) -> Double): Double? {\n    if (isEmpty()) return null\n    var\n    maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =\n        maxOf(maxValue, v)\n    }\n    return maxValue\n}\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of\n * values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntArray.maxOfOrNull(selector: (UInt) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector]\n * function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.maxOfOrNull(selector: (ULong) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector]\n * function is `NaN`, the returned result is `NaN`.\n
```

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.maxOfOrNull(selector: (UByte) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector]\n * function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.maxOfOrNull(selector: (UShort) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.maxOfOrNull(selector: (UInt) -> R): R? {\n if (isEmpty()) return null\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.maxOfOrNull(selector: (ULong) -> R): R? {\n if (isEmpty()) return null\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UByteArray.maxOfOrNull(selector: (UByte) -> R): R? {\n if (isEmpty()) return null\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UShortArray.maxOfOrNull(selector: (UShort) -> R): R? {\n if (isEmpty()) return null\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the
provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n *
*\n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.maxOfWith(comparator: Comparator<in R>, selector: (UInt) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.maxOfWith(comparator: Comparator<in R>, selector: (ULong) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
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UByteArray.maxOfWith(comparator: Comparator<in R>, selector: (UByte) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return
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the array is empty.\n

```

the array is empty.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUShortArray.maxOfWith(comparator: Comparator<in R>, selector: (UShort) -> R): R {\n    if (isEmpty()) throw\n    NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =\n        selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return\n    maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values\n * produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUIntArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UInt) -> R): R? {\n    if (isEmpty()) return\n    null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]\n * function applied to each element in the array or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nULongArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (ULong) -> R): R? {\n    if (isEmpty())\n    return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]\n * function applied to each element in the array or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUByteArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UByte) -> R): R? {\n    if (isEmpty())\n    return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]\n * function applied to each element in the array or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUShortArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UShort) -> R): R? {\n    if (isEmpty())\n    return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxOrNull(): UInt? {\n    if\n    (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max\n        = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.maxOrNull(): ULong? {\n    if\n    (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max\n        = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.maxOrNull(): UByte? {\n    if\n    (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max\n        = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.maxOrNull(): UShort? {\n    if\n    (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max\n        = e\n    }\n    return max\n}\n\n@Deprecated("Use maxWithOrNull instead.",
```

```
ReplaceWith("this.maxWithOrNull(comparator)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
```

```

= \"1.5\", hiddenSince = \"1.6\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.maxWith(comparator: Comparator<in UInt>): UInt? {\n  return
maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\",
ReplaceWith(\"this.maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince
= \"1.5\", hiddenSince = \"1.6\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.maxWith(comparator: Comparator<in ULong>): ULong? {\n  return
maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\",
ReplaceWith(\"this.maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince
= \"1.5\", hiddenSince = \"1.6\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.maxWith(comparator: Comparator<in UByte>): UByte? {\n  return
maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\",
ReplaceWith(\"this.maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince
= \"1.5\", hiddenSince = \"1.6\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.maxWith(comparator: Comparator<in UShort>): UShort? {\n  return
maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the
provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxWithOrNull(comparator:
Comparator<in UInt>): UInt? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the
first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.maxWithOrNull(comparator:
Comparator<in ULong>): ULong? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the
first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.maxWithOrNull(comparator:
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val e = this[i]\n    if (comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the
first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.maxWithOrNull(comparator:
Comparator<in UShort>): UShort? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (comparator.compare(max, e) < 0) max = e\n  }\n  return
max\n}\n}\n\n@Deprecated(\"Use minOrNull instead.\",
ReplaceWith(\"this.minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.5\",
hiddenSince = \"1.6\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.min(): UInt?
{\n  return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\",
ReplaceWith(\"this.minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.5\",
hiddenSince = \"1.6\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.min():
ULong? {\n  return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\",
ReplaceWith(\"this.minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.5\",
hiddenSince = \"1.6\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.min():
UByte? {\n  return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\",
ReplaceWith(\"this.minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.5\",
hiddenSince = \"1.6\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.min():
UShort? {\n  return minOrNull()\n}\n\n@Deprecated(\"Use minByOrNull instead.\",
ReplaceWith(\"this.minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince =
\"1.5\", hiddenSince =
\"1.6\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UIntArray.minBy(selector: (UInt) -> R): UInt? {\n  return

```

```

minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.\",
ReplaceWith("this.minByOrNull(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince =
\"1.5\", hiddenSince =
\"1.6\")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> ULongArray.minBy(selector: (ULong) -> R): ULong? {\n    return
minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.\",
ReplaceWith("this.minByOrNull(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince =
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\"1.6\")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
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\"1.6\")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UShortArray.minBy(selector: (UShort) -> R): UShort? {\n    return
minByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.minByOrNull(selector: (UInt) -> R): UInt? {\n    if (isEmpty()) return null\n    var
minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.minByOrNull(selector: (ULong) -> R): ULong? {\n    if (isEmpty()) return null\n
var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
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{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the smallest
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values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

UIntArray.minOf(selector: (UInt) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue =
            minOf(minValue, v)
    }
    return minValue
}

```

* Returns the smallest value among all values produced by [selector] function * applied to each element in the array. * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`. * @throws NoSuchElementException if the array is empty.

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ULongArray.minOf(selector: (ULong) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue =
            minOf(minValue, v)
    }
    return minValue
}

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UByteArray.minOf(selector: (UByte) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
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}

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```

UShortArray.minOf(selector: (UShort) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue =
            minOf(minValue, v)
    }
    return minValue
}

```

* Returns the smallest value among all values produced by [selector] function * applied to each element in the array. * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`. * @throws NoSuchElementException if the array is empty.

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```

UIntArray.minOf(selector: (UInt) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue =
            minOf(minValue, v)
    }
    return minValue
}

```

* Returns the smallest value among all values produced by [selector] function * applied to each element in the array. * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`. * @throws NoSuchElementException if the array is empty.

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```

ULongArray.minOf(selector: (ULong) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue =
            minOf(minValue, v)
    }
    return minValue
}

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```

UByteArray.minOf(selector: (UByte) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue =
            minOf(minValue, v)
    }
    return minValue
}

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* Returns the smallest value among all values produced by [selector] function * applied to each element in the array. * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`. * @throws NoSuchElementException if the array is empty.

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution


```

ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.minOf(selector: (UShort) -> Float): Float {\n  if (isEmpty()) throw NoSuchElementException()\n
var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue =
minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the
array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.minOf(selector: (UInt) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (minValue > v) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.minOf(selector: (ULong) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (minValue > v) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
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selector(this[i])\n    if (minValue > v) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UShortArray.minOf(selector: (UShort) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (minValue > v) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array
or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n
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UIntArray.minOfOrNull(selector: (UInt) -> Double): Double? {\n  if (isEmpty()) return null\n  var minValue =
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```

```

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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.minOfOrNull(selector: (UShort) -> Double): Double? {\n if (isEmpty()) return null\n var minValue
= selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n
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```

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UIntArray.minOfWith(comparator: Comparator<in R>, selector: (UInt) -> R): R {\n  if (isEmpty()) throw
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selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.minOfWith(comparator: Comparator<in R>, selector: (UShort) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n

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minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UInt) -> R): R? {\n if (isEmpty()) return
null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (ULong) -> R): R? {\n if (isEmpty())
return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UByte) -> R): R? {\n if (isEmpty())
return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UShort) -> R): R? {\n if (isEmpty())
return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.minOrNull(): UInt? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min =
e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.minOrNull(): ULong? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min =
e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.minOrNull(): UByte? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min =
e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minOrNull(): UShort? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min =
e\n }\n return min\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.minWith(comparator: Comparator<in UInt>): UInt? {\n return
minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.minWith(comparator: Comparator<in ULong>): ULong? {\n return

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minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.",
ReplaceWith("this.minWithOrNull(comparator)")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.minWith(comparator: Comparator<in UByte>): UByte? {\n    return
minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.",
ReplaceWith("this.minWithOrNull(comparator)")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.minWith(comparator: Comparator<in UShort>): UShort? {\n    return
minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to the
provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.minWithOrNull(comparator:
Comparator<in UInt>): UInt? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n
val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.minWithOrNull(comparator:
Comparator<in ULong>): ULong? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n
val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the
first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.minWithOrNull(comparator:
Comparator<in UByte>): UByte? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n
val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the
first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minWithOrNull(comparator:
Comparator<in UShort>): UShort? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n
val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns
`true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if no elements match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(predicate: (UInt) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
false\n    return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(predicate: (ULong) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
false\n    return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.none(predicate: (UByte) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return

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false\n    return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.none(predicate: (UShort) -> Boolean): Boolean {\n    for (element in this) if (predicate(element))
return false\n    return true\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.onEach(action: (UInt) -> Unit): UIntArray {\n    return apply { for (element in this)
action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.onEach(action: (ULong) -> Unit): ULongArray {\n    return apply { for (element in this)
action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.onEach(action: (UByte) -> Unit): UByteArray {\n    return apply { for (element in this)
action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.onEach(action: (UShort) -> Unit): UShortArray {\n    return apply { for (element in this)
action(element) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the
element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element
and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.onEachIndexed(action: (index: Int, UInt) -> Unit): UIntArray {\n    return apply {
forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.onEachIndexed(action: (index: Int, ULong) -> Unit): ULongArray {\n    return apply {
forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.onEachIndexed(action: (index: Int, UByte) -> Unit): UByteArray {\n    return apply {
forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.onEachIndexed(action: (index: Int, UShort) -> Unit): UShortArray {\n    return apply {
forEachIndexed(action) }\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]
from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and
calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduce(operation: (acc: UInt, UInt) -> UInt): UInt {\n    if (isEmpty())\n        throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in
1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n *

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@param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduce(operation: (acc: ULong, ULong) -> ULong): ULong {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduce(operation: (acc: UByte, UByte) -> UByte): UByte {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduce(operation: (acc: UShort, UShort) -> UShort): UShort {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null`
when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): UInt {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull]
instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): ULong {\n if (isEmpty())\n
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for
(index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull]
instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an

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element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): UByte {\n if (isEmpty())\n
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for
(index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull]
instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceIndexed(operation: (index: Int, acc: UShort, UShort) -> UShort): UShort {\n if (isEmpty())\n
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for
(index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns `null` if
the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator
value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceIndexedOrNull(operation: (index: Int, acc: UInt, UInt) -> UInt): UInt? {\n if (isEmpty())\n
return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index,
accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first
element and applying [operation] from left to right\n * to current accumulator value and each element with its index
in the original array.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceIndexedOrNull(operation: (index: Int, acc: ULong, ULong) -> ULong): ULong? {\n if
(isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator =
operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each element
with its index in the original array.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceIndexedOrNull(operation: (index: Int, acc: UByte, UByte) -> UByte): UByte? {\n if
(isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator =
operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each element
with its index in the original array.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceIndexedOrNull(operation: (index: Int, acc: UShort, UShort) -> UShort): UShort? {\n if
(isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator =

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operation(index, accumulator, this[index])\n } \n return accumulator\n}\n\n/**\n * Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each
element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current
accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reduceOrNull(operation: (acc: UInt, UInt) -> UInt): UInt?
{\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n
accumulator = operation(accumulator, this[index])\n } \n return accumulator\n}\n\n/**\n * Accumulates value
starting with the first element and applying [operation] from left to right\n * to current accumulator value and each
element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current
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samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reduceOrNull(operation: (acc: ULong, ULong) ->
ULong): ULong? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex)
{\n accumulator = operation(accumulator, this[index])\n } \n return accumulator\n}\n\n/**\n * Accumulates
value starting with the first element and applying [operation] from left to right\n * to current accumulator value and
each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current
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samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reduceOrNull(operation: (acc: UByte, UByte) ->
UByte): UByte? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex)
{\n accumulator = operation(accumulator, this[index])\n } \n return accumulator\n}\n\n/**\n * Accumulates
value starting with the first element and applying [operation] from left to right\n * to current accumulator value and
each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current
accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceOrNull(operation: (acc: UShort, UShort) ->
UShort): UShort? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex)
{\n accumulator = operation(accumulator, this[index])\n } \n return accumulator\n}\n\n/**\n * Accumulates
value starting with the last element and applying [operation] from right to left\n * to each element and current
accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected
way,\n * please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param
[operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceRight(operation: (UInt, acc: UInt) -> UInt): UInt {\n var index = lastIndex\n if (index < 0)
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n
while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n } \n return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceRight(operation: (ULong, acc: ULong) -> ULong): ULong {\n    var index = lastIndex\n    if
(index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator =
get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceRight(operation: (UByte, acc: UByte) -> UByte): UByte {\n    var index = lastIndex\n    if (index
< 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = get(index--)\n
while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceRight(operation: (UShort, acc: UShort) -> UShort): UShort {\n    var index = lastIndex\n    if
(index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator =
get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use
[reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation]
function that takes the index of an element, the element itself and current accumulator value,\n * and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceRightIndexed(operation: (index: Int, UInt, acc: UInt) -> UInt): UInt {\n    var index = lastIndex\n
if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator =
get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n
    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation]
from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n *
Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use
[reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation]
function that takes the index of an element, the element itself and current accumulator value,\n * and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceRightIndexed(operation: (index: Int, ULong, acc: ULong) -> ULong): ULong {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n
*\n

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* @param [operation] function that takes the index of an element, the element itself and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceRightIndexed(operation: (index: Int, UByte, acc: UByte) -> UByte): UByte {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n
* @param [operation] function that takes the index of an element, the element itself and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceRightIndexed(operation: (index: Int, UShort, acc: UShort) -> UShort): UShort {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that
takes the index of an element, the element itself and current accumulator value,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceRightIndexedOrNull(operation: (index: Int, UInt, acc: UInt) -> UInt): UInt? {\n    var index =
lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
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ULongArray.reduceRightIndexedOrNull(operation: (index: Int, ULong, acc: ULong) -> ULong): ULong? {\n    var
index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
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* @param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
* and calculates the next accumulator value.\n * \n * @sample

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* and calculates the next accumulator value.\n * \n * @sample
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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reduceRightOrNull(operation: (UInt, acc: UInt) -> UInt):
UInt? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index
>= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that
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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reduceRightOrNull(operation: (ULong, acc: ULong) ->
ULong): ULong? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n
while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param
[operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator
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UByte): UByte? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n
while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
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left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param
[operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator
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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceRightOrNull(operation: (UShort, acc: UShort) ->
UShort): UShort? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n
while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n
* Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an
element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.runningFold(initial: R, operation: (acc: R, UInt) -> R): List<R> {\n  if (isEmpty()) return
listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for
(element in this) {\n    accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n
}

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return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nULongArray.runningFold(initial: R, operation: (acc: R, ULong) -> R): List<R> {\n    if (isEmpty()) return\n    listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for\n    (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUByteArray.runningFold(initial: R, operation: (acc: R, UByte) -> R): List<R> {\n    if (isEmpty()) return\n    listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for\n    (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUShortArray.runningFold(initial: R, operation: (acc: R, UShort) -> R): List<R> {\n    if (isEmpty()) return\n    listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for\n    (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUIntArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): List<R> {\n    if (isEmpty())\n    return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for\n    (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nULongArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): List<R> {\n    if
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(isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator =
initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): List<R> {\n    if
(isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator =
initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): List<R> {\n    if
(isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator =
initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be
mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.runningReduce(operation: (acc: UInt, UInt) -> UInt): List<UInt> {\n    if (isEmpty()) return
emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<UInt>(size).apply { add(accumulator) }\n    for
(index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n
    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with the first element of
this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.runningReduce(operation: (acc: ULong, ULong) -> ULong): List<ULong> {\n    if (isEmpty()) return
emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<ULong>(size).apply { add(accumulator) }\n    for
(index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n
    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with the first element of
this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.runningReduce(operation: (acc: UByte, UByte) -> UByte): List<UByte> {\n if (isEmpty()) return
emptyList()\n var accumulator = this[0]\n val result = ArrayList<UByte>(size).apply { add(accumulator) }\n
for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n
}\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with the first element of
this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.runningReduce(operation: (acc: UShort, UShort) -> UShort): List<UShort> {\n if (isEmpty()) return
emptyList()\n var accumulator = this[0]\n val result = ArrayList<UShort>(size).apply { add(accumulator) }\n
for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n
}\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be
mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.runningReduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): List<UInt> {\n if (isEmpty())
return emptyList()\n var accumulator = this[0]\n val result = ArrayList<UInt>(size).apply { add(accumulator)
}\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.runningReduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): List<ULong> {\n if
(isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<ULong>(size).apply {
add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.runningReduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): List<UByte> {\n if
(isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<UByte>(size).apply {
add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and

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current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.runningReduceIndexed(operation: (index: Int, acc: UShort, UShort) -> UShort): List<UShort> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<UShort>(size).apply {\n        add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
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```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.scan(initial: R, operation: (acc: R, UInt) -> R): List<R> {\n    return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
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```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.scan(initial: R, operation: (acc: R, ULong) -> R): List<R> {\n    return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.scan(initial: R, operation: (acc: R, UByte) -> R): List<R> {\n    return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.scan(initial: R, operation: (acc: R, UShort) -> R): List<R> {\n    return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
```



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@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.scanIndexed(initial: R, operation: (index: Int, acc: R,
UInt) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing
successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in
the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed
to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n *
\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.scanIndexed(initial: R, operation: (index: Int, acc:
R, ULong) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element,
its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc`
value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in
resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n *
and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.scanIndexed(initial: R, operation: (index: Int, acc:
R, UByte) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing
successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in
the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed
to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n *
\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.scanIndexed(initial: R, operation: (index: Int, acc:
R, UShort) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n * \n * Use sumOf
instead.\n * ReplaceWith("this.sumOf(selector)")\n * @DeprecatedSinceKotlin(warningSince =
"1.5")\n * @SinceKotlin("1.3")\n * @ExperimentalUnsignedTypes\n * @kotlin.internal.InlineOnly\n * public inline fun
UIntArray.sumBy(selector: (UInt) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n * \n * Use sumOf instead.\n * ReplaceWith("this.sumOf(selector)")\n * @DeprecatedSinceKotlin(warningSince =
"1.5")\n * @SinceKotlin("1.3")\n * @ExperimentalUnsignedTypes\n * @kotlin.internal.InlineOnly\n * public inline fun
ULongArray.sumBy(selector: (ULong) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum
+= selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n * \n * Use sumOf instead.\n * ReplaceWith("this.sumOf(selector)")\n * @DeprecatedSinceKotlin(warningSince =
"1.5")\n * @SinceKotlin("1.3")\n * @ExperimentalUnsignedTypes\n * @kotlin.internal.InlineOnly\n * public inline fun
UByteArray.sumBy(selector: (UByte) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum
+= selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n * \n * Use sumOf instead.\n * ReplaceWith("this.sumOf(selector)")\n * @DeprecatedSinceKotlin(warningSince =
"1.5")\n * @SinceKotlin("1.3")\n * @ExperimentalUnsignedTypes\n * @kotlin.internal.InlineOnly\n * public inline fun
UShortArray.sumBy(selector: (UShort) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n

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sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.sumByDouble(selector: (UInt) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.sumByDouble(selector: (ULong) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.sumByDouble(selector: (UByte) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.sumByDouble(selector: (UShort) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfDouble")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumOf(selector:
(UInt) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfDouble")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector:
(ULong) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfDouble")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumOf(selector:
(UByte) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfDouble")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumOf(selector:
(UShort) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfInt")\n

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@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumOf(selector: (UInt) -
> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfInt")\n
@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector:
(ULong) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfInt")\n
@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumOf(selector:
(UByte) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfInt")\n
@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumOf(selector:
(UShort) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")
\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumOf(selector: (UInt)
-> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n    sum += selector(element)\n  }\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")
\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector:
(ULong) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")
\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumOf(selector:
(UByte) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")
\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumOf(selector:
(UShort) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n

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n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline
Only\npublic inline fun UIntArray.sumOf(selector: (UInt) -> UInt): UInt {\n    var sum: UInt = 0.toUInt()\n    for
(element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n
n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline
Only\npublic inline fun ULongArray.sumOf(selector: (ULong) -> UInt): UInt {\n    var sum: UInt = 0.toUInt()\n
for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n
n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline
Only\npublic inline fun UByteArray.sumOf(selector: (UByte) -> UInt): UInt {\n    var sum: UInt = 0.toUInt()\n
for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n
n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline
Only\npublic inline fun UShortArray.sumOf(selector: (UShort) -> UInt): UInt {\n    var sum: UInt = 0.toUInt()\n
for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong\
")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inli
neOnly\npublic inline fun UIntArray.sumOf(selector: (UInt) -> ULong): ULong {\n    var sum: ULong =
0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns
the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong\
")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inli
neOnly\npublic inline fun ULongArray.sumOf(selector: (ULong) -> ULong): ULong {\n    var sum: ULong =
0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns
the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong\
")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inli
neOnly\npublic inline fun UByteArray.sumOf(selector: (UByte) -> ULong): ULong {\n    var sum: ULong =
0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns
the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong\
")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inli
neOnly\npublic inline fun UShortArray.sumOf(selector: (UShort) -> ULong): ULong {\n    var sum: ULong =
0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns a
list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has
length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other: Array<out

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R>): List<Pair<UInt, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other:
Array<out R>): List<Pair<ULong, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has
length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other: Array<out
R>): List<Pair<UByte, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other:
Array<out R>): List<Pair<UShort, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
values built from the elements of `this` array and the [other] array with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n *
\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UIntArray.zip(other: Array<out R>, transform: (a: UInt, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
ULongArray.zip(other: Array<out R>, transform: (a: ULong, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UByteArray.zip(other: Array<out R>, transform: (a: UByte, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UShortArray.zip(other: Array<out R>, transform: (a: UShort, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with
the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other:
Iterable<R>): List<Pair<UInt, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other:

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Iterable<R>): List<Pair<ULong, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other:
Iterable<R>): List<Pair<UByte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other:
Iterable<R>): List<Pair<UShort, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
values built from the elements of `this` array and the [other] collection with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n *
\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UIntArray.zip(other: Iterable<R>, transform: (a: UInt, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
ULongArray.zip(other: Iterable<R>, transform: (a: ULong, b: R) -> V): List<V> {\n    val arraySize = size\n    val
list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other)
{\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n *
Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n *
using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UByteArray.zip(other: Iterable<R>, transform: (a: UByte, b: R) -> V): List<V> {\n    val arraySize = size\n    val list
= ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UShortArray.zip(other: Iterable<R>, transform: (a: UShort, b: R) -> V): List<V> {\n    val arraySize = size\n    val
list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other)
{\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray.zip(other: UIntArray):
List<Pair<UInt, UInt>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray.zip(other: ULongArray):
List<Pair<ULong, ULong>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.zip(other: UByteArray):
List<Pair<UByte, UByte>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray.zip(other: UShortArray):
List<Pair<UShort, UShort>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built
from the elements of `this` array and the [other] array with the same index\n * using the provided [transform]
function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UIntArray.zip(other: UIntArray, transform: (a: UInt, b: UInt) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
ULongArray.zip(other: ULongArray, transform: (a: ULong, b: ULong) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UByteArray.zip(other: UByteArray, transform: (a: UByte, b: UByte) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UShortArray.zip(other: UShortArray, transform: (a: UShort, b: UShort) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedT
ypes::class)\npublic fun Array<out UInt>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum
+= element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Array<out ULong>.sum(): ULong {\n    var sum: ULong = 0uL\n    for (element in this)
{\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Array<out UByte>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n
sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfUShort")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Array<out UShort>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n
sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.sum(): UInt {\n    return storage.sum().toUInt()\n}\n\n/**\n * Returns the sum of all elements in the

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array.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.sum(): ULong {\n    return storage.sum().toULong()\n}\n\n/**\n * Returns the sum of all elements in
the array.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UByteArray.sum(): UInt {\n    return sumOf { it.toUInt() }\n}\n\n/**\n * Returns the sum of all elements in the
array.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.sum(): UInt {\n    return sumOf { it.toUInt() }\n}\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n
```

```
\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UCollectionsKt")\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\nimport
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns an array of UByte containing all of the
elements of this collection.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Collection<UByte>.toUByteArray(): UByteArray {\n    val result = UByteArray(size)\n    var index = 0\n    for
(element in this)\n        result[index++] = element\n    return result\n}\n\n/**\n * Returns an array of UInt containing
all of the elements of this collection.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Collection<UInt>.toUIntArray(): UIntArray {\n    val result = UIntArray(size)\n    var index = 0\n    for (element in
this)\n        result[index++] = element\n    return result\n}\n\n/**\n * Returns an array of ULong containing all of the
elements of this collection.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Collection<ULong>.toULongArray(): ULongArray {\n    val result = ULongArray(size)\n    var index = 0\n    for
(element in this)\n        result[index++] = element\n    return result\n}\n\n/**\n * Returns an array of UShort
containing all of the elements of this collection.\n
```

```
\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Collection<UShort>.toUShortArray():
UShortArray {\n    val result = UShortArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] =
element\n    return result\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
```

```
\n\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedT
ypes::class)\npublic fun Iterable<UInt>.sum(): UInt {\n    var sum: UInt = 0\n    for (element in this) {\n        sum
+= element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
```

```
\n\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Iterable<ULong>.sum(): ULong {\n    var sum: ULong = 0\n    for (element in this) {\n
        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
```

```
\n\n@kotlin.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Iterable<UByte>.sum(): UInt {\n    var sum: UInt = 0\n    for (element in this) {\n
        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
```

```
\n\n@kotlin.jvm.JvmName("sumOfUShort")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Iterable<UShort>.sum(): UInt {\n    var sum: UInt = 0\n    for (element in this) {\n
        sum += element\n    }\n    return sum\n}\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
```

```
\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UComparisonsKt")\n\npackage
kotlin.comparisons\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns the
greater of two values.\n
```

```
\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UInt, b:
UInt): UInt {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n
```

```
\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: ULong, b:
ULong): ULong {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n
```

```
\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UByte,
```


b: UByte): UByte { \n return if (a >= b) a else b \n } \n \n /** \n * Returns the greater of two values. \n

```

*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UShort,
b: UShort): UShort { \n return if (a >= b) a else b \n } \n \n /** \n * Returns the greater of three values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\
npublic inline fun maxOf(a: UInt, b: UInt, c: UInt): UInt { \n return maxOf(a, maxOf(b, c)) \n } \n \n /** \n * Returns
the greater of three values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\
npublic inline fun maxOf(a: ULong, b: ULong, c: ULong): ULong { \n return maxOf(a, maxOf(b, c)) \n } \n \n /** \n *
Returns the greater of three values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\
npublic inline fun maxOf(a: UByte, b: UByte, c: UByte): UByte { \n return maxOf(a, maxOf(b, c)) \n } \n \n /** \n *
Returns the greater of three values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\
npublic inline fun maxOf(a: UShort, b: UShort, c: UShort): UShort { \n return maxOf(a, maxOf(b, c)) \n } \n \n /** \n
* Returns the greater of the given values. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
maxOf(a: UInt, vararg other: UInt): UInt { \n var max = a \n for (e in other) max = maxOf(max, e) \n return
max \n } \n \n /** \n * Returns the greater of the given values. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: ULong, vararg other: ULong):
ULong { \n var max = a \n for (e in other) max = maxOf(max, e) \n return max \n } \n \n /** \n * Returns the greater
of the given values. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UByte,
vararg other: UByte): UByte { \n var max = a \n for (e in other) max = maxOf(max, e) \n return max \n } \n \n /** \n
* Returns the greater of the given values. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
maxOf(a: UShort, vararg other: UShort): UShort { \n var max = a \n for (e in other) max = maxOf(max, e) \n
return max \n } \n \n /** \n * Returns the smaller of two values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UInt, b:
UInt): UInt { \n return if (a <= b) a else b \n } \n \n /** \n * Returns the smaller of two values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: ULong,
b: ULong): ULong { \n return if (a <= b) a else b \n } \n \n /** \n * Returns the smaller of two values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UByte,
b: UByte): UByte { \n return if (a <= b) a else b \n } \n \n /** \n * Returns the smaller of two values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UShort,
b: UShort): UShort { \n return if (a <= b) a else b \n } \n \n /** \n * Returns the smaller of three values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\
npublic inline fun minOf(a: UInt, b: UInt, c: UInt): UInt { \n return minOf(a, minOf(b, c)) \n } \n \n /** \n *
Returns the smaller of three values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\
npublic inline fun minOf(a: ULong, b: ULong, c: ULong): ULong { \n return minOf(a, minOf(b, c)) \n } \n \n /** \n
* Returns the smaller of three values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\
npublic inline fun minOf(a: UByte, b: UByte, c: UByte): UByte { \n return minOf(a, minOf(b, c)) \n } \n \n /** \n
* Returns the smaller of three values. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\
npublic inline fun minOf(a: UShort, b: UShort, c: UShort): UShort { \n return minOf(a, minOf(b, c)) \n } \n \n /** \n
* Returns the smaller of the given values. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
minOf(a: UInt, vararg other: UInt): UInt { \n var min = a \n for (e in other) min = minOf(min, e) \n return
min \n } \n \n /** \n * Returns the smaller of the given values. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: ULong, vararg other: ULong):
ULong { \n var min = a \n for (e in other) min = minOf(min, e) \n return min \n } \n \n /** \n * Returns the smaller

```

```

of the given values.\n *^@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UByte,
vararg other: UByte): UByte {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return min\n}\n\n/**\n * Returns the smaller of the given values.\n *^@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
minOf(a: UShort, vararg other: UShort): UShort {\n    var min = a\n    for (e in other) min = minOf(min, e)\n
return min\n}\n\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("URangesKt")\n\npackage
kotlin.ranges\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns a
random element from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
npublic inline fun UIntRange.random(): UInt {\n    return random(Random)\n}\n\n/**\n * Returns a random element
from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
npublic inline fun ULongRange.random(): ULong {\n    return random(Random)\n}\n\n/**\n * Returns a random
element from this range using the specified source of randomness.\n * \n * @throws IllegalArgumentException if
this range is empty.\n *^@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic
fun UIntRange.random(random: Random): UInt {\n    try {\n        return random.nextUInt(this)\n    } catch(e:
IllegalArgumentException) {\n        throw NoSuchElementException(e.message)\n    }\n}\n\n/**\n * Returns a
random element from this range using the specified source of randomness.\n * \n * @throws
IllegalArgumentException if this range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULongRange.random(random: Random): ULong {\n    try {\n        return random.nextULong(this)\n    } catch(e:
IllegalArgumentException) {\n        throw NoSuchElementException(e.message)\n    }\n}\n\n/**\n * Returns a
random element from this range, or `null` if this range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UIntRange.randomOrNull():
UInt? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this range, or `null` if this
range is empty.\n *^@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULongRange.randomOrNull():
ULong? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this range using the
specified source of randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\npublic fun UIntRange.randomOrNull(random: Random): UInt? {\n    if
(isEmpty())\n        return null\n    return random.nextUInt(this)\n}\n\n/**\n * Returns a random element from this
range using the specified source of randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\npublic fun ULongRange.randomOrNull(random: Random): ULong? {\n    if
(isEmpty())\n        return null\n    return random.nextULong(this)\n}\n\n/**\n * Returns `true` if this range contains
the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
npublic inline operator fun UIntRange.contains(element: UInt?): Boolean {\n    return element != null &&
contains(element)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always returns
`false` if the [element] is `null`.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
npublic inline operator fun ULongRange.contains(element: ULong?): Boolean {\n    return element != null &&
contains(element)\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun

```

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UIntRange.contains(value: UByte): Boolean {\n  return contains(value.toUInt())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
ULongRange.contains(value: UByte): Boolean {\n  return contains(value.toULong())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
ULongRange.contains(value: UInt): Boolean {\n  return contains(value.toULong())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
UIntRange.contains(value: ULong): Boolean {\n  return (value shr UInt.SIZE_BITS) == 0uL &&
contains(value.toUInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
UIntRange.contains(value: UShort): Boolean {\n  return contains(value.toUInt())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
ULongRange.contains(value: UShort): Boolean {\n  return contains(value.toULong())\n}\n\n/**\n * Returns a
progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less
than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UByte.downTo(to: UByte): UIntProgression {\n  return UIntProgression.fromClosedRange(this.toUInt(),
to.toUInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -
1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value
the returned progression is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UInt.downTo(to: UInt): UIntProgression {\n  return UIntProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n *
Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should
be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is
empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
ULong.downTo(to: ULong): ULongProgression {\n  return ULongProgression.fromClosedRange(this, to, -
1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n *
The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the
returned progression is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UShort.downTo(to: UShort): UIntProgression {\n  return UIntProgression.fromClosedRange(this.toUInt(),
to.toUInt(), -1)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the
same step.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UIntProgression.reversed(): UIntProgression {\n  return UIntProgression.fromClosedRange(last, first, -
step)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same
step.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULongProgression.reversed(): ULongProgression {\n  return ULongProgression.fromClosedRange(last, first, -
step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UIntProgression.step(step: Int): UIntProgression {\n  checkStepIsPositive(step > 0, step)\n  return
UIntProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression
that goes over the same range with the given step.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
ULongProgression.step(step: Long): ULongProgression {\n  checkStepIsPositive(step > 0, step)\n  return
ULongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a range from

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this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UByte.until(to: UByte): UIntRange {\n    if (to <= UByte.MIN_VALUE) return UIntRange.EMPTY\n    return
this.toUInt() .. (to - 1u).toUInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to]
value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun UInt.until(to:
UInt): UIntRange {\n    if (to <= UInt.MIN_VALUE) return UIntRange.EMPTY\n    return this .. (to -
1u).toUInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
ULong.until(to: ULong): ULongRange {\n    if (to <= ULong.MIN_VALUE) return ULongRange.EMPTY\n
return this .. (to - 1u).toULong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to]
value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UShort.until(to: UShort): UIntRange {\n    if (to <= UShort.MIN_VALUE) return UIntRange.EMPTY\n    return
this.toUInt() .. (to - 1u).toUInt()\n}\n\n/**\n * Ensures that this value is not less than the specified
[minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the
[minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UInt.coerceAtLeast(minimumValue: UInt): UInt {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value
if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceAtLeast(minimumValue: ULong): ULong {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value
if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UByte.coerceAtLeast(minimumValue: UByte): UByte {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value
if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UShort.coerceAtLeast(minimumValue: UShort): UShort {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UInt.coerceAtMost(maximumValue: UInt): UInt {\n    return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceAtMost(maximumValue: ULong): ULong {\n    return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
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samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UByte.coerceAtMost(maximumValue: UByte): UByte {\n    return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UShort.coerceAtMost(maximumValue: UShort): UShort {\n    return if (this > maximumValue) maximumValue
else this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n
* @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UInt.coerceIn(minimumValue: UInt, maximumValue: UInt): UInt {\n    if (minimumValue > maximumValue)
throw IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceIn(minimumValue: ULong, maximumValue: ULong): ULong {\n    if (minimumValue >
maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n
if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the
specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or
[minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UByte.coerceIn(minimumValue: UByte, maximumValue: UByte): UByte {\n    if (minimumValue >
maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n
if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the
specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or
[minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UShort.coerceIn(minimumValue: UShort, maximumValue: UShort): UShort {\n    if (minimumValue >
maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n
if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the
specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than
`range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UInt.coerceIn(range: ClosedRange<UInt>): UInt {\n    if (range is ClosedFloatingPointRange) {\n        return
this.coerceIn<UInt>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to
an empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this > range.endInclusive -

```

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> range.endInclusive\n    else -> this\n    }\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`. \n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun ULong.coerceIn(range: ClosedRange<ULong>): ULong {\n    if (range is ClosedFloatingPointRange) {\n        return this.coerceIn<ULong>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this > range.endInclusive -> range.endInclusive\n        else -> this\n    }\n}\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("USequencesKt")\n\npackage kotlin.sequences\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun Sequence<UInt>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun Sequence<ULong>.sum(): ULong {\n    var sum: ULong = 0uL\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun Sequence<UByte>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("sumOfUShort")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun Sequence<UShort>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin\n\npublic expect open class Error : Throwable {\n    constructor()\n    constructor(message: String?)\n    constructor(message: String?, cause: Throwable?)\n    constructor(cause: Throwable?)\n}\n\npublic expect open class Exception : Throwable {\n    constructor()\n    constructor(message: String?)\n    constructor(message: String?, cause: Throwable?)\n    constructor(cause: Throwable?)\n}\n\npublic expect open class RuntimeException : Exception {\n    constructor()\n    constructor(message: String?)\n    constructor(message: String?, cause: Throwable?)\n    constructor(cause: Throwable?)\n}\n\npublic expect open class IllegalArgumentException : RuntimeException {\n    constructor()\n    constructor(message: String?)\n    constructor(message: String?, cause: Throwable?)\n    constructor(cause: Throwable?)\n}\n\npublic expect open class IllegalStateException : RuntimeException {\n    constructor()\n    constructor(message: String?)\n    constructor(message: String?, cause: Throwable?)\n    constructor(cause: Throwable?)\n}\n\npublic expect open class IndexOutOfBoundsException : RuntimeException {\n    constructor()\n    constructor(message: String?)\n}\n\npublic expect open class ConcurrentModificationException : RuntimeException {\n    constructor()\n    constructor(message: String?)\n    @Deprecated("The constructor is not supported on all platforms and will be removed from kotlin-stdlib-common soon.", level = DeprecationLevel.ERROR)\n    constructor(message: String?, cause: Throwable?)\n    @Deprecated("The constructor is not supported on all platforms and will be removed from kotlin-stdlib-common soon.", level = DeprecationLevel.ERROR)\n    constructor(cause: Throwable?)\n}\n\npublic expect open class

```

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UnsupportedOperationException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n  constructor(cause: Throwable?)\n}\n\npublic expect open
class NumberFormatException : IllegalArgumentException {\n  constructor()\n  constructor(message:
String?)\n}\n\npublic expect open class NullPointerException : RuntimeException {\n  constructor()\n
constructor(message: String?)\n}\n\npublic expect open class ClassCastException : RuntimeException {\n
constructor()\n  constructor(message: String?)\n}\n\npublic expect open class AssertionError : Error {\n
constructor()\n  constructor(message: Any?)\n}\n\npublic expect open class NoSuchElementException :
RuntimeException {\n  constructor()\n  constructor(message: String?)\n}\n\n@SinceKotlin("1.3")\npublic
expect open class ArithmeticException : RuntimeException {\n  constructor()\n  constructor(message:
String?)\n}\n\n@Deprecated("This exception type is not supposed to be thrown or caught in common code and will
be removed from kotlin-stdlib-common soon.", level = DeprecationLevel.ERROR)\npublic expect open class
NoWhenBranchMatchedException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n
constructor(message: String?, cause: Throwable?)\n  constructor(cause: Throwable?)\n}\n\n@Deprecated("This
exception type is not supposed to be thrown or caught in common code and will be removed from kotlin-stdlib-
common soon.", level = DeprecationLevel.ERROR)\npublic expect class UninitializedPropertyAccessException :
RuntimeException {\n  constructor()\n  constructor(message: String?)\n  constructor(message: String?, cause:
Throwable?)\n  constructor(cause: Throwable?)\n}\n\n/**\n * Thrown after invocation of a function or property
that was expected to return `Nothing`, but returned something instead.\n
*\n*\n@SinceKotlin("1.4")\n@PublishedApi\ninternal class KotlinNothingValueException : RuntimeException {\n
constructor() : super()\n  constructor(message: String?) : super(message)\n  constructor(message: String?, cause:
Throwable?) : super(message, cause)\n  constructor(cause: Throwable?) : super(cause)\n}\n\n/**\n * Returns the
detailed description of this throwable with its stack trace.\n *\n * The detailed description includes:\n * - the short
description (see [Throwable.toString]) of this throwable;\n * - the complete stack trace;\n * - detailed descriptions of
the exceptions that were [suppressed][suppressedExceptions] in order to deliver this exception;\n * - the detailed
description of each throwable in the [Throwable.cause] chain.\n *\n@SinceKotlin("1.4")\n\npublic expect fun
Throwable.stackTraceToString(): String\n\n/**\n * Prints the [detailed description][Throwable.stackTraceToString]
of this throwable to the standard output or standard error output.\n
*\n*\n@SinceKotlin("1.4")\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\n\npublic expect fun
Throwable.printStackTrace(): Unit\n\n/**\n * When supported by the platform, adds the specified exception to the
list of exceptions that were\n * suppressed in order to deliver this exception.\n
*\n*\n@SinceKotlin("1.4")\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\n\npublic expect fun
Throwable.addSuppressed(exception: Throwable)\n\n/**\n * Returns a list of all exceptions that were suppressed in
order to deliver this exception.\n *\n * The list can be empty;\n * - if no exceptions were suppressed;\n * - if the
platform doesn't support suppressed exceptions;\n * - if this [Throwable] instance has disabled the suppression.\n
*\n*\n@SinceKotlin("1.4")\n\npublic expect val Throwable.suppressedExceptions: List<Throwable>\n", "/*\n *
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n*\n\npackage
kotlin.js\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n * Gives a declaration (a function, a property or a
class) specific name in JavaScript.\n *\n@Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR,
PROPERTY_GETTER, PROPERTY_SETTER)\n@OptionalExpectation\n\npublic expect annotation class
JsName(val name: String)\n\n/**\n * Marks experimental JS export annotations.\n *\n * Note that behavior of these
annotations will likely be changed in the future.\n *\n * Usages of such annotations will be reported as warnings
unless an explicit opt-in with\n * the [OptIn] annotation, e.g. `@OptIn(ExperimentalJsExport::class)`,\n * or with
the `-Xopt-in=kotlin.js.ExperimentalJsExport` compiler option is given.\n
*\n*\n@Suppress("DEPRECATION")\n@Experimental(level =
Experimental.Level.WARNING)\n@RequiresOptIn(level =
RequiresOptIn.Level.WARNING)\n@MustBeDocumented\n@Retention(AnnotationRetention.BINARY)\n@Since
Kotlin("1.4")\n\npublic annotation class ExperimentalJsExport\n\n/**\n * Exports top-level declaration on JS

```

platform.
 Compiled module exposes declarations that are marked with this annotation without name mangling.
 This annotation can be applied to either files or top-level declarations.
 It is currently prohibited to export the following kinds of declarations:
 * `expect` declarations
 * inline functions with reified type parameters
 * suspend functions
 * secondary constructors without `@JsName`
 * extension properties
 * enum classes
 * annotation classes
 Signatures of exported declarations must only contain "exportable" types:
 * `dynamic`, `Any`, `String`, `Boolean`, `Byte`, `Short`, `Int`, `Float`, `Double`
 * `BooleanArray`, `ByteArray`, `ShortArray`, `IntArray`, `FloatArray`, `DoubleArray`
 * `Array<exportable-type>`
 * Function types with exportable parameters and return types
 * `external` or `@JsExport` classes and interfaces
 * Nullable counterparts of types above
 * Unit return type. Must not be nullable
 This annotation is experimental, meaning that restrictions mentioned above are subject to change.
 @ExperimentalJsExport @Retention(AnnotationRetention.BINARY) @Target(CLASS, PROPERTY, FUNCTION, FILE) @SinceKotlin("1.4") @OptionalExpectation
 public expect annotation class JsExport() {
 /* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.
 Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
 package kotlin.io
 /** Prints the line separator to the standard output stream. */
 public expect fun println()
 /** Prints the given [message] and the line separator to the standard output stream. */
 public expect fun println(message: Any?)
 /** Prints the given [message] to the standard output stream. */
 public expect fun print(message: Any?)
 /** Reads a line of input from the standard input stream and returns it, or throws a [RuntimeException] if EOF has already been reached when [readLn] is called. LF or CRLF is treated as the line terminator. Line terminator is not included in the returned string. Currently this function is not supported in Kotlin/JS and throws [UnsupportedOperationException]. */
 @SinceKotlin("1.6")
 public expect fun readLn(): String
 /** Reads a line of input from the standard input stream and returns it, or return `null` if EOF has already been reached when [readLnOrNull] is called. LF or CRLF is treated as the line terminator. Line terminator is not included in the returned string. Currently this function is not supported in Kotlin/JS and throws [UnsupportedOperationException]. */
 @SinceKotlin("1.6")
 public expect fun readLnOrNull(): String?
 internal class ReadAfterEOFException(message: String?) : RuntimeException(message)
 internal expect interface Serializable {
 /* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.
 Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file. */
 package kotlin.collections
 import kotlin.internal.PlatformDependent
 /** Classes that inherit from this interface can be represented as a sequence of elements that can be iterated over. @param T the type of element being iterated over. The iterator is covariant in its element type. */
 public interface Iterable<out T> {
 /** Returns an iterator over the elements of this object. */
 public operator fun iterator(): Iterator<T>
 /** Classes that inherit from this interface can be represented as a sequence of elements that can be iterated over and that supports removing elements during iteration. @param T the type of element being iterated over. The mutable iterator is invariant in its element type. */
 public interface MutableIterable<out T> : Iterable<T> {
 /** Returns an iterator over the elements of this sequence that supports removing elements during iteration. */
 override fun iterator(): MutableIterator<T>
 /** A generic collection of elements. Methods in this interface support only read-only access to the collection; read/write access is supported through the [MutableCollection] interface. @param E the type of elements contained in the collection. The collection is covariant in its element type. */
 public interface Collection<out E> : Iterable<E> {
 // Query Operations
 /** Returns the size of the collection. */
 public val size: Int
 /** Returns `true` if the collection is empty (contains no elements), `false` otherwise. */
 public fun isEmpty(): Boolean
 /** Checks if the specified element is contained in this collection. */
 public operator fun contains(element: @UnsafeVariance E): Boolean
 override fun iterator(): Iterator<E>
 // Bulk Operations
 /** Checks if all elements in the specified collection are contained in this collection. */
 public fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean
 /** A generic collection of elements that supports adding and removing elements. @param E the type of elements contained in the collection. The mutable collection is invariant in its element type. */
 public interface


```

MutableCollection<E> : Collection<E>, MutableIterable<E> {
    // Query Operations
    override fun iterator(): MutableIterator<E>
    // Modification Operations
    /**
     * Adds the specified element to the collection.
     * @return `true` if the element has been added, `false` if the collection does not support duplicates
     * and the element is already contained in the collection.
     */
    public fun add(element: E): Boolean
    /**
     * Removes a single instance of the specified element from this collection, if it is present.
     * @return `true` if the element has been successfully removed; `false` if it was not present in the collection.
     */
    public fun remove(element: E): Boolean
    // Bulk Modification Operations
    /**
     * Adds all of the elements of the specified collection to this collection.
     * @return `true` if any of the specified elements was added to the collection, `false` if the collection was not modified.
     */
    public fun addAll(elements: Collection<E>): Boolean
    /**
     * Removes all of this collection's elements that are also contained in the specified collection.
     * @return `true` if any of the specified elements was removed from the collection, `false` if the collection was not modified.
     */
    public fun removeAll(elements: Collection<E>): Boolean
    /**
     * Retains only the elements in this collection that are contained in the specified collection.
     * @return `true` if any element was removed from the collection, `false` if the collection was not modified.
     */
    public fun retainAll(elements: Collection<E>): Boolean
    /**
     * Removes all elements from this collection.
     */
    public fun clear(): Unit
}
/**
 * A generic ordered collection of elements. Methods in this interface support only read-only access to the list;
 * read/write access is supported through the [MutableList] interface.
 * @param E the type of elements contained in the list. The list is covariant in its element type.
 */
public interface List<out E> : Collection<E> {
    // Query Operations
    override val size: Int
    override fun isEmpty(): Boolean
    override fun contains(element: @UnsafeVariance E): Boolean
    override fun iterator(): Iterator<E>
    // Bulk Operations
    override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean
    // Positional Access Operations
    /**
     * Returns the element at the specified index in the list.
     */
    public operator fun get(index: Int): E
    // Search Operations
    /**
     * Returns the index of the first occurrence of the specified element in the list, or -1 if the specified element is not contained in the list.
     */
    public fun indexOf(element: @UnsafeVariance E): Int
    /**
     * Returns the index of the last occurrence of the specified element in the list, or -1 if the specified element is not contained in the list.
     */
    public fun lastIndexOf(element: @UnsafeVariance E): Int
    // List Iterators
    /**
     * Returns a list iterator over the elements in this list (in proper sequence).
     */
    public fun listIterator(): ListIterator<E>
    /**
     * Returns a list iterator over the elements in this list (in proper sequence), starting at the specified [index].
     */
    public fun listIterator(index: Int): ListIterator<E>
    // View
    /**
     * Returns a view of the portion of this list between the specified [fromIndex] (inclusive) and [toIndex] (exclusive).
     * The returned list is backed by this list, so non-structural changes in the returned list are reflected in this list, and vice-versa.
     * Structural changes in the base list make the behavior of the view undefined.
     */
    public fun subList(fromIndex: Int, toIndex: Int): List<E>
}
/**
 * A generic ordered collection of elements that supports adding and removing elements.
 * @param E the type of elements contained in the list. The mutable list is invariant in its element type.
 */
public interface MutableList<E> : List<E>, MutableCollection<E> {
    // Modification Operations
    /**
     * Adds the specified element to the end of this list.
     * @return `true` because the list is always modified as the result of this operation.
     */
    override fun add(element: E): Boolean
    /**
     * Adds all of the elements of the specified collection to the end of this list.
     * The elements are appended in the order they appear in the [elements] collection.
     * @return `true` if the list was changed as the result of the operation.
     */
    override fun addAll(elements: Collection<E>): Boolean
    /**
     * Inserts all of the elements of the specified collection [elements] into this list at the specified [index].
     * @return `true` if the list was changed as the result of the operation.
     */
    public fun addAll(index: Int, elements: Collection<E>): Boolean
    /**
     * Removes all elements from this list.
     */
    override fun removeAll(elements: Collection<E>): Boolean
    /**
     * Retains only the elements in this list that are contained in the specified collection.
     */
    override fun retainAll(elements: Collection<E>): Boolean
    /**
     * Removes all elements from this list.
     */
    override fun clear(): Unit
    // Positional Access Operations
    /**
     * Replaces the element at the specified position in this list with the specified element.
     * @return the element previously at the specified position.
     */
    public operator fun set(index: Int, element: E): E
}

```

```

Inserts an element into the list at the specified [index].\n    *\n    public fun add(index: Int, element: E): Unit\n\n/**\n * Removes an element at the specified [index] from the list.\n *\n * @return the element that has been removed.\n *\n    public fun removeAt(index: Int): E\n\n // List Iterators\n    override fun listIterator(): MutableListIterator<E>\n\n    override fun listIterator(index: Int): MutableListIterator<E>\n\n // View\n    override fun subList(fromIndex: Int, toIndex: Int): MutableList<E>\n\n}\n\n/**\n * A generic unordered collection of elements that does not support duplicate elements.\n * Methods in this interface support only read-only access to the set;\n * read/write access is supported through the [MutableSet] interface.\n * @param E the type of elements contained in the set. The set is covariant in its element type.\n */\npublic interface Set<out E> : Collection<E> {\n // Query Operations\n\n    override val size: Int\n    override fun isEmpty(): Boolean\n    override fun contains(element: @UnsafeVariance E): Boolean\n    override fun iterator(): Iterator<E>\n\n // Bulk Operations\n    override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean\n\n}\n\n/**\n * A generic unordered collection of elements that does not support duplicate elements, and supports\n * adding and removing elements.\n * @param E the type of elements contained in the set. The mutable set is invariant in its element type.\n */\npublic interface MutableSet<E> : Set<E>, MutableCollection<E> {\n // Query Operations\n    override fun iterator(): MutableIterator<E>\n\n // Modification Operations\n\n    /**\n     * Adds the specified element to the set.\n     *\n     * @return `true` if the element has been added, `false` if the element is already contained in the set.\n     */\n    override fun add(element: E): Boolean\n\n    override fun remove(element: E): Boolean\n\n // Bulk Modification Operations\n\n    override fun addAll(elements: Collection<E>): Boolean\n    override fun removeAll(elements: Collection<E>): Boolean\n    override fun retainAll(elements: Collection<E>): Boolean\n    override fun clear(): Unit\n\n}\n\n/**\n * A collection that holds pairs of objects (keys and values) and supports efficiently retrieving\n * the value corresponding to each key. Map keys are unique; the map holds only one value for each key.\n * Methods in this interface support only read-only access to the map; read-write access is supported through\n * the [MutableMap] interface.\n * @param K the type of map keys. The map is invariant in its key type, as it\n * can accept key as a parameter (of [containsKey] for example) and return it in [keys] set.\n * @param V the type of map values. The map is covariant in its value type.\n */\npublic interface Map<K, out V> {\n // Query Operations\n\n    /**\n     * Returns the number of key/value pairs in the map.\n     */\n    public val size: Int\n\n    /**\n     * Returns `true` if the map is empty (contains no elements), `false` otherwise.\n     */\n    public fun isEmpty(): Boolean\n\n    /**\n     * Returns `true` if the map contains the specified [key].\n     */\n    public fun containsKey(key: K): Boolean\n\n    /**\n     * Returns `true` if the map maps one or more keys to the specified [value].\n     */\n    public fun containsValue(value: @UnsafeVariance V): Boolean\n\n    /**\n     * Returns the value corresponding to the given [key], or `null` if such a key is not present in the map.\n     */\n    public operator fun get(key: K): V?\n\n    /**\n     * Returns the value corresponding to the given [key], or [defaultValue] if such a key is not present in the map.\n     *\n     * @since JDK 1.8\n     */\n    @SinceKotlin("1.1")\n    @PlatformDependent\n    public fun getOrDefault(key: K, defaultValue: @UnsafeVariance V): V {\n // See default implementation in JDK sources\n        throw NotImplementedError()\n    }\n\n // Views\n\n    /**\n     * Returns a read-only [Set] of all keys in this map.\n     */\n    public val keys: Set<K>\n\n    /**\n     * Returns a read-only [Collection] of all values in this map. Note that this collection may contain duplicate values.\n     */\n    public val values: Collection<V>\n\n    /**\n     * Returns a read-only [Set] of all key/value pairs in this map.\n     */\n    public val entries: Set<Map.Entry<K, V>>\n\n    /**\n     * Represents a key/value pair held by a [Map].\n     */\n    public interface Entry<out K, out V> {\n\n        /**\n         * Returns the key of this key/value pair.\n         */\n        public val key: K\n\n        /**\n         * Returns the value of this key/value pair.\n         */\n        public val value: V\n    }\n\n}\n\n/**\n * A modifiable collection that holds pairs of objects (keys and values) and supports efficiently retrieving\n * the value corresponding to each key. Map keys are unique; the map holds only one value for each key.\n * @param K the type of map keys. The map is invariant in its key type.\n * @param V the type of map values. The mutable map is invariant in its value type.\n */\npublic interface MutableMap<K, V> : Map<K, V> {\n // Modification Operations\n\n    /**\n     * Associates the specified [value] with the specified [key] in the map.\n     *\n     * @return the previous value associated with the key, or `null` if the key was not present in the map.\n     */\n    public fun put(key: K, value: V): V?\n\n    /**\n     * Removes the specified key and its corresponding value from this map.\n     */\n
```

```

*\n * @return the previous value associated with the key, or `null` if the key was not present in the map.\n */\n
public fun remove(key: K): V?{\n\n /**\n * Removes the entry for the specified key only if it is mapped to the
specified value.\n */\n * @return true if entry was removed\n */\n @SinceKotlin("1.1")\n
@PlatformDependent\n public fun remove(key: K, value: V): Boolean {\n // See default implementation in
JDK sources\n return true\n }\n\n // Bulk Modification Operations\n /**\n * Updates this map with
key/value pairs from the specified map [from].\n */\n public fun putAll(from: Map<out K, V>): Unit{\n\n /**\n
* Removes all elements from this map.\n */\n public fun clear(): Unit{\n\n // Views\n /**\n * Returns a
[MutableSet] of all keys in this map.\n */\n override val keys: MutableSet<K>{\n\n /**\n * Returns a
[MutableCollection] of all values in this map. Note that this collection may contain duplicate values.\n */\n
override val values: MutableCollection<V>{\n\n /**\n * Returns a [MutableSet] of all key/value pairs in this
map.\n */\n override val entries: MutableSet<MutableMap.MutableEntry<K, V>>{\n\n /**\n * Represents a
key/value pair held by a [MutableMap].\n */\n public interface MutableEntry<K, V> : Map.Entry<K, V> {\n
/**\n * Changes the value associated with the key of this entry.\n */\n * @return the previous value
corresponding to the key.\n */\n public fun setValue(newValue: V): V\n }\n}\n\n"/*\n * Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT
EDIT!\n\npackage kotlin.collections{\n\n/** An iterator over a sequence of values of type `Byte`. */\npublic abstract
class ByteIterator : Iterator<Byte> {\n override final fun next() = nextByte()\n\n /** Returns the next value in
the sequence without boxing. */\n public abstract fun nextByte(): Byte{\n}\n}\n\n/** An iterator over a sequence of
values of type `Char`. */\npublic abstract class CharIterator : Iterator<Char> {\n override final fun next() =
nextChar()\n\n /** Returns the next value in the sequence without boxing. */\n public abstract fun nextChar():
Char{\n}\n}\n\n/** An iterator over a sequence of values of type `Short`. */\npublic abstract class ShortIterator :
Iterator<Short> {\n override final fun next() = nextShort()\n\n /** Returns the next value in the sequence without
boxing. */\n public abstract fun nextShort(): Short{\n}\n}\n\n/** An iterator over a sequence of values of type `Int`.
*/\npublic abstract class IntIterator : Iterator<Int> {\n override final fun next() = nextInt()\n\n /** Returns the
next value in the sequence without boxing. */\n public abstract fun nextInt(): Int{\n}\n}\n\n/** An iterator over a
sequence of values of type `Long`. */\npublic abstract class LongIterator : Iterator<Long> {\n override final fun
next() = nextLong()\n\n /** Returns the next value in the sequence without boxing. */\n public abstract fun
nextLong(): Long{\n}\n}\n\n/** An iterator over a sequence of values of type `Float`. */\npublic abstract class
FloatIterator : Iterator<Float> {\n override final fun next() = nextFloat()\n\n /** Returns the next value in the
sequence without boxing. */\n public abstract fun nextFloat(): Float{\n}\n}\n\n/** An iterator over a sequence of
values of type `Double`. */\npublic abstract class DoubleIterator : Iterator<Double> {\n override final fun next() =
nextDouble()\n\n /** Returns the next value in the sequence without boxing. */\n public abstract fun
nextDouble(): Double{\n}\n}\n\n/** An iterator over a sequence of values of type `Boolean`. */\npublic abstract class
BooleanIterator : Iterator<Boolean> {\n override final fun next() = nextBoolean()\n\n /** Returns the next value
in the sequence without boxing. */\n public abstract fun nextBoolean(): Boolean{\n}\n}\n\n"/*\n * Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT
EDIT!\n\npackage kotlin.ranges{\n\n/**\n * An iterator over a progression of values of type `Char`. */\n\n * @property
step the number by which the value is incremented on each step.\n */\n\ninternal class CharProgressionIterator(first:
Char, last: Char, val step: Int) : CharIterator() {\n private val finalElement: Int = last.code\n private var hasNext:
Boolean = if (step > 0) first <= last else first >= last\n private var next: Int = if (hasNext) first.code else
finalElement\n\n override fun hasNext(): Boolean = hasNext\n\n override fun nextChar(): Char {\n val value
= next\n if (value == finalElement) {\n if (!hasNext) throw kotlin.NoSuchElementException()\n
hasNext = false\n }\n else {\n next += step\n }\n return value.toChar()\n }\n}\n\n/**\n * An iterator over a progression of values of type `Int`. */\n\n * @property step the number by which the value is
incremented on each step.\n */\n\ninternal class IntProgressionIterator(first: Int, last: Int, val step: Int) : IntIterator()
{\n private val finalElement: Int = last\n private var hasNext: Boolean = if (step > 0) first <= last else first >=

```

```

last\n private var next: Int = if (hasNext) first else finalElement\n\n override fun hasNext(): Boolean =
hasNext\n\n override fun nextInt(): Int {\n val value = next\n if (value == finalElement) {\n if
(!hasNext) throw kotlin.NoSuchElementException()\n hasNext = false\n }\n else {\n next +=
step\n }\n return value\n }\n}\n\n/**\n * An iterator over a progression of values of type `Long`.\n *
@property step the number by which the value is incremented on each step.\n */\n\ninternal class
LongProgressionIterator(first: Long, last: Long, val step: Long) : LongIterator() {\n private val finalElement: Long
= last\n private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n private var next: Long = if
(hasNext) first else finalElement\n\n override fun hasNext(): Boolean = hasNext\n\n override fun nextLong():
Long {\n val value = next\n if (value == finalElement) {\n if (!hasNext) throw
kotlin.NoSuchElementException()\n hasNext = false\n }\n else {\n next += step\n }\n
return value\n }\n}\n\n"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\nimport
kotlin.internal.getProgressionLastElement\n\n/**\n * A progression of values of type `Char`.\n */\n\npublic open class
CharProgression\n internal constructor\n (\n start: Char,\n endInclusive: Char,\n step: Int\n
): Iterable<Char> {\n init {\n if (step == 0) throw kotlin.IllegalArgumentException("\nStep must be non-
zero.\n")\n if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException("\nStep must be greater than
Int.MIN_VALUE to avoid overflow on negation.\n")\n }\n\n /**\n * The first element in the progression.\n
*\n */\n public val first: Char = start\n\n /**\n * The last element in the progression.\n */\n public val last:
Char = getProgressionLastElement(start.code, endInclusive.code, step).toChar()\n\n /**\n * The step of the
progression.\n */\n public val step: Int = step\n\n override fun iterator(): CharIterator =
CharProgressionIterator(first, last, step)\n\n /**\n * Checks if the progression is empty.\n */\n * Progression
with a positive step is empty if its first element is greater than the last element.\n * Progression with a negative
step is empty if its first element is less than the last element.\n */\n public open fun isEmpty(): Boolean = if
(step > 0) first > last else first < last\n\n override fun equals(other: Any?): Boolean =\n other is
CharProgression && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last && step ==
other.step)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (31 * first.code + last.code) +
step)\n\n override fun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-
step}\"\n\n companion object {\n /**\n * Creates CharProgression within the specified bounds of a
closed range.\n */\n * The progression starts with the [rangeStart] value and goes toward the [rangeEnd]
value not excluding it, with the specified [step].\n * In order to go backwards the [step] must be negative.\n
*\n * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n */\n public fun
fromClosedRange(rangeStart: Char, rangeEnd: Char, step: Int): CharProgression = CharProgression(rangeStart,
rangeEnd, step)\n }\n}\n\n/**\n * A progression of values of type `Int`.\n */\n\npublic open class IntProgression\n internal constructor\n (\n start: Int,\n endInclusive: Int,\n step: Int\n
): Iterable<Int> {\n init {\n if (step == 0) throw kotlin.IllegalArgumentException("\nStep must be non-zero.\n")\n if (step ==
Int.MIN_VALUE) throw kotlin.IllegalArgumentException("\nStep must be greater than Int.MIN_VALUE to avoid
overflow on negation.\n")\n }\n\n /**\n * The first element in the progression.\n */\n public val first: Int =
start\n\n /**\n * The last element in the progression.\n */\n public val last: Int =
getProgressionLastElement(start, endInclusive, step)\n\n /**\n * The step of the progression.\n */\n public
val step: Int = step\n\n override fun iterator(): IntIterator = IntProgressionIterator(first, last, step)\n\n /**\n *
Checks if the progression is empty.\n */\n * Progression with a positive step is empty if its first element is
greater than the last element.\n * Progression with a negative step is empty if its first element is less than the last
element.\n */\n public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n override fun
equals(other: Any?): Boolean =\n other is IntProgression && (isEmpty() && other.isEmpty()) ||\n first ==
other.first && last == other.last && step == other.step)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1
else (31 * (31 * first + last) + step)\n\n override fun toString(): String = if (step > 0) \"$first..$last step $step\" else
\"$first downTo $last step ${-step}\"\n\n companion object {\n /**\n * Creates IntProgression within the

```



```

kotlin.annotation.AnnotationTarget.*\n\n/**\n * Contains the list of code elements which are the possible annotation
targets\n */\npublic enum class AnnotationTarget {\n    /** Class, interface or object, annotation class is also
included\n */\n    CLASS,\n    /** Annotation class only\n */\n    ANNOTATION_CLASS,\n    /** Generic type
parameter\n */\n    TYPE_PARAMETER,\n    /** Property\n */\n    PROPERTY,\n    /** Field, including property's
backing field\n */\n    FIELD,\n    /** Local variable\n */\n    LOCAL_VARIABLE,\n    /** Value parameter of a
function or a constructor\n */\n    VALUE_PARAMETER,\n    /** Constructor only (primary or secondary)\n */\n   
CONSTRUCTOR,\n    /** Function (constructors are not included)\n */\n    FUNCTION,\n    /** Property getter only\n
*/\n    PROPERTY_GETTER,\n    /** Property setter only\n */\n    PROPERTY_SETTER,\n    /** Type usage\n */\n   
TYPE,\n    /** Any expression\n */\n    EXPRESSION,\n    /** File\n */\n    FILE,\n    /** Type alias\n */\n   
TYPE_ALIAS,\n    /** Since Kotlin 1.1\n */\n    TYPE_ALIAS_SINCE_1_1\n}\n\n/**\n * Contains the list of possible annotation's retentions.\n */\n *
Determines how an annotation is stored in binary output.\n */\npublic enum class AnnotationRetention {\n    /**
Annotation isn't stored in binary output\n */\n    SOURCE,\n    /** Annotation is stored in binary output, but invisible
for reflection\n */\n    BINARY,\n    /** Annotation is stored in binary output and visible for reflection (default
retention)\n */\n    RUNTIME\n}\n\n/**\n * This meta-annotation indicates the kinds of code elements which are
possible targets of an annotation.\n */\n * If the target meta-annotation is not present on an annotation declaration,
the annotation is applicable to the following elements:\n * [CLASS], [PROPERTY], [FIELD],
[LOCAL_VARIABLE], [VALUE_PARAMETER], [CONSTRUCTOR], [FUNCTION], [PROPERTY_GETTER],
[PROPERTY_SETTER].\n */\n * @property allowedTargets list of allowed annotation targets\n
*/\n\n@Target(AnnotationTarget.ANNOTATION_CLASS)\n@MustBeDocumented\npublic annotation class
Target(vararg val allowedTargets: AnnotationTarget)\n\n/**\n * This meta-annotation determines whether an
annotation is stored in binary output and visible for reflection. By default, both are true.\n */\n * @property value
necessary annotation retention (RUNTIME, BINARY or SOURCE)\n
*/\n\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class Retention(val value:
AnnotationRetention = AnnotationRetention.RUNTIME)\n\n/**\n * This meta-annotation determines that an
annotation is applicable twice or more on a single code element\n
*/\n\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class Repeatable\n\n/**\n * This
meta-annotation determines that an annotation is a part of public API and therefore should be included in the
generated\n * documentation for the element to which the annotation is applied.\n
*/\n\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class MustBeDocumented\n\n"/*\n *
Copyright 2010-2016 JetBrains s.r.o.\n */\n * Licensed under the Apache License, Version 2.0 (the "License");\n *
you may not use this file except in compliance with the License.\n * You may obtain a copy of the License at\n */\n *
http://www.apache.org/licenses/LICENSE-2.0\n * Unless required by applicable law or agreed to in writing,
software\n * distributed under the License is distributed on an "AS IS" BASIS,\n * WITHOUT WARRANTIES
OR CONDITIONS OF ANY KIND, either express or implied.\n * See the License for the specific language
governing permissions and\n * limitations under the License.\n */\n\npackage kotlin.internal\n\n/**\n * Specifies
that the corresponding type parameter is not used for unsafe operations such as casts or 'is' checks\n * That means
it's completely safe to use generic types as argument for such parameter.\n
*/\n\n@Target(AnnotationTarget.TYPE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal
annotation class PureReifiable\n\n/**\n * Specifies that the corresponding built-in method exists depending on
platform.\n * Current implementation for JVM looks whether method with same JVM descriptor exists in the
module JDK.\n * For example MutableMap.remove(K, V) available only if corresponding\n * method
'java.util.Map.remove(Ljava/lang/Object;Ljava/lang/Object;)Z' is defined in JDK (i.e. for major versions >= 8)\n
*/\n\n@Target(AnnotationTarget.FUNCTION)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation
class PlatformDependent\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.internal\n\n// a mod b (in arithmetical sense)\nprivate fun mod(a:
Int, b: Int): Int {\n    val mod = a % b\n    return if (mod >= 0) mod else mod + b\n}\n\nprivate fun mod(a: Long, b:
Long): Long {\n    val mod = a % b\n    return if (mod >= 0) mod else mod + b\n}\n\n// (a - b) mod c\nprivate fun

```

```

differenceModulo(a: Int, b: Int, c: Int): Int {
    return mod(mod(a, c) - mod(b, c), c)
}

private fun
differenceModulo(a: Long, b: Long, c: Long): Long {
    return mod(mod(a, c) - mod(b, c), c)
}

Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in
the range from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative
[step]. No validation on passed parameters is performed. The given parameters should satisfy the
condition: either `step > 0` and `start <= end`, or `step < 0` and `start >= end`.
@param start first element of the progression
@param end ending bound for the progression
@param step increment, or
difference of successive elements in the progression
@return the final element of the progression

@suppress
@PublishedApi
internal fun getProgressionLastElement(start: Int, end: Int, step: Int): Int = when
{
    step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)
    step < 0 -> if (start <= end)
end else end + differenceModulo(start, end, -step)
    else -> throw kotlin.IllegalArgumentException("Step is
zero.")
}

Calculates the final element of a bounded arithmetic progression, i.e. the last element of the
progression which is in the range from [start] to [end] in case of a positive [step], or from [end] to [start] in case
of a negative [step]. No validation on passed parameters is performed. The given parameters should
satisfy the condition: either `step > 0` and `start <= end`, or `step < 0` and `start >= end`.
@param start first element of the progression
@param end ending bound for the progression
@param step increment, or
difference of successive elements in the progression
@return the final element of the progression

@suppress
@PublishedApi
internal fun getProgressionLastElement(start: Long, end: Long, step: Long):
Long = when
{
    step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)
    step < 0 -> if
(start <= end) end else end + differenceModulo(start, end, -step)
    else -> throw
kotlin.IllegalArgumentException("Step is zero.")
}

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Programming Language contributors. Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.

@JsName("arrayIterator")
internal fun arrayIterator(array:
dynamic, type: String?) = when (type) {
    null -> {
        val arr: Array<dynamic> = array
        object :
Iterator<dynamic> {
            var index = 0
            override fun hasNext() = index < arr.size
            override fun
next() = if (index < arr.size) arr[index++] else throw NoSuchElementException("$index")
        }
}

"BooleanArray" -> booleanArrayIterator(array)
"ByteArray" -> byteArrayIterator(array)
"ShortArray" -
> shortArrayIterator(array)
"CharArray" -> charArrayIterator(array)
"IntArray" ->
intArrayIterator(array)
"LongArray" -> longArrayIterator(array)
"FloatArray" ->
floatArrayIterator(array)
"DoubleArray" -> doubleArrayIterator(array)
else -> throw
IllegalStateException("Unsupported type argument for arrayIterator:
$type")
}

@JsName("booleanArrayIterator")
internal fun booleanArrayIterator(array: BooleanArray) =
object : BooleanIterator() {
    var index = 0
    override fun hasNext() = index < array.size
    override fun
nextBoolean() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")
}

@JsName("byteArrayIterator")
internal fun byteArrayIterator(array:
ByteArray) = object : ByteIterator() {
    var index = 0
    override fun hasNext() = index < array.size
    override
fun nextByte() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")
}

@JsName("shortArrayIterator")
internal fun
shortArrayIterator(array: ShortArray) = object : ShortIterator() {
    var index = 0
    override fun hasNext() =
index < array.size
    override fun nextShort() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")
}

@JsName("charArrayIterator")
internal fun charArrayIterator(array:
CharArray) = object : CharIterator() {
    var index = 0
    override fun hasNext() = index < array.size
    override
fun nextChar() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")
}

@JsName("intArrayIterator")
internal fun intArrayIterator(array:
IntArray) = object : IntIterator() {
    var index = 0
    override fun hasNext() = index < array.size
    override fun
nextInt() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")
}

@JsName("floatArrayIterator")
internal fun
floatArrayIterator(array: FloatArray) = object : FloatIterator() {
    var index = 0
    override fun hasNext() = index

```

```

< array.size\n    override fun nextFloat() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("doubleArrayIterator")\ninternal fun
doubleArrayIterator(array: DoubleArray) = object : DoubleIterator() {\n    var index = 0\n    override fun hasNext()
= index < array.size\n    override fun nextDouble() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("longArrayIterator")\ninternal fun longArrayIterator(array:
LongArray) = object : LongIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n
override fun nextLong() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("PropertyMetadata")\ninternal class
PropertyMetadata(@JsName("callableName") val name:
String)\n\n@JsName("noWhenBranchMatched")\ninternal fun noWhenBranchMatched(): Nothing = throw
NoWhenBranchMatchedException()\n\n@JsName("subSequence")\ninternal fun subSequence(c: CharSequence,
startIndex: Int, endIndex: Int): CharSequence {\n    if (c is String) {\n        return c.substring(startIndex, endIndex)\n
    } else {\n        return c.asDynamic().`subSequence_vux9f0$`(startIndex, endIndex)\n
    }\n}\n\n@JsName("captureStack")\ninternal fun captureStack(@Suppress("UNUSED_PARAMETER")
baseClass: JsClass<in Throwable>, instance: Throwable) {\n    if (js("Error").captureStackTrace) {\n        // Using
uncropped stack traces due to KT-37563.\n        // Precise stack traces are implemented in JS IR compiler and
stdlib\n        js("Error").captureStackTrace(instance);\n    } else {\n        instance.asDynamic().stack = js("new
Error()").stack;\n    }\n}\n\n@JsName("newThrowable")\ninternal fun newThrowable(message: String?, cause:
Throwable?): Throwable {\n    val throwable = js("new Error()")\n    throwable.message = if (jsTypeOf(message)
== "undefined") {\n        if (cause != null) cause.toString() else null\n    } else {\n        message\n    }\n
throwable.cause = cause\n    throwable.name = "Throwable"\n    return
throwable\n}\n\n@JsName("BoxedChar")\ninternal class BoxedChar(val c: Int) : Comparable<Int> {\n    override
fun equals(other: Any?): Boolean {\n        return other is BoxedChar && c == other.c\n    }\n\n    override fun
hashCode(): Int {\n        return c\n    }\n\n    override fun toString(): String {\n        return
js("this.c").unsafeCast<Char>().toString()\n    }\n\n    override fun compareTo(other: Int): Int {\n        return
js("this.c - other").unsafeCast<Int>()\n    }\n\n    @JsName("valueOf")\n    public fun valueOf(): Int {\n
return c\n    }\n}\n\n@kotlin.internal.InlineOnly\ninternal inline fun <T> concat(args: Array<T>): T {\n    val typed
= js("Array")(args.size)\n    for (i in args.indices) {\n        val arr = args[i]\n        if (arr !is Array<*>) {\n
typed[i] = js("[]").slice.call(arr)\n        } else {\n            typed[i] = arr\n        }\n    }\n    return
js("[]").concat.apply(js("[]"), typed);\n}\n\n/** Concat regular Array's and TypedArray's into an Array.\n
*/\n\n@PublishedApi\n@JsName("arrayConcat")\n@Suppress("UNUSED_PARAMETER")\ninternal fun <T>
arrayConcat(a: T, b: T): T {\n    return concat(js("arguments"))\n}\n\n/** Concat primitive arrays. Main use:
prepare vararg arguments.\n
* For compatibility with 1.1.0 the arguments may be a mixture of Array's and
TypedArray's.\n
* If the first argument is TypedArray (Byte-, Short-, Char-, Int-, Float-, and DoubleArray)
returns a TypedArray, otherwise an Array.\n
* If the first argument has the $type$ property (Boolean-, Char-, and
LongArray) copy its value to result.$type$.\n
* If the first argument is a regular Array without the $type$ property
default to arrayConcat.\n
*/\n\n@PublishedApi\n@JsName("primitiveArrayConcat")\n@Suppress("UNUSED_PARAMETER")\ninternal
fun <T> primitiveArrayConcat(a: T, b: T): T {\n    val args: Array<T> = js("arguments")\n    if (a is Array<*> &&
a.asDynamic().`$type$` === undefined) {\n        return concat(args)\n    } else {\n        var size = 0\n        for (i in
args.indices) {\n            size += args[i].asDynamic().length as Int\n        }\n        val result = js("new
a.constructor(size)")\n        kotlin.copyArrayType(a, result)\n        size = 0\n        for (i in args.indices) {\n            val
arr = args[i].asDynamic()\n            for (j in 0 until arr.length) {\n                result[size++] = arr[j]\n            }\n
return result\n    }\n}\n\n@JsName("booleanArrayOf")\ninternal fun booleanArrayOf() =
withType("BooleanArray", js("[]").slice.call(arguments))\n\n@JsName("charArrayOf") // The arguments have
to be slice'd here because of Rhino (see KT-16974)\ninternal fun charArrayOf() = withType("CharArray", js("new
Uint16Array([]).slice.call(arguments)))\n\n@JsName("longArrayOf")\ninternal fun longArrayOf() =
withType("LongArray",

```



```

js("[].slice.call(arguments)")\n\n@JsName("withType")\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun
withType(type: String, array: dynamic): dynamic {\n    array.`$type$` = type\n    return array\n}\n\n/*\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n *
Function corresponding to JavaScript's `typeof` operator\n
*\n\n@kotlin.internal.InlineOnly\n\n@Suppress("UNUSED_PARAMETER")\n\npublic inline fun jsTypeOf(a: Any?):
String = js("typeof a")\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n@file:Suppress("UNUSED_PARAMETER",
"NOTHING_TO_INLINE")\n\npackage kotlin\n\n/**\n * Returns an empty array of the specified type [T].\n
*\n\npublic inline fun <T> emptyArray(): Array<T> = js("[]")\n\n@library\n\npublic fun <T> arrayOf(vararg
elements: T): Array<T> = definedExternally\n\n@library\n\npublic fun doubleArrayOf(vararg elements: Double):
DoubleArray = definedExternally\n\n@library\n\npublic fun floatArrayOf(vararg elements: Float): FloatArray =
definedExternally\n\n@library\n\npublic fun longArrayOf(vararg elements: Long): LongArray =
definedExternally\n\n@library\n\npublic fun intArrayOf(vararg elements: Int): IntArray =
definedExternally\n\n@library\n\npublic fun charArrayOf(vararg elements: Char): CharArray =
definedExternally\n\n@library\n\npublic fun shortArrayOf(vararg elements: Short): ShortArray =
definedExternally\n\n@library\n\npublic fun byteArrayOf(vararg elements: Byte): ByteArray =
definedExternally\n\n@library\n\npublic fun booleanArrayOf(vararg elements: Boolean): BooleanArray =
definedExternally\n\n/**\n * Creates a new instance of the [Lazy] that uses the specified initialization function
[initializer].\n *\n\npublic actual fun <T> lazy(initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)\n\n/**\n *
Creates a new instance of the [Lazy] that uses the specified initialization function [initializer].\n *\n\n* The [mode]
parameter is ignored.\n *\n\npublic actual fun <T> lazy(mode: LazyThreadSafetyMode, initializer: () -> T): Lazy<T> =
UnsafeLazyImpl(initializer)\n\n/**\n * Creates a new instance of the [Lazy] that uses the specified initialization
function [initializer].\n *\n\n* The [lock] parameter is ignored.\n *\n\npublic actual fun <T> lazy(lock: Any?,
initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)\n\n\ninternal fun fillFrom(src: dynamic, dst: dynamic):
dynamic {\n    val srcLen: Int = src.length\n    val dstLen: Int = dst.length\n    var index: Int = 0\n    while (index <
srcLen && index < dstLen) dst[index] = src[index++]\n    return dst\n}\n\n\ninternal fun arrayCopyResize(source:
dynamic, newSize: Int, defaultValue: Any?): dynamic {\n    val result = source.slice(0, newSize)\n
copyArrayType(source, result)\n    var index: Int = source.length\n    if (newSize > index) {\n        result.length =
newSize\n        while (index < newSize) result[index++] = defaultValue\n    }\n    return result\n}\n\n\ninternal fun
<T> arrayPlusCollection(array: dynamic, collection: Collection<T>): dynamic {\n    val result = array.slice()\n
result.length += collection.size\n    copyArrayType(array, result)\n    var index: Int = array.length\n    for (element in
collection) result[index++] = element\n    return result\n}\n\n\ninternal fun <T> fillFromCollection(dst: dynamic,
startIndex: Int, collection: Collection<T>): dynamic {\n    var index = startIndex\n    for (element in collection)
dst[index++] = element\n    return dst\n}\n\n\ninternal inline fun copyArrayType(from: dynamic, to: dynamic) {\n    if
(from.`$type$` !== undefined) {\n        to.`$type$` = from.`$type$`\n    }\n}\n\n\ninternal inline fun jsIsType(obj:
dynamic, jsClass: dynamic) = js("Kotlin").isType(obj, jsClass),\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n/**\n * Creates a Char with the specified
[code].\n *\n\n* @sample samples.text.Chars.charFromCode\n
*\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\n@kotlin.internal.InlineOnly\n\npublic
actual inline fun Char(code: UShort): Char {\n    return code.toInt().toChar()\n}\n\n/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport
kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@SinceKotlin("1.3")\n\n@JsName("CoroutineImpl")\n\ninternal
abstract class CoroutineImpl(private val resultContinuation: Continuation<Any?>) : Continuation<Any?>
{\n    protected var state = 0\n    protected var exceptionState = 0\n    protected var result: Any? = null\n    protected

```

```

var exception: Throwable? = null\n    protected var finallyPath: Array<Int>? = null\n\n    public override val context:
CoroutineContext = resultContinuation.context\n\n    private var intercepted_: Continuation<Any?>? = null\n\n    public fun intercepted(): Continuation<Any?> =\n        intercepted_ \n        ?:\n    (context[ContinuationInterceptor]?.interceptContinuation(this) ?: this)\n        .also { intercepted_ = it }\n\n    override fun resumeWith(result: Result<Any?>) {\n        var current = this\n        var currentResult: Any? =
result.getOrNull()\n        var currentException: Throwable? = result.exceptionOrNull()\n        // This loop unrolls
recursion in current.resumeWith(param) to make saner and shorter stack traces on resume\n        while (true) {\n            with(current) {\n                val completion = resultContinuation\n                // Set result and exception fields in
the current continuation\n                if (currentException == null) {\n                    this.result = currentResult\n                } else {\n                    state = exceptionState\n                    exception = currentException\n                }\n            }\n            try {\n                val outcome = doResume()\n                if (outcome === COROUTINE_SUSPENDED)\n            }\n            return\n                currentResult = outcome\n                currentException = null\n            } catch (exception:
dynamic) { // Catch all exceptions\n                currentResult = null\n                currentException =
exception.unsafeCast<Throwable>()\n            }\n            releaseIntercepted() // this state machine instance is
terminating\n            if (completion is CoroutineImpl) {\n                // unrolling recursion via loop\n                current = completion\n            } else {\n                // top-level completion reached -- invoke and return\n                currentException?.let {\n                    completion.resumeWithException(it)\n                } ?:\n                completion.resume(currentResult)\n                return\n            }\n        }\n    }\n\n    private fun
releaseIntercepted() {\n        val intercepted = intercepted_ \n        if (intercepted != null && intercepted !== this) {\n            context[ContinuationInterceptor]!!.releaseInterceptedContinuation(intercepted)\n        }\n        this.intercepted_
= CompletedContinuation // just in case\n    }\n\n    protected abstract fun doResume(): Any?\n\n    internal object
CompletedContinuation : Continuation<Any?> {\n        override val context: CoroutineContext\n        get() =
error(\n        "This continuation is already complete")\n        override fun resumeWith(result: Result<Any?>) {\n            error(\n            "This continuation is already complete")\n        }\n        override fun toString(): String = \n        "This continuation is
already complete"\n    }\n\n    /**\n     * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n     * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n     */\n\n    @file:Suppress(\n        "UNCHECKED_CAST",\n        "RedundantVisibilityModifier")\n\n    package kotlin\n\n    import kotlin.contracts.*\n    import
kotlin.internal.InlineOnly\n    import kotlin.jvm.JvmField\n    import kotlin.jvm.JvmInline\n    import
kotlin.jvm.JvmName\n\n    /**\n     * A discriminated union that encapsulates a successful outcome with a value of type
[T]\n     * or a failure with an arbitrary [Throwable] exception.\n     */\n\n    @SinceKotlin("1.3")\n    @JvmInline\n    public
value class Result<out T> @PublishedApi internal constructor(\n        @PublishedApi\n        internal val value: Any?\n    ) :
Serializable {\n        // discovery\n        /**\n         * Returns `true` if this instance represents a successful outcome.\n         *
In this case [isFailure] returns `false`.\n         */\n        @\n        public val isSuccess: Boolean\n        get() = value !is Failure\n        /**\n         * Returns `true` if this instance represents a failed outcome.\n         *
In this case [isSuccess] returns `false`.\n         */\n        @\n        public val isFailure: Boolean\n        get() = value is Failure\n        // value & exception retrieval\n        /**\n         * Returns the
encapsulated value if this instance represents [success][Result.isSuccess] or `null`\n         * if it is
[failure][Result.isFailure].\n         */\n        * This function is a shorthand for `getOrElse { null }` (see [getOrElse]) or\n
* `fold(onSuccess = { it }, onFailure = { null })` (see [fold]).\n         */\n        @InlineOnly\n        public inline fun
getOrNull(): T? =\n            when {\n                isFailure -> null\n                else -> value as T\n            }\n        /**\n         *
Returns the encapsulated [Throwable] exception if this instance represents [failure][isFailure] or `null`\n         * if it is
[success][isSuccess].\n         */\n        * This function is a shorthand for `fold(onSuccess = { null }, onFailure = { it })`
(see [fold]).\n         */\n        public fun exceptionOrNull(): Throwable? =\n            when (value) {\n                is Failure ->
value.exception\n                else -> null\n            }\n        /**\n         * Returns a string `Success(v)` if this instance represents
[success][Result.isSuccess]\n         * where `v` is a string representation of the value or a string `Failure(x)` if\n         * it
is [failure][isFailure] where `x` is a string representation of the exception.\n         */\n        public override fun toString():
String =\n            when (value) {\n                is Failure -> value.toString() // "Failure($exception)"\n                else ->
"Success($value)"\n            }\n        // companion with constructors\n        /**\n         * Companion object for [Result]

```

```

class that contains its constructor functions\n    * [success] and [failure].\n    */\n    public companion object {\n
/**\n    * Returns an instance that encapsulates the given [value] as successful value.\n    */\n
@Suppress("INAPPLICABLE_JVM_NAME")\n    @InlineOnly\n    @JvmName("success")\n    public
inline fun <T> success(value: T): Result<T> =\n        Result(value)\n    /**\n    * Returns an instance that
encapsulates the given [Throwable] [exception] as failure.\n    */\n
@Suppress("INAPPLICABLE_JVM_NAME")\n    @InlineOnly\n    @JvmName("failure")\n    public
inline fun <T> failure(exception: Throwable): Result<T> =\n        Result(createFailure(exception))\n    }\n
internal class Failure(\n    @JvmField\n    val exception: Throwable\n    ): Serializable {\n    override fun
equals(other: Any?): Boolean = other is Failure && exception == other.exception\n    override fun hashCode():
Int = exception.hashCode()\n    override fun toString(): String = "Failure($exception)"\n    }\n
/**\n    * Creates an instance of internal marker [Result.Failure] class to\n    * make sure that this class is not exposed in ABI.\n    */\n    @PublishedApi\n    @SinceKotlin("1.3")\n    internal fun createFailure(exception: Throwable): Any =\n
Result.Failure(exception)\n
/**\n    * Throws exception if the result is failure. This internal function minimizes\n    *
inlined bytecode for [getOrThrow] and makes sure that in the future we can\n    * add some exception-augmenting
logic here (if needed).\n    */\n    @PublishedApi\n    @SinceKotlin("1.3")\n    internal fun Result<*>.throwOnFailure() {\n
if (value is Result.Failure) throw value.exception\n    }\n
/**\n    * Calls the specified function [block] and returns its
encapsulated result if invocation was successful,\n    * catching any [Throwable] exception that was thrown from the
[block] function execution and encapsulating it as a failure.\n    */\n    @InlineOnly\n    @SinceKotlin("1.3")\n    public
inline fun <R> runCatching(block: () -> R): Result<R> {\n    return try {\n        Result.success(block())\n    } catch
(e: Throwable) {\n        Result.failure(e)\n    }\n    }\n
/**\n    * Calls the specified function [block] with `this` value as
its receiver and returns its encapsulated result if invocation was successful,\n    * catching any [Throwable] exception
that was thrown from the [block] function execution and encapsulating it as a failure.\n    */\n    @InlineOnly\n    @SinceKotlin("1.3")\n    public inline fun <T, R> T.runCatching(block: T.() -> R): Result<R> {\n
return try {\n        Result.success(block())\n    } catch (e: Throwable) {\n        Result.failure(e)\n    }\n    }\n
--
extensions ---\n
/**\n    * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or
throws the encapsulated [Throwable] exception\n    * if it is [failure][Result.isFailure].\n    */\n    * This function is a
shorthand for `getOrNull { throw it }` (see [getOrNull]).\n    */\n    @InlineOnly\n    @SinceKotlin("1.3")\n    public inline
fun <T> Result<T>.getOrThrow(): T {\n    throwOnFailure()\n    return value as T\n    }\n
/**\n    * Returns the
encapsulated value if this instance represents [success][Result.isSuccess] or the\n    * result of [onFailure] function for
the encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n    */\n    * Note, that this function rethrows
any [Throwable] exception thrown by [onFailure] function.\n    */\n    * This function is a shorthand for `fold(onSuccess
= { it }, onFailure = onFailure)` (see [fold]).\n    */\n    @InlineOnly\n    @SinceKotlin("1.3")\n    public inline fun <R, T :
R> Result<T>.getOrNull(onFailure: (exception: Throwable) -> R): R {\n    contract {\n        callsInPlace(onFailure,
InvocationKind.AT_MOST_ONCE)\n    }\n    return when (val exception = exceptionOrNull()) {\n        null ->
value as T\n        else -> onFailure(exception)\n    }\n    }\n
/**\n    * Returns the encapsulated value if this instance
represents [success][Result.isSuccess] or the\n    * [defaultValue] if it is [failure][Result.isFailure].\n    */\n    * This
function is a shorthand for `getOrNull { defaultValue }` (see [getOrNull]).\n    */\n    @InlineOnly\n    @SinceKotlin("1.3")\n    public inline fun <R, T : R> Result<T>.getOrDefault(defaultValue: R):
R {\n    if (isFailure) return defaultValue\n    return value as T\n    }\n
/**\n    * Returns the result of [onSuccess] for the
encapsulated value if this instance represents [success][Result.isSuccess]\n    * or the result of [onFailure] function for
the encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n    */\n    * Note, that this function rethrows
any [Throwable] exception thrown by [onSuccess] or by [onFailure] function.\n    */\n    @InlineOnly\n    @SinceKotlin("1.3")\n    public inline fun <R, T> Result<T>.fold(\n    onSuccess: (value: T) ->
R,\n    onFailure: (exception: Throwable) -> R): R {\n    contract {\n        callsInPlace(onSuccess,\n        InvocationKind.AT_MOST_ONCE)\n        callsInPlace(onFailure, InvocationKind.AT_MOST_ONCE)\n    }\n    return when (val exception = exceptionOrNull()) {\n        null -> onSuccess(value as T)\n        else ->
onFailure(exception)\n    }\n    }\n
/**\n    * Returns the encapsulated result of the given
[transform] function applied to the encapsulated value\n    * if this instance represents [success][Result.isSuccess] or

```

the original encapsulated [Throwable] exception if it is [failure][Result.isFailure]. Note, that this function rethrows any [Throwable] exception thrown by [transform] function. See [mapCatching] for an alternative that encapsulates exceptions.

```

*InlineOnly@SinceKotlin("1.3")
public inline fun <R, T>
Result<T>.map(transform: (value: T) -> R): Result<R> {
    contract {
        callsInPlace(transform,
InvocationKind.AT_MOST_ONCE)
    }
    return when {
        isSuccess -> Result.success(transform(value as T))
        else -> Result(value)
    }
}

```

* Returns the encapsulated result of the given [transform] function applied to the encapsulated value if this instance represents [success][Result.isSuccess] or the original encapsulated [Throwable] exception if it is [failure][Result.isFailure]. This function catches any [Throwable] exception thrown by [transform] function and encapsulates it as a failure. See [map] for an alternative that rethrows exceptions from `transform` function.

```

*InlineOnly@SinceKotlin("1.3")
public inline fun <R, T>
Result<T>.mapCatching(transform: (value: T) -> R): Result<R> {
    return when {
        isSuccess ->
runCatching { transform(value as T) }
        else -> Result(value)
    }
}

```

* Returns the encapsulated result of the given [transform] function applied to the encapsulated [Throwable] exception if this instance represents [failure][Result.isFailure] or the original encapsulated value if it is [success][Result.isSuccess]. Note, that this function rethrows any [Throwable] exception thrown by [transform] function. See [recoverCatching] for an alternative that encapsulates exceptions.

```

*InlineOnly@SinceKotlin("1.3")
public inline fun <R, T : R>
Result<T>.recover(transform: (exception:
Throwable) -> R): Result<R> {
    contract {
        callsInPlace(transform, InvocationKind.AT_MOST_ONCE)
    }
    return when (val exception = exceptionOrNull()) {
        null -> this
        else ->
Result.success(transform(exception))
    }
}

```

* Returns the encapsulated result of the given [transform] function applied to the encapsulated [Throwable] exception if this instance represents [failure][Result.isFailure] or the original encapsulated value if it is [success][Result.isSuccess]. This function catches any [Throwable] exception thrown by [transform] function and encapsulates it as a failure. See [recover] for an alternative that rethrows exceptions.

```

*InlineOnly@SinceKotlin("1.3")
public inline fun <R, T : R>
Result<T>.recoverCatching(transform: (exception: Throwable) -> R): Result<R> {
    return when (val exception =
exceptionOrNull()) {
        null -> this
        else -> runCatching { transform(exception) }
    }
}

```

* Performs the given [action] on the encapsulated [Throwable] exception if this instance represents [failure][Result.isFailure]. Returns the original `Result` unchanged.

```

*InlineOnly@SinceKotlin("1.3")
public inline fun <T>
Result<T>.onFailure(action: (exception:
Throwable) -> Unit): Result<T> {
    contract {
        callsInPlace(action, InvocationKind.AT_MOST_ONCE)
    }
    exceptionOrNull()?.let { action(it) }
    return this
}

```

* Performs the given [action] on the encapsulated value if this instance represents [success][Result.isSuccess]. Returns the original `Result` unchanged.

```

*InlineOnly@SinceKotlin("1.3")
public inline fun <T>
Result<T>.onSuccess(action: (value:
T) -> Unit): Result<T> {
    contract {
        callsInPlace(action, InvocationKind.AT_MOST_ONCE)
    }
    if (isSuccess) action(value as T)
    return this
}

```

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```

package kotlin.coroutines
import kotlin.contracts.*
import kotlin.coroutines.intrinsics.*
import kotlin.internal.InlineOnly

```

* Interface representing a continuation after a suspension point that returns a value of type `T`.

```

@SinceKotlin("1.3")
public interface Continuation<in T> {
    /**
     * The context of the coroutine that corresponds to this continuation.
     */
    public val context: CoroutineContext

    /**
     * Resumes the execution of the corresponding coroutine passing a successful or failed [result] as the return value of the last suspension point.
     */
    public fun resumeWith(result: Result<T>)
}

```

* Classes and interfaces marked with this annotation are restricted when used as receivers for extension `suspend` functions. These `suspend` extensions can only invoke other member or extension `suspend` functions on this particular receiver and are restricted from calling arbitrary suspension functions.

```

@SinceKotlin("1.3")
@Target(AnnotationTarget.CLASS)
@Retention(AnnotationRetention.BINARY)
public annotation class RestrictsSuspension

```

* Resumes the execution of the corresponding coroutine passing

```

[value] as the return value of the last suspension point.\n *
\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline
fun <T> Continuation<T>.resume(value: T): Unit =\n    resumeWith(Result.success(value))\n\n/**\n * Resumes the
execution of the corresponding coroutine so that the [exception] is re-thrown right after the\n * last suspension
point.\n *
\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline fun <T>
Continuation<T>.resumeWithException(exception: Throwable): Unit =\n
resumeWith(Result.failure(exception))\n\n/**\n * Creates a [Continuation] instance with the given [context] and
implementation of [resumeWith] method.\n *
\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline fun <T>
Continuation(\n    context: CoroutineContext,\n    crossinline resumeWith: (Result<T>) -> Unit\n): Continuation<T>
=\n    object : Continuation<T> {\n        override val context: CoroutineContext\n            get() = context\n\n        override fun resumeWith(result: Result<T>) =\n            resumeWith(result)\n    }\n\n/**\n * Creates a coroutine
without a receiver and with result type [T].\n * This function creates a new, fresh instance of suspendable
computation every time it is invoked.\n * To start executing the created coroutine, invoke `resume(Unit)` on the
returned [Continuation] instance.\n * The [completion] continuation is invoked when the coroutine completes with a
result or an exception.\n * Subsequent invocation of any resume function on the resulting continuation will produce
an [IllegalStateException].\n *
\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <T>
(suspend () -> T).createCoroutine(\n    completion: Continuation<T>\n): Continuation<Unit> =\n
SafeContinuation(createCoroutineUnintercepted(completion).intercepted(), COROUTINE_SUSPENDED)\n\n/**\n *
Creates a coroutine with receiver type [R] and result type [T].\n * This function creates a new, fresh instance of
suspendable computation every time it is invoked.\n * To start executing the created coroutine, invoke
`resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when the
coroutine completes with a result or an exception.\n * Subsequent invocation of any resume function on the resulting
continuation will produce an [IllegalStateException].\n
\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <R, T> (suspend R.() ->
T).createCoroutine(\n    receiver: R,\n    completion: Continuation<T>\n): Continuation<Unit> =\n
SafeContinuation(createCoroutineUnintercepted(receiver, completion).intercepted(),
COROUTINE_SUSPENDED)\n\n/**\n * Starts a coroutine without a receiver and with result type [T].\n * This
function creates and starts a new, fresh instance of suspendable computation every time it is invoked.\n * The
[completion] continuation is invoked when the coroutine completes with a result or an exception.\n
\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <T> (suspend () ->
T).startCoroutine(\n    completion: Continuation<T>\n) {\n
createCoroutineUnintercepted(completion).intercepted().resume(Unit)\n}\n\n/**\n * Starts a coroutine with receiver
type [R] and result type [T].\n * This function creates and starts a new, fresh instance of suspendable computation
every time it is invoked.\n * The [completion] continuation is invoked when the coroutine completes with a result or
an exception.\n *
\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <R, T> (suspend
R.() -> T).startCoroutine(\n    receiver: R,\n    completion: Continuation<T>\n) {\n
createCoroutineUnintercepted(receiver, completion).intercepted().resume(Unit)\n}\n\n/**\n * Obtains the current
continuation instance inside suspend functions and suspends\n * the currently running coroutine.\n * In this
function both [Continuation.resume] and [Continuation.resumeWithException] can be used either synchronously
in\n * the same stack-frame where the suspension function is run or asynchronously later in the same thread or\n *
from a different thread of execution. Subsequent invocation of any resume function will produce an
[IllegalStateException].\n *
\n@SinceKotlin("1.3")\n@InlineOnly\npublic suspend inline fun <T>
suspendCoroutine(crossinline block: (Continuation<T>) -> Unit): T {\n    contract { callsInPlace(block,
InvocationKind.EXACTLY_ONCE) }\n    return suspendCoroutineUninterceptedOrReturn { c: Continuation<T> -
>\n        val safe = SafeContinuation(c.intercepted())\n        block(safe)\n        safe.getOrThrow()\n    }\n}\n\n/**\n *
Returns the context of the current coroutine.\n
\n@SinceKotlin("1.3")\n@Suppress("WRONG_MODIFIER_TARGET")\n@InlineOnly\npublic suspend inline
val coroutineContext: CoroutineContext\n    get() {\n        throw NotImplementedError("Implemented as
intrinsic")\n    },"/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n

```

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```

package kotlin.coroutines.intrinsics
import kotlin.coroutines.*
import kotlin.internal.InlineOnly

Starts an unintercepted coroutine without a receiver and with result type [T] and executes it until its first suspension. Returns the result of the coroutine or throws its exception if it does not suspend or [COROUTINE_SUSPENDED] if it suspends. In the latter case, the [completion] continuation is invoked when the coroutine completes with a result or an exception. The coroutine is started directly in the invoker's thread without going through the [ContinuationInterceptor] that might be present in the completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation context is established. This function is designed to be used from inside of [suspendCoroutineUninterceptedOrReturn] to resume the execution of the suspended coroutine using a reference to the suspending function.
@SinceKotlin("1.3")@InlineOnly public actual inline fun <T> (suspend () -> T).startCoroutineUninterceptedOrReturn(completion: Continuation<T>): Any? = this.asDynamic()(completion, false)
Starts an unintercepted coroutine with receiver type [R] and result type [T] and executes it until its first suspension. Returns the result of the coroutine or throws its exception if it does not suspend or [COROUTINE_SUSPENDED] if it suspends. In the latter case, the [completion] continuation is invoked when the coroutine completes with a result or an exception. The coroutine is started directly in the invoker's thread without going through the [ContinuationInterceptor] that might be present in the completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation context is established. This function is designed to be used from inside of [suspendCoroutineUninterceptedOrReturn] to resume the execution of the suspended coroutine using a reference to the suspending function.
@SinceKotlin("1.3")@InlineOnly public actual inline fun <R, T> (suspend R.() -> T).startCoroutineUninterceptedOrReturn(receiver: R, completion: Continuation<T>): Any? = this.asDynamic()(receiver, completion, false)
@SinceKotlin("1.3")@Internal public actual inline fun <R, P, T> (suspend R.(P) -> T).startCoroutineUninterceptedOrReturn(receiver: R, param: P, completion: Continuation<T>): Any? = this.asDynamic()(receiver, param, completion, false)
Creates unintercepted coroutine without receiver and with result type [T]. This function creates a new, fresh instance of suspendable computation every time it is invoked. To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance. The [completion] continuation is invoked when coroutine completes with result or exception. This function returns unintercepted continuation. Invocation of `resume(Unit)` starts coroutine immediately in the invoker's call stack without going through the [ContinuationInterceptor] that might be present in the completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation context is established. Note that [completion] of this function may get invoked in an arbitrary context. [Continuation.intercepted] can be used to acquire the intercepted continuation. Invocation of `resume(Unit)` on intercepted continuation guarantees that execution of both the coroutine and [completion] happens in the invocation context established by [ContinuationInterceptor]. Repeated invocation of any resume function on the resulting continuation corrupts the state machine of the coroutine and may result in arbitrary behaviour or exception.
@SinceKotlin("1.3") public actual fun <T> (suspend () -> T).createCoroutineUnintercepted(completion: Continuation<T>): Continuation<Unit> = if (this.asDynamic().length == 2) { // Kotlin/JS suspend lambdas have an extra parameter `suspended` if (this.asDynamic().length == 2) { // When `suspended` is true the continuation is created, but not executed this.asDynamic()(completion, true) } else { createCoroutineFromSuspendFunction(completion) { this.asDynamic()(completion) } } }
Creates unintercepted coroutine with receiver type [R] and result type [T]. This function creates a new, fresh instance of suspendable computation every time it is invoked. To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance. The [completion] continuation is invoked when coroutine completes with result or exception. This function returns unintercepted continuation. Invocation of `resume(Unit)` starts coroutine immediately in the invoker's call stack without going through the [ContinuationInterceptor] that might be present in the completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation context is established. Note that [completion] of this function

```

may get invoked in an arbitrary context.

```

    * [Continuation.intercepted] can be used to acquire the intercepted
    continuation.
    * Invocation of `resume(Unit)` on intercepted continuation guarantees that execution of
    both the coroutine and [completion] happens in the invocation context established by
    [ContinuationInterceptor].
    * Repeated invocation of any resume function on the resulting continuation corrupts the
    state machine of the coroutine and may result in arbitrary behaviour or exception.
    * Since Kotlin(1.3)
    public actual fun <R, T>
    (suspend R.() -> T).createCoroutineUnintercepted(
    receiver: R,
    completion: Continuation<T>):
    Continuation<Unit> =
    // Kotlin/JS suspend lambdas have an extra parameter `suspended`
    if
    (this.asDynamic().length == 3) {
    // When `suspended` is true the continuation is created, but not executed
    this.asDynamic()(receiver, completion, true)
    } else {
    createCoroutineFromSuspendFunction(completion)
    {
    this.asDynamic()(receiver, completion)
    }
    }
    * Intercepts this continuation with
    [ContinuationInterceptor].
    * This function shall be used on the immediate result of
    [createCoroutineUnintercepted] or [suspendCoroutineUninterceptedOrReturn],
    in which case it checks for
    [ContinuationInterceptor] in the continuation's [context][Continuation.context],
    invokes
    [ContinuationInterceptor.interceptContinuation], caches and returns the result.
    * If this function is invoked on
    other [Continuation] instances it returns `this` continuation unchanged.
    * Since Kotlin(1.3)
    public actual
    fun <T> Continuation<T>.intercepted(): Continuation<T> =
    (this as? CoroutineImpl)?.intercepted() ?:
    this
    private inline fun <T> createCoroutineFromSuspendFunction(
    completion: Continuation<T>,
    crossinline block: () -> Any?): Continuation<Unit> {
    @Suppress("UNCHECKED_CAST")
    return object
    : CoroutineImpl(completion as Continuation<Any?>) {
    override fun doResume(): Any? {
    exception?.let { throw it }
    return block()
    }
    }
    * Copyright 2010-2018 JetBrains s.r.o.
    and Kotlin Programming Language contributors.
    * Use of this source code is governed by the Apache 2.0 license
    that can be found in the license/LICENSE.txt file.
    * package kotlin.js
    // Mirrors signature from JS IR
    BE
    // Used for
    js.translator/testData/box/number/mulInt32.kt
    @library
    @JsName("imulEmulated")
    @Suppress("UNUSED_PARAMETER")
    internal fun imul(x: Int, y: Int): Int =
    definedExternally
    @Suppress("NOTHING_TO_INLINE")
    internal inline fun isArrayish(o: dynamic) =
    js("Kotlin").isArrayish(o)
    * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
    contributors.
    * Use of this source code is governed by the Apache 2.0 license that can be found in the
    license/LICENSE.txt file.
    * package kotlin
    // NOTE: Do not author your exceptions as they are written in
    this file, instead use this template:
    * public open class MyException : Exception {
    constructor() : super()
    constructor(message: String?) : super(message)
    constructor(message: String?, cause: Throwable?) :
    super(message, cause)
    constructor(cause: Throwable?) : super(cause)
    }
    * TODO: remove primary
    constructors, make all secondary
    KT-22055
    @Suppress("USELESS_ELVIS_RIGHT_IS_NULL")
    public actual open class Error actual constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null)
    {
    actual constructor() : this(null, null)
    actual constructor(message: String?) : this(message, null)
    actual
    constructor(cause: Throwable?) : this(
    cause)
    }
    @Suppress("USELESS_ELVIS_RIGHT_IS_NULL")
    public actual open class Exception actual
    constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null) {
    actual constructor() :
    this(null, null)
    actual constructor(message: String?) : this(message, null)
    actual constructor(cause:
    Throwable?) : this(
    undefined, cause)
    }
    public actual open class RuntimeException actual constructor(message:
    String?, cause: Throwable?) : Exception(message, cause) {
    actual constructor() : this(null, null)
    actual
    constructor(message: String?) : this(message, null)
    actual constructor(cause: Throwable?) : this(
    undefined,
    cause)
    }
    public actual open class IllegalArgumentException actual constructor(message: String?, cause:
    Throwable?) : RuntimeException(message, cause) {
    actual constructor() : this(null, null)
    actual
    constructor(message: String?) : this(message, null)
    actual constructor(cause: Throwable?) : this(
    undefined,
    cause)
    }
    public actual open class IllegalStateException actual constructor(message: String?, cause: Throwable?) :
    RuntimeException(message, cause) {
    actual constructor() : this(null, null)
    actual constructor(message:
    String?) : this(message, null)
    actual constructor(cause: Throwable?) : this(
    undefined,
    cause)
    }
    public actual
    
```

```

open class IndexOutOfBoundsException actual constructor(message: String?) : RuntimeException(message) {\n
actual constructor() : this(null)\n}\n\npublic actual open class ConcurrentModificationException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefiend, cause)\n}\n\npublic actual open class UnsupportedOperationException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefiend, cause)\n}\n\n\npublic actual open class NumberFormatException actual
constructor(message: String?) : IllegalArgumentException(message) {\n  actual constructor() :
this(null)\n}\n\n\npublic actual open class NullPointerException actual constructor(message: String?) :
RuntimeException(message) {\n  actual constructor() : this(null)\n}\n\n\npublic actual open class
ClassCastException actual constructor(message: String?) : RuntimeException(message) {\n  actual constructor() :
this(null)\n}\n\n\npublic actual open class AssertionError\n@SinceKotlin(\\"1.4\")\nconstructor(message: String?,
cause: Throwable?) : Error(message, cause) {\n  actual constructor() : this(null)\n  constructor(message: String?) :
this(message, null)\n  actual constructor(message: Any?) : this(message.toString(), message as?
Throwable)\n}\n\n\npublic actual open class NoSuchElementException actual constructor(message: String?) :
RuntimeException(message) {\n  actual constructor() : this(null)\n}\n\n\n@SinceKotlin(\\"1.3\")\n\npublic actual open
class ArithmeticException actual constructor(message: String?) : RuntimeException(message) {\n  actual
constructor() : this(null)\n}\n\n\npublic actual open class NoWhenBranchMatchedException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefiend, cause)\n}\n\n\npublic actual open class UninitializedPropertyAccessException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefiend, cause)\n}\n\n\n", /*\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n\n\n@file:Suppress(\\"UNUSED_PARAMETER\")\n\n\npackage kotlin.js\n\n\n@kotlin.internal.InlineOnly\n\ninternal
inline fun jsDeleteProperty(obj: Any, property: Any) {\n  js(\\"delete
obj[property]\")\n}\n\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun jsBitwiseOr(lhs: Any?, rhs: Any?): Int =\n
js(\\"lhs | rhs\").unsafeCast<Int>()", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n\npackage kotlin.math\n\n\n**\n * Returns this value with the sign bit same as of the
[sign] value.\n * \n * If [sign] is `NaN` the sign of the result is undefiend.\n *\n\n@SinceKotlin(\\"1.2\")\n\npublic actual
fun Double.withSign(sign: Double): Double {\n  val thisSignBit =
js(\\"Kotlin\").doubleSignBit(this).unsafeCast<Int>()\n  val newSignBit =
js(\\"Kotlin\").doubleSignBit(sign).unsafeCast<Int>()\n  return if (thisSignBit == newSignBit) this else -
this\n}\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin\n\n\n**\n * Returns a bit representation of the specified floating-point value as [Long]\n *
according to the IEEE 754 floating-point \\"double format\" bit layout.\n
*\n\n@SinceKotlin(\\"1.2\")\n\n@library(\\"doubleToBits\")\n\npublic actual fun Double.toBits(): Long =
definedExternally\n\n\n**\n * Returns a bit representation of the specified floating-point value as [Long]\n *
according to the IEEE 754 floating-point \\"double format\" bit layout,\n * preserving `NaN` values exact layout.\n
*\n\n@SinceKotlin(\\"1.2\")\n\n@library(\\"doubleToRawBits\")\n\npublic actual fun Double.toRawBits(): Long =
definedExternally\n\n\n**\n * Returns the [Double] value corresponding to a given bit representation.\n
*\n\n@SinceKotlin(\\"1.2\")\n\n@kotlin.internal.InlineOnly\n\npublic actual inline fun Double.Companion.fromBits(bits:
Long): Double = js(\\"Kotlin\").doubleFromBits(bits).unsafeCast<Double>()\n\n\n**\n * Returns a bit representation
of the specified floating-point value as [Int]\n * according to the IEEE 754 floating-point \\"single format\" bit

```



```

layout.\n * Note that in Kotlin/JS [Float] range is wider than "single format" bit layout can represent,\n * so
some [Float] values may overflow, underflow or loose their accuracy after conversion to bits and back.\n
*\n@SinceKotlin("1.2")\n@library("floatToBits")\npublic actual fun Float.toBits(): Int =
definedExternally\n\n**\n * Returns a bit representation of the specified floating-point value as [Int]\n * according
to the IEEE 754 floating-point "single format" bit layout,\n * preserving NaN values exact layout.\n * Note
that in Kotlin/JS [Float] range is wider than "single format" bit layout can represent,\n * so some [Float] values
may overflow, underflow or loose their accuracy after conversion to bits and back.\n
*\n@SinceKotlin("1.2")\n@library("floatToRawBits")\npublic actual fun Float.toRawBits(): Int =
definedExternally\n\n**\n * Returns the [Float] value corresponding to a given bit representation.\n
*\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual inline fun Float.Companion.fromBits(bits:
Int): Float =
js("Kotlin").floatFromBits(bits).unsafeCast<Float>()\n\n@Suppress("NOTHING_TO_INLINE")\ninternal
inline fun Long(low: Int, high: Int) = js("Kotlin").Long.fromBits(low, high).unsafeCast<Long>()\ninternal inline
val Long.low: Int get() = this.asDynamic().getLowBits().unsafeCast<Int>()\ninternal inline val Long.high: Int get()
= this.asDynamic().getHighBits().unsafeCast<Int>()\n",/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\nimport kotlin.reflect.KClass\n\n@PublishedApi\ninternal fun <T :
Annotation> KClass<*>.findAssociatedObject(@Suppress("UNUSED_PARAMETER") annotationClass:
KClass<T>): Any? {\n // This API is not supported in js-v1. Return `null` to be source-compatible with js-ir.\n
return null\n}\n",/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin.text\n\n**\n * Returns a string representation of this [Long] value in the specified [radix].\n
*\n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n
*\n@SinceKotlin("1.2")\npublic actual fun Long.toString(radix: Int): String =
asDynamic().toString(checkRadix(radix))\n",/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the
GenerateUnicodeData.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n/\n// 1343 ranges
totally\nprivate object Category {\n val decodedRangeStart: IntArray\n val decodedRangeCategory: IntArray\n
\n init {\n val toBase64 =
"ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+\n val fromBase64 =
IntArray(128)\n for (i in toBase64.indices) {\n fromBase64[toBase64[i].code] = i\n }\n \n //
rangeStartDiff.length = 1482\n val rangeStartDiff =
"gBCFEDCKCDCaDDaDBhBCEEDDDDDDEDXBHYBH5BRwBGDCHDCIDFHDCHFDCDEIRTEE7BGHDDJI
CBbSEMOFGERwDEDDDDDECEFCRBjHBFDCYFFCCzBvBjBBFC3BohDBmBDGpBDDCtBBJlBEELGDFC
LDCgBBKVKEDiDDHCFECECKCEODBebC5CLBOKhBJDDDDWEBHFCEFCPBZDEL1BVBSLPBgBB2BDB
DICFBHKCKCPDBHEDWBHEDDDDEDEDIBDGDCKCCGDDDCGECCWBFMDDCEDDDCHDDHKDDBK
DBHFCEWBFGBDDDFEDBPDDKCHBGDCHEDWBFGBDCEDEDBHDDGDCKCGJEGDBFDDFDDEDDME
FDBFDCGBOKDFDFDCGFCXBQDDDDDBEGEDFDDKHBHDDGFCXBKBFCEFCFCHCHECKDNCCHFC
oBEDECFDDDDHDCKJBGDCSDYBJEHBFDDEBIGKDCMuBFHEBGBIBKCKBFBFBXEIFJDFDGCKCEgB
BDPEDGKKGECIBkBEOBDFFLBkBBIBEFFECiBrBCEBEGDBKGGDDDDCHDENDCFEKDDIBDDFrBCD
pKBECGEECPBBEChBBECGEECPB5BBECjCCDJUDQKG2CCGDsTCRbaCDrCDDIHNBEDLSDCJSCMLFC
CM0BDHGFBLBFDDKKGGEFDDDBKGjBB1BHFChBDFmCKfDDDDDDCGDCFDKKeCFLsBEaGKBDiBXDDD1
BDGDEIGJEKGGHGBCMF/BEBvCEEDDFHEKHKJDDDeDDGDKsBFEDCIEkBIICCFDKDDKeGCJHrBCDI
IDBNBHEBEFDBFsB/BNBiBIB6BBF1EiIhJIGCGCIIIIGCGCIIIIOCIIIIIFEDDBFEDDDDEBDIFDDFEDBLF
GCEECFBJCDEDCLDKBFBKCCGDDKDDNDgBQNEBDMPPFFDEDEBFFHECEBEEDFBEDDQjBCEDEFFC
CJHBeEEfsIIEUCHCxCBZoBGICZLV8BuCW3FBjB2BiVDB4HOesBFCfKQgJEW/BEgBCiIwBVCGnBCgBBp
DvBBuBEDBHEFGCCjDCGEDCFCFIBDDF4BHC0BXJHBHBHBHBHBHBHBgBCECGHGEDIFFBKCEDM

```



```

GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n/\n\nimport
kotlin.js.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Reverses elements in the list in-
place.\n */\npublic actual fun <T> MutableList<T>.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if
(midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n
        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n"/**\n *
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governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.text\n\n/\n\nNOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n/\n\n// 37 ranges totally\nprivate object Digit {\n
internal val rangeStart = intArrayOf(\n    0x0030, 0x0660, 0x06f0, 0x07c0, 0x0966, 0x09e6, 0x0a66, 0x0ae6,
0x0b66, 0x0be6, 0x0c66, 0x0ce6, 0x0d66, 0x0de6, 0x0e50, 0x0ed0, 0x0f20, 0x1040, 0x1090, 0x17e0, \n
0x1810, 0x1946, 0x19d0, 0x1a80, 0x1a90, 0x1b50, 0x1bb0, 0x1c40, 0x1c50, 0xa620, 0xa8d0, 0xa900, 0xa9d0,
0xa9f0, 0xaa50, 0xabf0, 0xff10, \n    )\n}\n\n/**\n * Returns the index of the largest element in [array] smaller or
equal to the specified [needle],\n * or -1 if [needle] is smaller than the smallest element in [array].\n */\ninternal fun
binarySearchRange(array: IntArray, needle: Int): Int {\n    var bottom = 0\n    var top = array.size - 1\n    var middle
= -1\n    var value = 0\n    while (bottom <= top) {\n        middle = (bottom + top) / 2\n        value = array[middle]\n
        if (needle > value)\n            bottom = middle + 1\n        else if (needle == value)\n            return middle\n
        else\n            top = middle - 1\n    }\n    return middle - (if (needle < value) 1 else 0)\n}\n\n/**\n * Returns an integer
from 0..9 indicating the digit this character represents,\n * or -1 if this character is not a digit.\n */\ninternal fun
Char.digitToIntImpl(): Int {\n    val ch = this.code\n    val index = binarySearchRange(Digit.rangeStart, ch)\n    val
diff = ch - Digit.rangeStart[index]\n    return if (diff < 10) diff else -1\n}\n\n/**\n * Returns `true` if this character is
a digit.\n */\ninternal fun Char.isDigitImpl(): Boolean {\n    return digitToIntImpl() >= 0\n}\n"/**\n * Copyright
2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n\nNOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n/\n\n// 222 ranges totally\nprivate object Letter {\n
val decodedRangeStart: IntArray\n    val decodedRangeLength: IntArray\n    val decodedRangeCategory: IntArray\n
\n    init {\n        val toBase64 =
\n        \"ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+/\n        val fromBase64 =
\n        IntArray(128)\n        for (i in toBase64.indices) {\n            fromBase64[toBase64[i].code] = i\n        }\n        //
\n        rangeStartDiff.length = 356\n        val rangeStartDiff =
\n        \"hCgBpCQGYHZH5BRpBPPPPPRMP5BPPICPP6BkEPPPPcXPzBvBrB3BOiDoBHwD+E3DauCnFmBmB2D
6E1BIBTiBmBIBP5BhBiBrBvBjBqBnBPRtBiCmCtBIB0BmB5BiB7BmBgEmChBZgCoEoGVpBsFrhBPqKQ2B
wBYoFgB4CJuTiEvBuCuDrF5DgEgFIJ1DgFmBQtBsBRGsB+BPiBID1EiJDPRPPPPPPPPPGQSQS/DxENVNU+
B9zCwBwBPPCkDPNnBPqDYY1R8B7FkFgTgwGgwUwmBgKwBuBScmEP/BPPPPPrBP8B7F1B/ErBqC6B7B
iBmBfQsBUwCw/KwqIwLwETPcPjQgJxFgBIBsD\n        val diff = decodeVarLenBase64(rangeStartDiff,
fromBase64, 222)\n        val start = IntArray(diff.size)\n        for (i in diff.indices) {\n            if (i == 0) start[i] =
diff[i]\n            else start[i] = start[i - 1] + diff[i]\n        }\n        decodedRangeStart = start\n        //
\n        rangeLength.length = 328\n        val rangeLength =
\n        \"aaMBXHYH5BRpBPPPPPRMP5BPPICPPzBDOOPPcXPzBvBjB3BOhDmBBpB7DoDYxB+EiBP1DoExBkB
QhBekBPmBgBhBctBiBMWOOXhCsBpBkBUV3Ba4BkB0DiCgBXgBtD4FSdBfPhBPpKP0BvBXjEQ2CGsT8Dh
BtCqDpFvD1D3E0IrD2EkBJrBDOBsB+BPiBIB1EiJDPPPPPPPPPPPGPPMNLsBNPNPKCvBvBPPCkDPBmBPh
DXXgD4B6FzEgDguG9vUtkB9JcuBSckEP/BPPPPPPBPf4FrBjEhBpC3B5BKaWPrBOWCk/KsCuLqDHPbPxPsFt
EaaqDL\n        decodedRangeLength = decodeVarLenBase64(rangeLength, fromBase64, 222)\n        //
\n        rangeCategory.length = 959\n        val rangeCategory =
\n        \"GFjgggUHGFFZZZmzpz5qB6s6020B60ptltB6smt2sB60mz22B1+vv+8BZZ5s2850BW5q1ymtB506smzBF3q1
q1qB1q1q1+Bgii4wDTm74g3KigxqM60q1q1Bq1o1q1BF1qlqrBZ2q5wprBGFZWWZGHFsjiioLowgmOowjkw
CkgoiIk7ligGogioBkwkiYkzj2oNoi+sbkwj04DghhkQ8wgiYkgoioDsgnkwC4gikQ//v+85BkwvoIsgoyI4yguI0whiw

```

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Eowri4CoghsJowgqYowgm4DkwgsY/nwnzPowhmYkg6wI8yggZswikwHgxgmIoxgqYkwwgk4DkxgmIkgoioBsgsso
BgzgyI8g9gL8g9kI0wgwJoxgkoC0wgioFkw/wI0w53iF4gioYowjmgBHGq1qkgwBF1q1q8qBHwghuIwghyKk0go
QkwgoQk3goQHGFHkyg0pBgxj6IoinkxDswno7Ikwhz9Bo0gioB8z48Rwli0xN0mpjoX8w78pDwltoqKHFGGwwg
sIHFH3q1q16BFHWFZ1q10q1B2qlwq1B1q10q1B2q1yq1B6q1gq1Biq1qhxBir1qp1Bqt1q1qB1g1q1+B//3q16B//q
1qBH/qlq9Bholqq9B1i00a1q10qD1op1HkwmigEigiy6Cptogq1Bixo1kDq7/j00B2qgoBWGFm1lz50B6s5q1+BG
WhggzhwBFFhgk4//Bo2jigE8wguI8wguI8wgugUog1qoB4qjmIwwi2KkgYHHH4IBgiFWkgIWoghssMmz5smrBZ
3q1y50B5sm7gzBtz1smzB5smz50BqzqtzB5sgzqzBF2/9//5BowgoIwmnkzPkwgk4C8ys65BkgoqI0wgy6FghquZo
2giY0ghiIsgH24B4ghsQ8QF/v1q1OFs0O8iCHHF1qggz/B8wg6Iznv+//B08QgohsjK0QGFk7hsQ4gB\"n
decodedRangeCategory = decodeVarLenBase64(rangeCategory, fromBase64, 222)\n } \n\n/**\n * Returns
`true` if this character is a letter.\n */\ninternal fun Char.isLetterImpl(): Boolean {\n return getLetterType() !=
0\n}\n\n/**\n * Returns `true` if this character is a lower case letter, or it has contributory property
Other_Lowercase.\n */\ninternal fun Char.isLowerCaseImpl(): Boolean {\n return getLetterType() == 1 ||
code.isOtherLowercase()\n}\n\n/**\n * Returns `true` if this character is an upper case letter, or it has contributory
property Other_Uppercase.\n */\ninternal fun Char.isUpperCaseImpl(): Boolean {\n return getLetterType() == 2 ||
code.isOtherUppercase()\n}\n\n/**\n * Returns\n * - `1` if the character is a lower case letter,\n * - `2` if the
character is an upper case letter,\n * - `3` if the character is a letter but not a lower or upper case letter,\n * - `0`
otherwise.\n */\nprivate fun Char.getLetterType(): Int {\n val ch = this.code\n val index =
binarySearchRange(Letter.decodedRangeStart, ch)\n val rangeStart = Letter.decodedRangeStart[index]\n val
rangeEnd = rangeStart + Letter.decodedRangeLength[index] - 1\n val code =
Letter.decodedRangeCategory[index]\n if (ch > rangeEnd) {\n return 0\n }\n val lastTwoBits = code
and 0x3\n if (lastTwoBits == 0) { // gap pattern\n var shift = 2\n var threshold = rangeStart\n for (i
in 0..1) {\n threshold += (code shr shift) and 0x7f\n if (threshold > ch) {\n return 3\n
}\n shift += 7\n threshold += (code shr shift) and 0x7f\n if (threshold > ch) {\n return
0\n }\n shift += 7\n }\n return 3\n }\n if (code <= 0x7) {\n return lastTwoBits\n
}\n val distance = (ch - rangeStart)\n val shift = if (code <= 0x1F) distance % 2 else distance\n return (code
shr (2 * shift)) and 0x3\n}\n\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the
GenerateUnicodeData.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nprivate object
OtherLowercase {\n internal val otherLowerStart = intArrayOf(\n 0x00aa, 0x00ba, 0x02b0, 0x02c0, 0x02e0,
0x0345, 0x037a, 0x1d2c, 0x1d78, 0x1d9b, 0x2071, 0x207f, 0x2090, 0x2170, 0x24d0, 0x2c7c, 0xa69c, 0xa770,
0xa7f8, 0xab5c, \n )\n internal val otherLowerLength = intArrayOf(\n 1, 1, 9, 2, 5, 1, 1, 63, 1, 37, 1, 1, 13,
16, 26, 2, 2, 1, 2, 4, \n )\n}\n\ninternal fun Int.isOtherLowercase(): Boolean {\n val index =
binarySearchRange(OtherLowercase.otherLowerStart, this)\n return index >= 0 && this <
OtherLowercase.otherLowerStart[index] + OtherLowercase.otherLowerLength[index]\n}\n\n", "/*\n * Copyright
2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n//
NOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\ninternal fun Int.isOtherUppercase(): Boolean
{\n return this in 0x2160..0x216f\n || this in 0x24b6..0x24cf\n}\n\n", "/*\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE IS
AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.js.*\n\n/**\n * Returns a
character at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this char
sequence.\n */\n @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun
CharSequence.elementAt(index: Int): Char {\n return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, length: $length") }\n}\n\n", "/*\n * Copyright 2010-2021 JetBrains

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s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:

[\n\n// 4 ranges totally\n\ninternal fun](https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib)

Char.titlecaseCharImpl(): Char {\n val code = this.code\n // Letters repeating <Lu, Lt, Ll> sequence and code of the Lt is a multiple of 3, e.g. <\u01c4, \u01c5, \u01c6>\n if (code in 0x01c4..0x01cc || code in 0x01f1..0x01f3) {\n

return (3 * ((code + 1) / 3)).toChar()\n }\n // Lower case letters whose title case mapping equivalent is equal to the original letter\n if (code in 0x10d0..0x10fa || code in 0x10fd..0x10ff) {\n return this\n }\n return uppercaseChar()\n }", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the

license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: [\n\nimport](https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib)

kotlin.js.\n\nimport kotlin.ranges.contains\n\nimport kotlin.ranges.reversed\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UIntArray.elementAt(index: Int):

UInt {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("\nindex: \$index, size: \$size")\n

}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun ULongArray.elementAt(index: Int):

ULong {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("\nindex: \$index, size: \$size")\n

}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UByteArray.elementAt(index: Int):

UByte {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("\nindex: \$index, size: \$size")\n

}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UShortArray.elementAt(index: Int):

UShort {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("\nindex: \$index, size: \$size")\n

}\n}\n\n/**\n * Returns a [List] that wraps the original array.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UIntArray.asList(): List<UInt> {\n

return object : AbstractList<UInt>(), RandomAccess {\n override val size: Int get() = this@asList.size\n

override fun isEmpty(): Boolean = this@asList.isEmpty()\n override fun contains(element: UInt): Boolean =

this@asList.contains(element)\n override fun get(index: Int): UInt {\n

AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n override fun

indexOf(element: UInt): Int {\n @Suppress("USELESS_CAST")\n if ((element as Any?) !is UInt)

return -1\n return this@asList.indexOf(element)\n }\n override fun lastIndexOf(element: UInt): Int

{\n @Suppress("USELESS_CAST")\n if ((element as Any?) !is UInt) return -1\n return

this@asList.lastIndexOf(element)\n }\n }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun ULongArray.asList(): List<ULong>

{\n return object : AbstractList<ULong>(), RandomAccess {\n override val size: Int get() = this@asList.size\n

override fun isEmpty(): Boolean = this@asList.isEmpty()\n override fun contains(element: ULong):

Boolean = this@asList.contains(element)\n override fun get(index: Int): ULong {\n

AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n override fun

indexOf(element: ULong): Int {\n @Suppress("USELESS_CAST")\n if ((element as Any?) !is

ULong) return -1\n return this@asList.indexOf(element)\n }\n override fun lastIndexOf(element:

ULong): Int {\n @Suppress("USELESS_CAST")\n if ((element as Any?) !is ULong) return -1\n

return this@asList.lastIndexOf(element)\n }\n }\n}\n\n/**\n * Returns a [List] that wraps the original

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array.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UByteArray.asList():
List<UByte> {\n    return object : AbstractList<UByte>(), RandomAccess {\n        override val size: Int get() =
this@asList.size\n        override fun isEmpty(): Boolean = this@asList.isEmpty()\n        override fun
contains(element: UByte): Boolean = this@asList.contains(element)\n        override fun get(index: Int): UByte {\n
            AbstractList.checkElementIndex(index, size)\n            return this@asList[index]\n        }\n        override fun
indexOf(element: UByte): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as Any?) !is
UByte) return -1\n            return this@asList.indexOf(element)\n        }\n        override fun lastIndexOf(element:
UByte): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as Any?) !is UByte) return -1\n
return this@asList.lastIndexOf(element)\n        }\n    }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UShortArray.asList(): List<UShort>
{\n    return object : AbstractList<UShort>(), RandomAccess {\n        override val size: Int get() = this@asList.size\n
        override fun isEmpty(): Boolean = this@asList.isEmpty()\n        override fun contains(element: UShort):
Boolean = this@asList.contains(element)\n        override fun get(index: Int): UShort {\n
            AbstractList.checkElementIndex(index, size)\n            return this@asList[index]\n        }\n        override fun
indexOf(element: UShort): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as Any?) !is
UShort) return -1\n            return this@asList.indexOf(element)\n        }\n        override fun lastIndexOf(element:
UShort): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as Any?) !is UShort) return -1\n
return this@asList.lastIndexOf(element)\n        }\n    }\n}\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\n@npackage kotlin.text\n@n\n// NOTE: THIS FILE IS AUTO-
GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n@n\n// 9 ranges totally\n/**\n * Returns `true` if this
character is a whitespace.\n *\ninternal fun Char.isWhitespaceImpl(): Boolean {\n    val ch = this.code\n    return ch
in 0x0009..0x000d\n        || ch in 0x001c..0x0020\n        || ch == 0x00a0\n        || ch > 0x1000 && (\n
ch == 0x1680\n        || ch in 0x2000..0x200a\n        || ch == 0x2028\n        || ch == 0x2029\n
|| ch == 0x202f\n        || ch == 0x205f\n        || ch == 0x3000\n        )\n}\n\n"/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n@npackage kotlin.js\n@nimport kotlin.annotation.AnnotationTarget.*\n@n\n@Target(FUNCTION)\n@Deprecated("Use inline
extension function with body using dynamic")\npublic annotation class
nativeGetter\n@n\n@Target(FUNCTION)\n@Deprecated("Use inline extension function with body using
dynamic")\npublic annotation class nativeSetter\n@n\n@Target(FUNCTION)\n@Deprecated("Use inline extension
function with body using dynamic")\npublic annotation class nativeInvoke\n@n\n@Target(CLASS, FUNCTION,
PROPERTY)\ninternal annotation class library(public val name: String = "")\n@n\n@Target(CLASS)\ninternal
annotation class marker\n\n/**\n * Gives a declaration (a function, a property or a class) specific name in
JavaScript.\n *\n * This may be useful in the following cases:\n *\n * * There are two functions for which the
compiler gives same name in JavaScript, you can\n *     mark one with `@JsName(...)` to prevent the compiler from
reporting error.\n *\n * * You are writing a JavaScript library in Kotlin. The compiler produces mangled names\n *
for functions with parameters, which is unnatural for usual JavaScript developer.\n *     You can put `@JsName(...)`
on functions you want to be available from JavaScript.\n *\n * * For some reason you want to rename declaration, e.g.
there's common term in JavaScript\n *     for a concept provided by the declaration, which is uncommon in Kotlin.\n
*\n * Example:\n *\n * ``` kotlin\n * class Person(val name: String) {\n *     fun hello() {\n *         println("Hello
$name!")\n *     }\n *     @JsName("helloWithGreeting")\n *     fun hello(greeting: String) {\n *
println("$greeting $name!")\n *     }\n * }\n * ```\n *\n * @property name the name which compiler uses both for
declaration itself and for all references to the declaration.\n *     It's required to denote a valid JavaScript

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`identifier.\n *\n *\n @Retention(AnnotationRetention.BINARY)\n @Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR, PROPERTY_GETTER, PROPERTY_SETTER)\n public actual annotation class JsName(actual val name: String)\n\n **\n * Denotes an `external` declaration that must be imported from native JavaScript library.\n *\n * The compiler produces the code relevant for the target module system, for example, in case of CommonJS,\n * it will import the declaration via the `require(...)` function.\n *\n * The annotation can be used on top-level external declarations (classes, properties, functions) and files.\n * In case of file (which can't be `external`) the following rule applies: all the declarations in\n * the file must be `external`. By applying `@JsModule(...)` on a file you tell the compiler to import a JavaScript object\n * that contain all the declarations from the file.\n *\n * Example:\n *\n * ``` kotlin\n * @JsModule("jquery")\n * external abstract class JQuery() {\n * // some declarations here\n * }\n * @JsModule("jquery")\n * external fun JQuery(element: Element): JQuery\n * ```\n *\n * @property import name of a module to import declaration from.\n * It is not interpreted by the Kotlin compiler, it's passed as is directly to the target module system.\n *\n * @see JsNonModule\n\n *\n @Retention(AnnotationRetention.BINARY)\n @Target(CLASS, PROPERTY, FUNCTION, FILE)\n public annotation class JsModule(val import: String)\n\n **\n * Denotes an `external` declaration that can be used without module system.\n *\n * By default, an `external` declaration is available regardless your target module system.\n *\n * However, by applying [JsModule] annotation you can make a declaration unavailable to *plain* module system.\n *\n * Some JavaScript libraries are distributed both as a standalone downloadable piece of JavaScript and as a module available\n * as an npm package.\n * To tell the Kotlin compiler to accept both cases, you can augment [JsModule] with the `@JsNonModule` annotation.\n *\n * For example:\n *\n * ``` kotlin\n * @JsModule("jquery")\n * @JsNonModule\n * @JsName("$")\n * external abstract class JQuery() {\n * // some declarations here\n * }\n * @JsModule("jquery")\n * @JsNonModule\n * @JsName("$")\n * external fun JQuery(element: Element): JQuery\n * ```\n *\n * @see JsModule\n\n *\n @Retention(AnnotationRetention.BINARY)\n @Target(CLASS, PROPERTY, FUNCTION, FILE)\n public annotation class JsNonModule\n\n **\n * Adds prefix to `external` declarations in a source file.\n *\n * JavaScript does not have concept of packages (namespaces). They are usually emulated by nested objects.\n *\n * The compiler turns references to `external` declarations either to plain unprefix names (in case of *plain* modules)\n * or to plain imports.\n *\n * However, if a JavaScript library provides its declarations in packages, you won't be satisfied with this.\n *\n * You can tell the compiler to generate additional prefix before references to `external` declarations using the `@JsQualifier(...)` annotation.\n *\n * Note that a file marked with the `@JsQualifier(...)` annotation can't contain non-`external` declarations.\n *\n * Example:\n *\n * ```\n * @file:JsQualifier("my.jsPackageName")\n * package some.kotlinPackage\n * external fun foo(x: Int)\n * external fun bar(): String\n * ```\n *\n * @property value the qualifier to add to the declarations in the generated code.\n * It must be a sequence of valid JavaScript identifiers separated by the `.` character.\n *\n * Examples of valid qualifiers are: `foo`, `bar.Baz`, `_$0.f`\n *\n * @see JsModule\n\n *\n @Retention(AnnotationRetention.BINARY)\n @Target(AnnotationTarget.FILE)\n public annotation class JsQualifier(val value: String)\n\n **\n * Exports top-level declaration on JS platform.\n *\n * Compiled module exposes declarations that are marked with this annotation without name mangling.\n *\n * This annotation can be applied to either files or top-level declarations.\n *\n * It is currently prohibited to export the following kinds of declarations:\n *\n * * `expect` declarations\n * * inline functions with reified type parameters\n * * suspend functions\n * * secondary constructors without `@JsName`\n * * extension properties\n * * enum classes\n * * annotation classes\n *\n * Signatures of exported declarations must only contain `exportable` types:\n *\n * * `dynamic`, `Any`, `String`, `Boolean`, `Byte`, `Short`, `Int`, `Float`, `Double`\n * * `BooleanArray`, `ByteArray`, `ShortArray`, `IntArray`, `FloatArray`, `DoubleArray`\n * * `Array<exportable-type>`\n * * Function types with exportable parameters and return types\n * * `external` or `@JsExport` classes and interfaces\n * * Nullable counterparts of types above\n * * Unit return type. Must not be nullable\n *\n * This annotation is experimental, meaning that restrictions mentioned above are subject to change.\n\n *\n @ExperimentalJsExport\n @Retention(AnnotationRetention.BINARY)\n @Target(CLASS, PROPERTY, FUNCTION, FILE)\n @SinceKotlin("1.3")\n public actual annotation class JsExport\n\n **\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the`

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Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.jvm\n\n// these are
used in common generated code in stdlib\n\n// TODO: find how to deprecate these
ones\n\n@Target(AnnotationTarget.FIELD)\n@Retention(AnnotationRetention.SOURCE)\npublic actual
annotation class Volatile\n\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY_GETTER,
AnnotationTarget.PROPERTY_SETTER)\n@Retention(AnnotationRetention.SOURCE)\npublic actual annotation
class Synchronized\n", "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the
[MutableCollection] interface.\n *\n * @param E the type of elements contained in the collection. The collection is
invariant in its element type.\n */\n\npublic actual abstract class AbstractMutableCollection<E> protected actual
constructor() : AbstractCollection<E>(), MutableCollection<E> {\n\n    actual abstract override fun add(element: E):
Boolean\n\n    actual override fun remove(element: E): Boolean {\n        checkIsMutable()\n        val iterator =
iterator()\n        while (iterator.hasNext()) {\n            if (iterator.next() == element) {\n                iterator.remove()\n                return true\n            }\n        }\n        return false\n    }\n\n    actual override fun addAll(elements:
Collection<E>): Boolean {\n        checkIsMutable()\n        var modified = false\n        for (element in elements) {\n            if (add(element)) modified = true\n        }\n        return modified\n    }\n\n    actual override fun
removeAll(elements: Collection<E>): Boolean {\n        checkIsMutable()\n        return (this as
MutableIterable<E>).removeAll { it in elements }\n    }\n\n    actual override fun retainAll(elements:
Collection<E>): Boolean {\n        checkIsMutable()\n        return (this as MutableIterable<E>).removeAll { it !in
elements }\n    }\n\n    actual override fun clear(): Unit {\n        checkIsMutable()\n        val iterator = this.iterator()\n        while (iterator.hasNext()) {\n            iterator.next()\n            iterator.remove()\n        }\n    }\n\n    @Deprecated("Provided so that subclasses inherit this function", level = DeprecationLevel.HIDDEN)\n    @JsName("toJSON")\n    protected fun toJSON(): Any = this.toArray()\n\n    /**\n     * This method is called
every time when a mutating method is called on this mutable collection.\n     * Mutable collections that are built
(frozen) must throw `UnsupportedOperationException`.\n     */\n    internal open fun checkIsMutable(): Unit {\n    }\n\n    /**\n     * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n     * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n     */\n\n    /**\n     * Based on GWT AbstractList\n     * Copyright 2007 Google Inc.\n     */\n\n    package
kotlin.collections\n\n    /**\n     * Provides a skeletal implementation of the [MutableList] interface.\n     *\n     * @param E
the type of elements contained in the list. The list is invariant in its element type.\n     */\n\n    public actual abstract class
AbstractMutableList<E> protected actual constructor() : AbstractMutableCollection<E>(), MutableList<E> {\n\n        protected var modCount: Int = 0\n\n        abstract override fun add(index: Int, element: E): Unit\n        abstract override
fun removeAt(index: Int): E\n        abstract override fun set(index: Int, element: E): E\n\n        /**\n         * Adds the
specified element to the end of this list.\n         *\n         * @return `true` because the list is always modified as the result
of this operation.\n         */\n\n        actual override fun add(element: E): Boolean {\n            checkIsMutable()\n            add(size,
element)\n            return true\n        }\n\n        actual override fun addAll(index: Int, elements: Collection<E>): Boolean {\n            AbstractList.checkPositionIndex(index, size)\n            checkIsMutable()\n            var _index = index\n            var
changed = false\n            for (e in elements) {\n                add(_index++, e)\n                changed = true\n            }\n            return
changed\n        }\n\n        actual override fun clear() {\n            checkIsMutable()\n            removeRange(0, size)\n        }\n\n        actual override fun removeAll(elements: Collection<E>): Boolean {\n            checkIsMutable()\n            return
removeAll { it in elements }\n        }\n\n        actual override fun retainAll(elements: Collection<E>): Boolean {\n            checkIsMutable()\n            return removeAll { it !in elements }\n        }\n\n        actual override fun iterator():
MutableIterator<E> = IteratorImpl()\n\n        actual override fun contains(element: E): Boolean = indexOf(element) >=
0\n\n        actual override fun indexOf(element: E): Int {\n            for (index in 0..lastIndex) {\n                if (get(index) ==
element) {\n                    return index\n                }\n            }\n            return -1\n        }\n\n        actual override fun
lastIndexOf(element: E): Int {\n            for (index in lastIndex downTo 0) {\n                if (get(index) == element) {\n                    return index\n                }\n            }\n            return -1\n        }\n\n        actual override fun listIterator():
MutableListIterator<E> = listIterator(0)\n\n        actual override fun listIterator(index: Int): MutableListIterator<E> =

```



```

ListIteratorImpl(index)\n\n\n    actual override fun subList(fromIndex: Int, toIndex: Int): MutableList<E> =
SubList(this, fromIndex, toIndex)\n\n    /**\n     * Removes the range of elements from this list starting from
[fromIndex] and ending with but not including [toIndex].\n     *\n     * protected open fun removeRange(fromIndex:
Int, toIndex: Int) {\n     val iterator = listIterator(fromIndex)\n     repeat(toIndex - fromIndex) {\n
iterator.next()\n     iterator.remove()\n     }\n     }\n\n     /**\n     * Compares this list with another list instance
with the ordered structural equality.\n     *\n     * @return true, if [other] instance is a [List] of the same size, which
contains the same elements in the same order.\n     *\n     * override fun equals(other: Any?): Boolean {\n     if (other
=== this) return true\n     if (other !is List<*>) return false\n     return AbstractList.orderedEquals(this, other)\n
}\n\n     /**\n     * Returns the hash code value for this list.\n     *\n     * override fun hashCode(): Int =
AbstractList.orderedHashCode(this)\n\n\n     private open inner class IteratorImpl : MutableIterator<E> {\n     /**
the index of the item that will be returned on the next call to [next]`() ` *\n     protected var index = 0\n     /** the
index of the item that was returned on the previous call to [next]`() ` *\n     * or [ListIterator.previous]`() ` (for
`ListIterator`),\n     * -1 if no such item exists\n     *\n     protected var last = -1\n     override fun
hasNext(): Boolean = index < size\n     override fun next(): E {\n     if (!hasNext()) throw
NoSuchElementException()\n     last = index++\n     return get(last)\n     }\n\n     override fun remove()
{\n     check(last != -1) { \"Call next() or previous() before removing element from the iterator.\" }\n     removeAt(last)\n     index = last\n     last = -1\n     }\n     }\n\n     /**\n     * Implementation of
`MutableListIterator` for abstract lists.\n     *\n     private inner class ListIteratorImpl(index: Int) : IteratorImpl(),
MutableListIterator<E> {\n     init {\n     AbstractList.checkPositionIndex(index,
this@AbstractMutableList.size)\n     this.index = index\n     }\n     override fun hasPrevious(): Boolean =
index > 0\n     override fun nextIndex(): Int = index\n     override fun previous(): E {\n     if
(!hasPrevious()) throw NoSuchElementException()\n     last = --index\n     return get(last)\n     }\n     override fun previousIndex(): Int = index - 1\n     override fun add(element: E) {\n     add(index, element)\n
index++\n     last = -1\n     }\n     override fun set(element: E) {\n     check(last != -1) { \"Call
next() or previous() before updating element value with the iterator.\" }\n     set(last, element)\n     }\n     }\n\n     private class SubList<E>(private val list: AbstractMutableList<E>, private val fromIndex: Int, toIndex: Int) :
AbstractMutableList<E>(), RandomAccess {\n     private var _size: Int = 0\n     init {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, list.size)\n     this._size = toIndex - fromIndex\n     }\n     override fun add(index: Int, element: E) {\n     AbstractList.checkPositionIndex(index, _size)\n     list.add(fromIndex + index, element)\n     _size++\n     }\n     override fun get(index: Int): E {\n
AbstractList.checkElementIndex(index, _size)\n     return list[fromIndex + index]\n     }\n     override
fun removeAt(index: Int): E {\n     AbstractList.checkElementIndex(index, _size)\n     val result =
list.removeAt(fromIndex + index)\n     _size--\n     return result\n     }\n     override fun set(index: Int,
element: E): E {\n     AbstractList.checkElementIndex(index, _size)\n     return list.set(fromIndex + index,
element)\n     }\n     override val size: Int get() = _size\n     internal override fun checkIsMutable(): Unit =
list.checkIsMutable()\n     }\n     }\n\n     \"\", \"/*\n     * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n     * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n     */\n     * Based on GWT AbstractMap\n     * Copyright 2007 Google Inc.\n     */\n     * package kotlin.collections\n     */\n     * Provides a skeletal implementation of the [MutableMap] interface.\n     *
\n     * The implementor is required to implement [entries] property, which should return mutable set of map entries, and
[put] function.\n     * \n     * @param K the type of map keys. The map is invariant in its key type.\n     * @param V the type
of map values. The map is invariant in its value type.\n     */\n     * public actual abstract class AbstractMutableMap<K, V>
protected actual constructor() : AbstractMap<K, V>(), MutableMap<K, V> {\n     /**\n     * A mutable
[Map.Entry] shared by several [Map] implementations.\n     *\n     internal open class SimpleEntry<K, V>(override
val key: K, value: V) : MutableMap.MutableEntry<K, V> {\n     constructor(entry: Map.Entry<K, V>) :
this(entry.key, entry.value)\n     private var _value = value\n     override val value: V get() = _value\n     override fun setValue(newValue: V): V {\n     // Should check if the map containing this entry is mutable.\n
\n     // However, to not increase entry memory footprint it might be worthwhile not to check it here and\n     //

```

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force subclasses that implement `build()` (freezing) operation to implement their own `MutableEntry`.
this@AbstractMutableMap.checkIsMutable()
    val oldValue = this._value
    this._value = newValue
    return oldValue
}
override fun hashCode(): Int = entryHashCode(this)
override fun toString(): String = entryToString(this)
override fun equals(other: Any?): Boolean = entryEquals(this, other)
}
// intermediate abstract class to workaround KT-43321
internal abstract class AbstractEntrySet<E : Map.Entry<K, V>, K, V> : AbstractMutableSet<E>() {
    final override fun contains(element: E): Boolean = containsEntry(element)
    abstract fun containsEntry(element: Map.Entry<K, V>): Boolean
    final override fun remove(element: E): Boolean = removeEntry(element)
    abstract fun removeEntry(element: Map.Entry<K, V>): Boolean
}
actual override fun clear() {
    entries.clear()
}
private var _keys: MutableSet<K>? = null
actual override val keys: MutableSet<K>
    get() {
        if (_keys == null) {
            _keys = object : AbstractMutableSet<K>() {
                override fun add(element: K): Boolean = throw UnsupportedOperationException("Add is not supported on keys")
                override fun clear() {
                    this@AbstractMutableMap.clear()
                }
                override operator fun contains(element: K): Boolean = containsKey(element)
                override operator fun iterator(): MutableIterator<K> {
                    val entryIterator = entries.iterator()
                    return object : MutableIterator<K>() {
                        override fun hasNext(): Boolean = entryIterator.hasNext()
                        override fun next(): K = entryIterator.next().key
                        override fun remove() = entryIterator.remove()
                    }
                }
                override fun remove(element: K): Boolean {
                    checkIsMutable()
                    if (containsKey(element)) {
                        this@AbstractMutableMap.remove(element)
                        return true
                    }
                    return false
                }
                override val size: Int get() = this@AbstractMutableMap.size
            }
        }
        return _keys!!
    }
actual abstract override fun put(key: K, value: V): V?
actual override fun putAll(from: Map<out K, V>) {
    checkIsMutable()
    for ((key, value) in from) {
        put(key, value)
    }
}
private var _values: MutableCollection<V>? = null
actual override val values: MutableCollection<V>
    get() {
        if (_values == null) {
            _values = object : AbstractMutableCollection<V>() {
                override fun add(element: V): Boolean = throw UnsupportedOperationException("Add is not supported on values")
                override fun clear() = this@AbstractMutableMap.clear()
                override operator fun contains(element: V): Boolean = containsValue(element)
                override operator fun iterator(): MutableIterator<V> {
                    val entryIterator = entries.iterator()
                    return object : MutableIterator<V>() {
                        override fun hasNext(): Boolean = entryIterator.hasNext()
                        override fun next(): V = entryIterator.next().value
                        override fun remove() = entryIterator.remove()
                    }
                }
                override val size: Int get() = this@AbstractMutableMap.size
                override fun checkIsMutable(): Unit = this@AbstractMutableMap.checkIsMutable()
            }
        }
        return _values!!
    }
actual override fun remove(key: K): V? {
    checkIsMutable()
    val iter = entries.iterator()
    while (iter.hasNext()) {
        val entry = iter.next()
        val k = entry.key
        if (key == k) {
            val value = entry.value
            iter.remove()
            return value
        }
    }
    return null
}
}
/**
 * This method is called every time when a mutating method is called on this mutable map.
 * Mutable maps that are built (frozen) must throw `UnsupportedOperationException`.
 */
internal open fun checkIsMutable(): Unit {
    // " "
}
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 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package kotlin.collections
/**
 * Provides a skeletal implementation of the [MutableSet] interface.
 * @param E the type of elements contained in the set. The set is invariant in its element type.
 */
public actual abstract class AbstractMutableSet<E> protected actual constructor() : AbstractMutableCollection<E>(), MutableSet<E> {
    /**
     * Compares this set with another set instance with the unordered structural equality.
     * @return `true`, if [other] instance is a [Set] of the same size, all elements of which are contained in this set.
     */
    override fun equals(other: Any?): Boolean {
        if (other

```

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=== this) return true\n    if (other !is Set<*>) return false\n    return AbstractSet.setEquals(this, other)\n } \n\n
/**\n * Returns the hash code value for this set.\n */\n override fun hashCode(): Int =
AbstractSet.unorderedHashCode(this)\n\n}"/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * Provides a [MutableList] implementation,
which uses a resizable array as its backing storage.\n */\n * This implementation doesn't provide a way to manage
capacity, as backing JS array is resizeable itself.\n * There is no speed advantage to pre-allocating array sizes in
JavaScript, so this implementation does not include any of the\n * capacity and "growth increment" concepts.\n
*/\n\npublic actual open class ArrayList<E> internal constructor(private var array: Array<Any?>) :
AbstractMutableList<E>(), MutableList<E>, RandomAccess {\n    private var isReadOnly: Boolean = false\n\n
/**\n * Creates an empty [ArrayList].\n */\n    public actual constructor() : this(emptyArray()) {} \n\n /**\n
* Creates an empty [ArrayList].\n * @param initialCapacity initial capacity (ignored)\n */\n    public actual
constructor(initialCapacity: Int) : this(emptyArray()) {} \n\n /**\n * Creates an [ArrayList] filled from the
[elements] collection.\n */\n    public actual constructor(elements: Collection<E>) :
this(elements.toArray<Any?>()) {} \n\n    @PublishedApi\n    internal fun build(): List<E> {\n
checkIsMutable()\n    isReadOnly = true\n    return this\n } \n\n /** Does nothing in this ArrayList
implementation. */\n    public actual fun trimToSize() {} \n\n /** Does nothing in this ArrayList implementation.
*/\n    public actual fun ensureCapacity(minCapacity: Int) {} \n\n    actual override val size: Int get() = array.size\n
@Suppress("UNCHECKED_CAST")\n    actual override fun get(index: Int): E = array[rangeCheck(index)] as E\n
actual override fun set(index: Int, element: E): E {\n    checkIsMutable()\n    rangeCheck(index)\n
@Suppress("UNCHECKED_CAST")\n    return array[index].apply { array[index] = element } as E\n } \n\n
actual override fun add(element: E): Boolean {\n    checkIsMutable()\n    array.asDynamic().push(element)\n
modCount++\n    return true\n } \n\n actual override fun add(index: Int, element: E): Unit {\n
checkIsMutable()\n    array.asDynamic().splice(insertionRangeCheck(index), 0, element)\n    modCount++\n
} \n\n actual override fun addAll(elements: Collection<E>): Boolean {\n    checkIsMutable()\n    if
(elements.isEmpty()) return false\n    array += elements.toArray<Any?>()\n    modCount++\n
return true\n } \n\n actual override fun addAll(index: Int, elements: Collection<E>): Boolean {\n
checkIsMutable()\n    insertionRangeCheck(index)\n    if (index == size) return addAll(elements)\n    if
(elements.isEmpty()) return false\n    when (index) {\n        size -> return addAll(elements)\n        0 -> array
= elements.toArray<Any?>() + array\n        else -> array = array.copyOfRange(0,
index).asDynamic().concat(elements.toArray<Any?>(), array.copyOfRange(index, size))\n    } \n\n
modCount++\n    return true\n } \n\n actual override fun removeAt(index: Int): E {\n    checkIsMutable()\n
rangeCheck(index)\n    modCount++\n    return if (index == lastIndex)\n        array.asDynamic().pop()\n
else\n        array.asDynamic().splice(index, 1)[0]\n } \n\n actual override fun remove(element: E): Boolean {\n
checkIsMutable()\n    for (index in array.indices) {\n        if (array[index] == element) {\n
array.asDynamic().splice(index, 1)\n            modCount++\n            return true\n        } \n    } \n
return false\n } \n\n override fun removeRange(fromIndex: Int, toIndex: Int) {\n    checkIsMutable()\n
modCount++\n    array.asDynamic().splice(fromIndex, toIndex - fromIndex)\n } \n\n actual override fun
clear() {\n    checkIsMutable()\n    array = emptyArray()\n    modCount++\n } \n\n actual override fun
indexOf(element: E): Int = array.indexOf(element)\n\n actual override fun lastIndexOf(element: E): Int =
array.lastIndexOf(element)\n\n override fun toString() = arrayToString(array)\n\n
@Suppress("UNCHECKED_CAST")\n    override fun <T> toArray(array: Array<T>): Array<T> {\n    if
(array.size < size) {\n        return toArray() as Array<T>\n    } \n\n    (this.array as
Array<T>).copyInto(array)\n    if (array.size > size) {\n        array[size] = null as T // null-terminate\n
} \n\n    return array\n } \n\n override fun toArray(): Array<Any?> {\n    return js("[ ]").slice.call(array)\n
} \n\n internal override fun checkIsMutable() {\n    if (isReadOnly) throw UnsupportedOperationException()\n
} \n\n private fun rangeCheck(index: Int) = index.apply {\n    AbstractList.checkElementIndex(index, size)\n
} \n\n private fun insertionRangeCheck(index: Int) = index.apply {\n    AbstractList.checkPositionIndex(index,

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size)\n } \n }", /*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin.collections\n\ninternal fun <T> sortArrayWith(array: Array<out T>, comparison: (T, T) -> Int)
{\n if (getStableSortingIsSupported()) {\n array.asDynamic().sort(comparison)\n } else {\n
mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, Comparator(comparison))\n } \n}\n\ninternal fun
<T> sortArrayWith(array: Array<out T>, comparator: Comparator<in T>) {\n if (getStableSortingIsSupported())
{\n val comparison = { a: T, b: T -> comparator.compare(a, b) }\n array.asDynamic().sort(comparison)\n
} else {\n mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, comparator)\n } \n}\n\ninternal fun
<T> sortArrayWith(array: Array<out T>, fromIndex: Int, toIndex: Int, comparator: Comparator<in T>) {\n if
(fromIndex < toIndex - 1) {\n mergeSort(array.unsafeCast<Array<T>>(), fromIndex, toIndex - 1, comparator)\n
}\n}\n\ninternal fun <T : Comparable<T>> sortArray(array: Array<out T>) {\n if
(getStableSortingIsSupported()) {\n val comparison = { a: T, b: T -> a.compareTo(b) }\n
array.asDynamic().sort(comparison)\n } else {\n mergeSort(array.unsafeCast<Array<T>>(), 0,
array.lastIndex, naturalOrder())\n } \n}\n\nprivate var _stableSortingIsSupported: Boolean? = null\nprivate fun
getStableSortingIsSupported(): Boolean {\n _stableSortingIsSupported?.let { return it }\n
_stableSortingIsSupported = false\n val array = js("[]").unsafeCast<Array<Int>>()\n // known
implementations may use stable sort for arrays of up to 512 elements\n // so we create slightly more elements to
test stability\n for (index in 0 until 600) array.asDynamic().push(index)\n val comparison = { a: Int, b: Int -> (a
and 3) - (b and 3) }\n array.asDynamic().sort(comparison)\n for (index in 1 until array.size) {\n val a =
array[index - 1]\n val b = array[index]\n if ((a and 3) == (b and 3) && a >= b) return false\n }\n
_stableSortingIsSupported = true\n return true\n}\n\nprivate fun <T> mergeSort(array: Array<T>, start: Int,
endInclusive: Int, comparator: Comparator<in T>) {\n val buffer =
arrayOfNulls<Any?>(array.size).unsafeCast<Array<T>>()\n val result = mergeSort(array, buffer, start,
endInclusive, comparator)\n if (result !== array) {\n for (i in start..endInclusive) array[i] = result[i]\n
}\n}\n\n// Both start and end are inclusive indices.\nprivate fun <T> mergeSort(array: Array<T>, buffer: Array<T>,
start: Int, end: Int, comparator: Comparator<in T>): Array<T> {\n if (start == end) {\n return array\n }\n
val median = (start + end) / 2\n val left = mergeSort(array, buffer, start, median, comparator)\n val right =
mergeSort(array, buffer, median + 1, end, comparator)\n val target = if (left === buffer) array else buffer\n\n //
Merge.\n var leftIndex = start\n var rightIndex = median + 1\n for (i in start..end) {\n when {\n
leftIndex <= median && rightIndex <= end -> {\n val leftValue = left[leftIndex]\n val rightValue
= right[rightIndex]\n if (comparator.compare(leftValue, rightValue) <= 0) {\n target[i] =
leftValue\n leftIndex++\n } else {\n target[i] = rightValue\n
rightIndex++\n }\n }\n leftIndex <= median -> {\n target[i] = left[leftIndex]\n
leftIndex++\n }\n else /* rightIndex <= end */ -> {\n target[i] = right[rightIndex]\n
rightIndex++\n }\n }\n\n Unit // TODO: Fix KT-31506\n }\n }\n }\n\n return target\n }", /*\n *
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governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\npackage
kotlin.collections\n\n@OptIn(ExperimentalUnsignedTypes::class)\n@SinceKotlin("1.3")\n@kotlin.js.JsName("
contentDeepHashCodeImpl")\n\ninternal fun <T> Array<out T>?.contentDeepHashCodeImpl(): Int {\n if (this ==
null) return 0\n var result = 1\n for (element in this) {\n val elementHash = when {\n element == null
-> 0\n isArrayish(element) -> (element.unsafeCast<Array<*>>()).contentDeepHashCodeImpl()\n
element is UByteArray -> element.contentHashCode()\n element is UShortArray ->
element.contentHashCode()\n element is UIntArray -> element.contentHashCode()\n element is
ULongArray -> element.contentHashCode()\n else -> element.hashCode()\n }\n\n result = 31 * result + elementHash\n }\n return result\n }", /*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin.collections\n\ninternal interface
EqualityComparator {\n /**\n * Subclasses must override to return a value indicating\n * whether or not two

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```

keys or values are equal.\n    */\n    abstract fun equals(value1: Any?, value2: Any?): Boolean\n\n    /**\n     * Subclasses must override to return the hash code of a given key.\n     */\n    abstract fun getHashCode(value: Any?):\n    Int\n\n    object HashCoder : EqualityComparator {\n        override fun equals(value1: Any?, value2: Any?):\n        Boolean = value1 == value2\n        override fun getHashCode(value: Any?): Int = value?.hashCode() ?: 0\n    }\n}", "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this\n source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n * Based on GWT AbstractHashMap\n * Copyright 2008 Google Inc.\n */\n\npackage kotlin.collections\n\nimport\n kotlin.collections.MutableMap.MutableEntry\n\n/**\n * Hash table based implementation of the [MutableMap]\n interface.\n *\n * This implementation makes no guarantees regarding the order of enumeration of [keys], [values]\n and [entries] collections.\n */\n\n// Classes that extend HashMap and implement `build()` (freezing) operation\n// have\n to make sure mutating methods check `checkIsMutable`.\n\npublic actual open class HashMap<K, V> :\n    AbstractMutableMap<K, V>, MutableMap<K, V> {\n    private inner class EntrySet :\n        AbstractEntrySet<MutableEntry<K, V>, K, V> {\n        override fun add(element: MutableEntry<K, V>):\n        Boolean = throw UnsupportedOperationException("Add is not supported on entries")\n        override fun clear():\n        {\n            this@HashMap.clear()\n        }\n        override fun containsEntry(element: Map.Entry<K, V>): Boolean\n        = this@HashMap.containsEntry(element)\n        override operator fun iterator():\n        MutableIterator<MutableEntry<K, V>> = internalMap.iterator()\n        override fun removeEntry(element:\n        Map.Entry<K, V>): Boolean {\n            if (contains(element)) {\n                this@HashMap.remove(element.key)\n            }\n            return true\n        }\n        return false\n    }\n    override val size: Int get() =\n    this@HashMap.size\n    }\n\n    /**\n     * Internal implementation of the map: either string-based or hashcode-\n based.\n     */\n    private val internalMap: InternalMap<K, V>\n    private val equality: EqualityComparator\n\n    internal constructor(internalMap: InternalMap<K, V>) : super() {\n        this.internalMap = internalMap\n        this.equality = internalMap.equality\n    }\n\n    /**\n     * Constructs an empty [HashMap] instance.\n     */\n    actual constructor(): this(InternalHashCodeMap(EqualityComparator.HashCode))\n\n    /**\n     * Constructs an\n empty [HashMap] instance.\n     *\n     * @param initialCapacity the initial capacity (ignored)\n     * @param\n loadFactor the load factor (ignored)\n     *\n     * @throws IllegalArgumentException if the initial capacity or\n load factor are negative\n     */\n    actual constructor(initialCapacity: Int, loadFactor: Float) : this() {\n        // This\n implementation of HashMap has no need of load factors or capacities.\n        require(initialCapacity >= 0) {\n            "Negative initial capacity: $initialCapacity"\n        }\n        require(loadFactor >= 0) {\n            "Non-positive load factor:\n $loadFactor"\n        }\n    }\n\n    actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n    /**\n     * Constructs an instance of [HashMap] filled with the contents of the specified [original] map.\n     */\n    actual\n constructor(original: Map<out K, V>) : this() {\n        this.putAll(original)\n    }\n\n    actual override fun clear() {\n        internalMap.clear()\n        // structureChanged(this)\n    }\n\n    actual override fun containsKey(key: K): Boolean\n    = internalMap.contains(key)\n\n    actual override fun containsValue(value: V): Boolean = internalMap.any {\n        equality.equals(it.value, value)\n    }\n\n    private var _entries: MutableSet<MutableMap.MutableEntry<K, V>>? =\n    null\n    actual override val entries: MutableSet<MutableMap.MutableEntry<K, V>>\n    get() {\n        if\n (_entries == null) {\n            _entries = createEntrySet()\n        }\n        return _entries!!\n    }\n\n    internal\n open fun createEntrySet(): MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()\n\n    actual override\n operator fun get(key: K): V? = internalMap.get(key)\n\n    actual override fun put(key: K, value: V): V? =\n    internalMap.put(key, value)\n\n    actual override fun remove(key: K): V? = internalMap.remove(key)\n\n    actual\n override val size: Int get() = internalMap.size\n}\n\n/**\n * Constructs the specialized implementation of\n [HashMap] with [String] keys, which stores the keys as properties of\n * JS object without hashing them.\n */\n\npublic fun <V> stringMapOf(vararg pairs: Pair<String, V>): HashMap<String, V> {\n    return\n HashMap<String, V>(InternalStringMap(EqualityComparator.HashCode)).apply { putAll(pairs) }\n}\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is\n governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n * Based on GWT\n HashSet\n * Copyright 2008 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * The implementation of the\n [MutableSet] interface, backed by a [HashMap] instance.\n */\n\n// Classes that extend HashSet and implement

```

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`build()` (freezing) operation\n// have to make sure mutating methods check `checkIsMutable`. \npublic actual open
class HashSet<E> : AbstractMutableSet<E>, MutableSet<E> {\n\n    internal val map: HashMap<E, Any>\n\n    /**\n     * Constructs a new empty [HashSet].\n     */\n    actual constructor() {\n        map = HashMap<E, Any>()\n    }\n\n    /**\n     * Constructs a new [HashSet] filled with the elements of the specified collection.\n     */\n    actual
constructor(elements: Collection<E>) {\n        map = HashMap<E, Any>(elements.size)\n        addAll(elements)\n    }\n\n    /**\n     * Constructs a new empty [HashSet].\n     */\n    * @param initialCapacity the initial capacity
(ignored)\n    * @param loadFactor the load factor (ignored)\n    * @throws IllegalArgumentException if
the initial capacity or load factor are negative\n    */\n    actual constructor(initialCapacity: Int, loadFactor: Float)
{\n        map = HashMap<E, Any>(initialCapacity, loadFactor)\n    }\n\n    actual constructor(initialCapacity: Int) :
this(initialCapacity, 0.0f)\n\n    /**\n     * Protected constructor to specify the underlying map. This is used by\n     *
LinkedHashSet.\n     */\n    * @param map underlying map to use.\n    */\n    internal constructor(map: HashMap<E,
Any>) {\n        this.map = map\n    }\n\n    actual override fun add(element: E): Boolean {\n        val old =
map.put(element, this)\n        return old == null\n    }\n\n    actual override fun clear() {\n        map.clear()\n    }\n\n    public override fun clone(): Any {\n//        return HashSet<E>(this)\n//    }\n\n    actual override operator fun
contains(element: E): Boolean = map.containsKey(element)\n\n    actual override fun isEmpty(): Boolean =
map.isEmpty()\n\n    actual override fun iterator(): MutableIterator<E> = map.keys.iterator()\n\n    actual override
fun remove(element: E): Boolean = map.remove(element) != null\n\n    actual override val size: Int get() =
map.size\n}\n\n/**\n * Creates a new instance of the specialized implementation of [HashSet] with the specified
[String] elements,\n * which elements the keys as properties of JS object without hashing them.\n */\npublic fun
stringSetOf(vararg elements: String): HashSet<String> {\n    return HashSet(stringMapOf<Any>()).apply {
addAll(elements) }\n}\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n/*\n * Based on GWT InternalHashMap\n * Copyright 2008 Google Inc.\n
*/\n\npackage kotlin.collections\nimport kotlin.collections.MutableMap.MutableEntry\nimport
kotlin.collections.AbstractMutableMap.SimpleEntry\n\n/**\n * A simple wrapper around JavaScriptObject to
provide [java.util.Map]-like semantics for any\n * key type.\n */\n * Implementation notes:\n * A key's
hashCode is the index in backingMap which should contain that key. Since several keys may\n * have the same
hash, each value in hashCodeMap is actually an array containing all entries whose\n * keys share the same hash.\n
*/\ninternal class InternalHashMap<K, V>(override val equality: EqualityComparator) : InternalMap<K, V>
{\n\n    private var backingMap: dynamic = createJsMap()\n    override var size: Int = 0\n    private set\n\n    override fun put(key: K, value: V): V? {\n        val hashCode = equality.getHashCode(key)\n        val chainOrEntry
= getChainOrEntryOrNull(hashCode)\n        if (chainOrEntry == null) {\n            // This is a new chain, put it to the
map.\n            backingMap[hashCode] = SimpleEntry(key, value)\n        } else {\n            if (chainOrEntry !is
Array<*>) {\n                // It is an entry\n                val entry: SimpleEntry<K, V> = chainOrEntry\n                if
(equality.equals(entry.key, key)) {\n                    return entry.setValue(value)\n                } else {\n
backingMap[hashCode] = arrayOf(entry, SimpleEntry(key, value))\n                    size++\n                    return null\n
                }\n            } else {\n                // Chain already exists, perhaps key also exists.\n                val chain:
Array<MutableEntry<K, V>> = chainOrEntry\n                val entry = chain.findEntryInChain(key)\n                if
(entry != null) {\n                    return entry.setValue(value)\n                }\n            }\n            chain.asDynamic().push(SimpleEntry(key, value))\n        }\n        size++\n        structureChanged(host)\n        return null\n    }\n\n    override fun remove(key: K): V? {\n        val hashCode = equality.getHashCode(key)\n        val chainOrEntry = getChainOrEntryOrNull(hashCode) ?: return null\n        if (chainOrEntry !is Array<*>) {\n            val entry: MutableEntry<K, V> = chainOrEntry\n            if (equality.equals(entry.key, key)) {\n                jsDeleteProperty(backingMap, hashCode)\n                size--\n                return entry.value\n            } else {\n                return null\n            }\n        } else {\n            val chain: Array<MutableEntry<K, V>> = chainOrEntry\n            for
(index in chain.indices) {\n                val entry = chain[index]\n                if (equality.equals(key, entry.key)) {\n                    if (chain.size == 1) {\n                        chain.asDynamic().length = 0\n                        // remove the whole
array\n                        jsDeleteProperty(backingMap, hashCode)\n                    } else {\n                        // splice out

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during\n// * iterations where the entries are never stale.\n// */\n// private var valueMod: Int = 0\n// override
operator fun contains(key: K): Boolean {\n    if (key !is String) return false\n    return backingMap[key] !==
undefined\n }\n\n override operator fun get(key: K): V? {\n    if (key !is String) return null\n    val value =
backingMap[key]\n    return if (value !== undefined) value.unsafeCast<V>() else null\n }\n\n\n override fun
put(key: K, value: V): V? {\n    require(key is String)\n    val oldValue = backingMap[key]\n
backingMap[key] = value\n\n    if (oldValue === undefined) {\n        size++\n//
structureChanged(host)\n        return null\n    } else {\n//        valueMod++\n        return
oldValue.unsafeCast<V>()\n    }\n }\n\n\n override fun remove(key: K): V? {\n    if (key !is String) return
null\n    val value = backingMap[key]\n    if (value !== undefined) {\n        jsDeleteProperty(backingMap,
key)\n        size--\n//        structureChanged(host)\n        return value.unsafeCast<V>()\n    } else {\n//
valueMod++\n        return null\n    }\n }\n\n\n\n override fun clear() {\n    backingMap = createJsMap()\n
size = 0\n }\n\n\n\n override fun iterator(): MutableIterator<MutableEntry<K, V>> {\n    return object :
MutableIterator<MutableEntry<K, V>> {\n        private val keys: Array<String> =
js("Object").keys(backingMap)\n        private val iterator = keys.iterator()\n        private var lastKey: String? =
null\n\n        override fun hasNext(): Boolean = iterator.hasNext()\n\n        override fun next():
MutableEntry<K, V> {\n            val key = iterator.next()\n            lastKey = key\n
@Suppress("UNCHECKED_CAST")\n            return newMapEntry(key as K)\n        }\n\n        override
fun remove() {\n            @Suppress("UNCHECKED_CAST")\n            this@InternalStringMap.remove(checkNotNull(lastKey) as K)\n        }\n    }\n }\n\n\n\n private fun
newMapEntry(key: K): MutableEntry<K, V> = object : MutableEntry<K, V> {\n    override val key: K get() =
key\n    override val value: V get() = this@InternalStringMap[key].unsafeCast<V>()\n\n    override fun
setValue(newValue: V): V = this@InternalStringMap.put(key, newValue).unsafeCast<V>()\n\n    override fun
hashCode(): Int = AbstractMap.entryHashCode(this)\n    override fun toString(): String =
AbstractMap.entryToString(this)\n    override fun equals(other: Any?): Boolean = AbstractMap.entryEquals(this,
other)\n }\n}\n", "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n *\n * Based on GWT LinkedHashMap\n * Copyright 2008 Google Inc.\n */\npackage
kotlin.collections\n\nimport kotlin.collections.MutableMap.MutableEntry\n\n/**\n * Hash table based
implementation of the [MutableMap] interface, which additionally preserves the insertion order\n * of entries during
the iteration.\n *\n * The insertion order is preserved by maintaining a doubly-linked list of all of its entries.\n
*\n * public actual open class LinkedHashMap<K, V> : HashMap<K, V>, MutableMap<K, V> {\n\n    /**\n     * The
entry we use includes next/prev pointers for a doubly-linked circular\n     * list with a head node. This reduces the
special cases we have to deal with\n     * in the list operations.\n     *\n     * Note that we duplicate the key from the
underlying hash map so we can find\n     * the eldest entry. The alternative would have been to modify HashMap so
more\n     * of the code was directly usable here, but this would have added some\n     * overhead to HashMap, or to
reimplement most of the HashMap code here with\n     * small modifications. Paying a small storage cost only if
you use\n     * LinkedHashMap and minimizing code size seemed like a better tradeoff\n     */\n    private inner class
ChainEntry<K, V>(key: K, value: V) : AbstractMutableMap.SimpleEntry<K, V>(key, value) {\n        internal var
next: ChainEntry<K, V>? = null\n        internal var prev: ChainEntry<K, V>? = null\n\n        override fun
setValue(newValue: V): V {\n            this@LinkedHashMap.checkIsMutable()\n            return
super.setValue(newValue)\n        }\n    }\n\n    private inner class EntrySet : AbstractEntrySet<MutableEntry<K,
V>, K, V>() {\n        private inner class EntryIterator : MutableIterator<MutableEntry<K, V>> {\n            // The
last entry that was returned from this iterator.\n            private var last: ChainEntry<K, V>? = null\n            // The
next entry to return from this iterator.\n            private var next: ChainEntry<K, V>? = null\n\n            init {\n
                next = head\n//                recordLastKnownStructure(map, this)\n            }\n\n            override fun hasNext():
Boolean {\n                return next !== null\n            }\n\n            override fun next(): MutableEntry<K, V> {\n//
                checkStructuralChange(map, this)\n                if (!hasNext()) throw NoSuchElementException()\n                val
current = next!!\n                last = current\n                next = current.next.takeIf { it !== head }\n                return

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current\n      }\n      override fun remove() {\n          check(last != null)\nthis@EntrySet.checkIsMutable()\n//          checkStructuralChange(map, this)\n//          last!!.remove()\n      map.remove(last!!.key)\n//          recordLastKnownStructure(map, this)\n//          last = null\n      }\n}\n\noverride fun add(element: MutableEntry<K, V>): Boolean = throw\nUnsupportedOperationException("Add is not supported on entries")\n\noverride fun clear() {\nthis@LinkedHashMap.clear()\n}\n\noverride fun containsEntry(element: Map.Entry<K, V>): Boolean =\nthis@LinkedHashMap.containsEntry(element)\n\noverride operator fun iterator():\nMutableIterator<MutableEntry<K, V>> = EntryIterator()\n\noverride fun removeEntry(element: Map.Entry<K,\nV>): Boolean {\n    checkIsMutable()\n    if (contains(element)) {\nthis@LinkedHashMap.remove(element.key)\n        return true\n    }\n    return false\n}\n\noverride val size: Int get() = this@LinkedHashMap.size\n\noverride fun checkIsMutable(): Unit =\nthis@LinkedHashMap.checkIsMutable()\n}\n\n\n/*\n * The head of the insert order chain, which is a doubly-\nlinked circular\n * list.\n * The most recently inserted node is at the end of the chain, ie.\n * chain.prev.\n */\nprivate var head: ChainEntry<K, V>? = null\n\n/**\n * Add this node to the end of the chain.\n */\nprivate fun ChainEntry<K, V>.addToEnd() {\n    // This entry is not in the list.\n    check(next == null && prev\n== null)\n    val _head = head\n    if (_head == null) {\n        head = this\n        next = this\n        prev =\nthis\n    } else {\n        // Chain is valid.\n        val _tail = checkNotNull(_head.prev)\n        // Update me.\n        prev = _tail\n        next = _head\n        // Update my new siblings: current head and old tail\n        _head.prev = this\n        _tail.next = this\n    }\n}\n\n/**\n * Remove this node from the chain it is a part\nof.\n */\nprivate fun ChainEntry<K, V>.remove() {\n    if (this.next === this) {\n        // if this is single\n        element, remove head\n        head = null\n    } else {\n        if (head === this) {\n            // if this is first\n            element, move head to next\n            head = next\n        }\n        next!!.prev = prev\n        prev!!.next =\nnext\n    }\n    next = null\n    prev = null\n}\n\n\n/*\n * The hashmap that keeps track of our entries and\nthe chain. Note that we\n * duplicate the key here to eliminate changes to HashMap and minimize the\n * code\nhere, at the expense of additional space.\n */\nprivate val map: HashMap<K, ChainEntry<K, V>>\n\nprivate\nvar isReadOnly: Boolean = false\n\n/**\n * Constructs an empty [LinkedHashMap] instance.\n */\nactual\nconstructor() : super() {\n    map = HashMap<K, ChainEntry<K, V>>()\n}\n\ninternal\nconstructor(backingMap: HashMap<K, Any>) : super() {\n    @Suppress("UNCHECKED_CAST") // expected\nto work due to erasure\n    map = backingMap as HashMap<K, ChainEntry<K, V>>\n}\n\n\n/**\n * Constructs an empty [LinkedHashMap] instance.\n * @param initialCapacity the initial capacity\n(ignored)\n * @param loadFactor the load factor (ignored)\n * @throws IllegalArgumentException if\nthe initial capacity or load factor are negative\n */\nactual\nconstructor(initialCapacity: Int, loadFactor: Float) :\nsuper(initialCapacity, loadFactor) {\n    map = HashMap<K, ChainEntry<K, V>>()\n}\n\nactual\nconstructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n\n/**\n * Constructs an instance of\n[LinkedHashMap] filled with the contents of the specified [original] map.\n */\nactual\nconstructor(original:\nMap<out K, V>) {\n    map = HashMap<K, ChainEntry<K, V>>()\n    this.putAll(original)\n}\n\n\n@PublishedApi\ninternal\nfun build(): Map<K, V> {\n    checkIsMutable()\n    isReadOnly = true\n    return this\n}\n\nactual\noverride\nfun clear() {\n    checkIsMutable()\n    map.clear()\n    head = null\n}\n\n\n//\noverride\nfun clone(): Any {\n    return LinkedHashMap(this)\n}\n\n\nactual\noverride\nfun\ncontainsKey(key: K): Boolean = map.containsKey(key)\n\nactual\noverride\nfun\ncontainsValue(value: V): Boolean\n{\n    var node: ChainEntry<K, V> = head ?: return false\n    do {\n        if (node.value == value) {\n            return true\n        }\n        node = node.next!!\n    } while (node !== head)\n    return false\n}\n\n\ninternal\noverride\nfun\ncreateEntrySet(): MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()\n\nactual\noverride\noperator\nfun\nget(key: K): V? = map.get(key)?.value\n\nactual\noverride\nfun\nput(key: K, value: V): V? {\n    checkIsMutable()\n    val old = map.get(key)\n    if (old == null) {\n        val newEntry =\nChainEntry(key, value)\n        map.put(key, newEntry)\n        newEntry.addToEnd()\n        return null\n    } else {\n        return old.setValue(value)\n    }\n}\n\nactual\noverride\nfun\nremove(key: K): V? {\n    checkIsMutable()\n    val entry = map.remove(key)\n    if (entry != null) {\n        entry.remove()\n    }\n}\n}

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return entry.value\n    }\n    return null\n }\n\n actual override val size: Int get() = map.size\n\n internal
override fun checkIsMutable() {\n    if (isReadOnly) throw UnsupportedOperationException()\n }\n}\n\n/**\n *
Constructs the specialized implementation of [LinkedHashMap] with [String] keys, which stores the keys as
properties of\n * JS object without hashing them.\n */\npublic fun <V> linkedStringMapOf(vararg pairs:
Pair<String, V>): LinkedHashMap<String, V> {\n    return LinkedHashMap<String,
V>(stringMapOf<Any>()).apply { putAll(pairs) }\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n * Based on GWT LinkedHashSet\n * Copyright 2008 Google
Inc.\n */\n\npackage kotlin.collections\n\n/**\n * The implementation of the [MutableSet] interface, backed by a
[LinkedHashMap] instance.\n */\n * This implementation preserves the insertion order of elements during the
iteration.\n */\n\npublic actual open class LinkedHashSet<E> : HashSet<E>, MutableSet<E> {\n\n internal
constructor(map: LinkedHashMap<E, Any>) : super(map)\n\n /**\n * Constructs a new empty
[LinkedHashSet].\n */\n\n actual constructor() : super(LinkedHashMap<E, Any>())\n\n /**\n * Constructs a
new [LinkedHashSet] filled with the elements of the specified collection.\n */\n\n actual constructor(elements:
Collection<E>) : super(LinkedHashMap<E, Any>()) {\n    addAll(elements)\n }\n\n /**\n * Constructs a
new empty [LinkedHashSet].\n */\n\n * @param initialCapacity the initial capacity (ignored)\n * @param
loadFactor the load factor (ignored)\n */\n * @throws IllegalArgumentException if the initial capacity or
load factor are negative\n */\n\n actual constructor(initialCapacity: Int, loadFactor: Float) :
super(LinkedHashMap<E, Any>(initialCapacity, loadFactor))\n\n actual constructor(initialCapacity: Int) :
this(initialCapacity, 0.0f)\n\n @PublishedApi\n internal fun build(): Set<E> {\n    (map as
LinkedHashMap<E, Any>).build()\n    return this\n }\n\n internal override fun checkIsMutable(): Unit =
map.checkIsMutable()\n\n// public override fun clone(): Any {\n//    return LinkedHashSet(this)\n//
}\n\n}\n\n/**\n * Creates a new instance of the specialized implementation of [LinkedHashSet] with the specified
[String] elements,\n * which elements the keys as properties of JS object without hashing them.\n */\n\npublic fun
linkedStringSetOf(vararg elements: String): LinkedHashSet<String> {\n    return
LinkedHashSet(linkedStringMapOf<Any>()).apply { addAll(elements) }\n}\n\n", "/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport
kotlin.contracts.*\n\n@DeprecatedSinceKotlin(warningSince = \"1.6\")\n@Deprecated(\"Synchronization on any
object is not supported in Kotlin/JS\",
ReplaceWith(\"run(block)\"))\n@kotlin.internal.InlineOnly\n@Suppress(\"UNUSED_PARAMETER\")\n\npublic
inline fun <R> synchronized(lock: Any, block: () -> R): R {\n    contract {\n        callsInPlace(block,
InvocationKind.EXACTLY_ONCE)\n    }\n    return block()\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.io\n\ninternal abstract class BaseOutput {\n
open fun println() {\n    print(\"\\n\")\n }\n\n open fun println(message: Any?) {\n    print(message)\n
println()\n }\n\n abstract fun print(message: Any?)\n\n open fun flush() {\n}\n\n/** JsName used to make the
declaration available outside of module to test it */\n\n@JsName(\"NodeJsOutput\")\n\ninternal class NodeJsOutput(val
outputStream: dynamic) : BaseOutput() {\n    override fun print(message: Any?) {\n        // TODO: Using local
variable because of bug in block decomposition lowering in IR backend\n        val messageString =
String(message)\n        outputStream.write(messageString)\n    }\n}\n\n/** JsName used to make the declaration
available outside of module to test it */\n\n@JsName(\"OutputToConsoleLog\")\n\ninternal class OutputToConsoleLog
: BaseOutput() {\n    override fun print(message: Any?) {\n        console.log(message)\n    }\n\n override fun
println(message: Any?) {\n        console.log(message)\n    }\n\n override fun println() {\n        console.log(\"\")\n
}\n}\n\n/** JsName used to make the declaration available outside of module to test it and use at try.kotl.in
*/\n\n@JsName(\"BufferedOutput\")\n\ninternal open class BufferedOutput : BaseOutput() {\n    var buffer = \"\"\n\n
override fun print(message: Any?) {\n        buffer += String(message)\n    }\n\n override fun flush() {\n        buffer
= \"\"\n    }\n}\n\n/** JsName used to make the declaration available outside of module to test it

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*^@JsName("BufferedOutputToConsoleLog")\ninternal class BufferedOutputToConsoleLog : BufferedOutput()
{\n  override fun print(message: Any?) {\n    var s = String(message)\n    val i = s.nativeLastIndexOf("\n",
0)\n    if (i >= 0) {\n      buffer += s.substring(0, i)\n      flush()\n      s = s.substring(i + 1)\n    }\n    buffer += s\n  }\n  override fun flush() {\n    console.log(buffer)\n    buffer = ""\n  }\n}\n\n/** JsName
used to make the declaration available outside of module to test it and use at try.kotl.in
*^@JsName("output")\ninternal var output = run {\n  val isNode: Boolean = js("typeof process !== 'undefined'
&& process.versions && !process.versions.node")\n  if (isNode) NodeJsOutput(js("process.stdout")) else
BufferedOutputToConsoleLog()\n}\n\n@kotlin.internal.InlineOnly\nprivate inline fun String(value: Any?): String =
js("String")(value)\n\n/** Prints the line separator to the standard output stream. */\npublic actual fun println() {\n
output.println()\n}\n\n/** Prints the given [message] and the line separator to the standard output stream. */\npublic
actual fun println(message: Any?) {\n  output.println(message)\n}\n\n/** Prints the given [message] to the standard
output stream. */\npublic actual fun print(message: Any?) {\n
output.print(message)\n}\n\n@SinceKotlin("1.6")\npublic actual fun readln(): String = throw
UnsupportedOperationException("readln is not supported in Kotlin/JS")\n\n@SinceKotlin("1.6")\npublic actual
fun readlnOrNull(): String? = throw UnsupportedOperationException("readlnOrNull is not supported in
Kotlin/JS"), /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.coroutines\nimport kotlin.coroutines.intrinsics.CoroutineSingletons.\nimport
kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal
actual class SafeContinuation<in T>\ninternal actual constructor(\n  private val delegate: Continuation<T>,\n
initialResult: Any?\n) : Continuation<T> {\n  @PublishedApi\n  internal actual constructor(delegate:
Continuation<T>) : this(delegate, UNDECIDED)\n\n  public actual override val context: CoroutineContext\n
get() = delegate.context\n\n  private var result: Any? = initialResult\n\n  public actual override fun
resumeWith(result: Result<T>) {\n    val cur = this.result\n    when {\n      cur === UNDECIDED -> {\n
this.result = result.value\n      }\n      cur === COROUTINE_SUSPENDED -> {\n        this.result =
RESUMED\n        delegate.resumeWith(result)\n      }\n      else -> throw
IllegalStateException("Already resumed")\n    }\n  }\n\n  @PublishedApi\n  internal actual fun
getOrThrow(): Any? {\n    if (result === UNDECIDED) {\n      result = COROUTINE_SUSPENDED\n
return COROUTINE_SUSPENDED\n    }\n    val result = this.result\n    return when {\n      result ===
RESUMED -> COROUTINE_SUSPENDED // already called continuation, indicate COROUTINE_SUSPENDED
upstream\n      result is Result.Failure -> throw result.exception\n      else -> result // either
COROUTINE_SUSPENDED or data\n    }\n  }\n}\n\n/**\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.coroutines.cancellation\n\n@SinceKotlin("1.4")\npublic actual open class CancellationException :
IllegalStateException {\n  actual constructor() : super()\n  actual constructor(message: String?) : super(message)\n
  constructor(message: String?, cause: Throwable?) : super(message, cause)\n  constructor(cause: Throwable?) :
super(cause)\n}\n\n/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.coroutines.js.internal\nimport kotlin.coroutines.Continuation\nimport
kotlin.coroutines.EmptyCoroutineContext\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal val
EmptyContinuation = Continuation<Any?>(EmptyCoroutineContext) { result ->\n  result.getOrThrow()\n}, /*\n *
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js\n\n/**\n * Exposes the [Date API](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Date) to Kotlin.\n
*/\n\n@Suppress("NOT_DOCUMENTED")\npublic external class Date() {\n  public constructor(milliseconds:
Number)\n\n  public constructor(dateString: String)\n\n  public constructor(year: Int, month: Int)\n\n  public

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constructor(year: Int, month: Int, day: Int)\n\n public constructor(year: Int, month: Int, day: Int, hour: Int)\n\n
public constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int)\n\n public constructor(year: Int, month:
Int, day: Int, hour: Int, minute: Int, second: Int)\n\n public constructor(year: Int, month: Int, day: Int, hour: Int,
minute: Int, second: Int, millisecond: Number)\n\n public fun getDate(): Int\n\n public fun getDay(): Int\n\n
public fun getFullYear(): Int\n\n public fun getHours(): Int\n\n public fun getMilliseconds(): Int\n\n public fun
getMinutes(): Int\n\n public fun getMonth(): Int\n\n public fun getSeconds(): Int\n\n public fun getTime():
Double\n\n public fun getTimezoneOffset(): Int\n\n public fun getUTCDate(): Int\n\n public fun
getUTCDay(): Int\n\n public fun getUTCFullYear(): Int\n\n public fun getUTCHours(): Int\n\n public fun
getUTCMilliseconds(): Int\n\n public fun getUTCMinutes(): Int\n\n public fun getUTCMonth(): Int\n\n public
fun getUTCSeconds(): Int\n\n public fun toDateString(): String\n\n public fun toISOString(): String\n\n public
fun toJSON(): Json\n\n public fun toLocaleDateString(locales: Array<String> = definedExternally, options:
LocaleOptions = definedExternally): String\n\n public fun toLocaleDateString(locales: String, options:
LocaleOptions = definedExternally): String\n\n public fun toLocaleString(locales: Array<String> =
definedExternally, options: LocaleOptions = definedExternally): String\n\n public fun toLocaleString(locales:
String, options: LocaleOptions = definedExternally): String\n\n public fun toLocaleTimeString(locales:
Array<String> = definedExternally, options: LocaleOptions = definedExternally): String\n\n public fun
toLocaleTimeString(locales: String, options: LocaleOptions = definedExternally): String\n\n public fun
toLocaleTimeString(locales: String, options: LocaleOptions = definedExternally): String\n\n public fun
toTimeString(): String\n\n public fun toUTCString(): String\n\n public companion object {\n\n public fun
now(): Double\n\n public fun parse(dateString: String): Double\n\n public fun UTC(year: Int, month: Int):
Double\n\n public fun UTC(year: Int, month: Int, day: Int): Double\n\n public fun UTC(year: Int, month:
Int, day: Int, hour: Int): Double\n\n public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int):
Double\n\n public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int): Double\n\n
public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int, millisecond: Number): Double\n
}\n\n public interface LocaleOptions {\n\n public var localeMatcher: String?\n\n public var timeZone:
String?\n\n public var hour12: Boolean?\n\n public var formatMatcher: String?\n\n public var weekday:
String?\n\n public var era: String?\n\n public var year: String?\n\n public var month: String?\n\n
public var day: String?\n\n public var hour: String?\n\n public var minute: String?\n\n public var
second: String?\n\n public var timeZoneName: String? }\n\n}\n\npublic inline fun dateLocaleOptions(init:
Date.LocaleOptions.() -> Unit): Date.LocaleOptions {\n\n val result = js(\n\n new
Object()\n\n).unsafeCast<Date.LocaleOptions>()\n\n init(result)\n\n return result\n\n}, /*\n\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n */\n\npackage kotlin.dom\n\n\nimport
org.w3c.dom.Document\n\nimport org.w3c.dom.Element\n\nimport
kotlin.internal.LowPriorityInOverloadResolution\n\nimport kotlinx.dom.appendElement as
newAppendElement\n\nimport kotlinx.dom.createElement as newCreateElement\n\n\n/**\n\n * Creates a new element
with the specified [name].\n\n * The element is initialized with the specified [init] function.\n\n
*\n\n @LowPriorityInOverloadResolution\n\n @Deprecated(\n\n message = \n\n "This API is moved to another package,
use 'kotlinx.dom.createElement' instead.\n\n ",\n\n replaceWith = ReplaceWith(\n\n "this.createElement(name, init)",
\n\n "kotlinx.dom.createElement()\n\n )\n\n )\n\n @DeprecatedSinceKotlin(warningSince = \n\n "1.4", errorSince = \n\n "1.6")\n\n public
inline fun Document.createElement(name: String, noinline init: Element.() -> Unit): Element =
this.newCreateElement(name, init)\n\n\n /**\n\n * Appends a newly created element with the specified [name] to this
element.\n\n * The element is initialized with the specified [init] function.\n\n
*\n\n @LowPriorityInOverloadResolution\n\n @Deprecated(\n\n message = \n\n "This API is moved to another package,
use 'kotlinx.dom.appendElement' instead.\n\n ",\n\n replaceWith = ReplaceWith(\n\n "this.appendElement(name, init)",
\n\n "kotlinx.dom.appendElement()\n\n )\n\n )\n\n @DeprecatedSinceKotlin(warningSince = \n\n "1.4", errorSince = \n\n "1.6")\n\n public
inline fun Element.appendElement(name: String, noinline init: Element.() -> Unit): Element =
this.newAppendElement(name, init)\n\n\n", /*\n\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n\n * Use of this source code is governed by the Apache 2.0 license that can be found in the

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license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport org.w3c.dom.Element\nimport
kotlin.internal.LowPriorityInOverloadResolution\nimport kotlin.dom.addClass as newAddClass\nimport
kotlin.dom.hasClass as newHasClass\nimport kotlin.dom.removeClass as newRemoveClass\n\n/** Returns true if
the element has the given CSS class style in its 'class' attribute
*/\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to another package,
use 'kotlin.dom.hasClass' instead.\",\n    replaceWith = ReplaceWith(\"this.hasClass(cssClass)\",
\"kotlin.dom.hasClass\")\n)\n\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\ninline fun
Element.hasClass(cssClass: String): Boolean = this.newHasClass(cssClass)\n\n/**\n * Adds CSS class to element.
Has no effect if all specified classes are already in class attribute of the element\n * \n * @return true if at least one
class has been added\n */\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved
to another package, use 'kotlin.dom.addClass' instead.\",\n    replaceWith =
ReplaceWith(\"this.addClass(cssClasses)\", \"kotlin.dom.addClass\")\n)\n\n@DeprecatedSinceKotlin(warningSince
= \"1.4\", errorSince = \"1.6\")\ninline fun Element.addClass(vararg cssClasses: String): Boolean =
this.newAddClass(*cssClasses)\n\n/**\n * Removes all [cssClasses] from element. Has no effect if all specified
classes are missing in class attribute of the element\n * \n * @return true if at least one class has been removed\n */\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to another package,
use 'kotlin.dom.removeClass' instead.\",\n    replaceWith = ReplaceWith(\"this.removeClass(cssClasses)\",
\"kotlin.dom.removeClass\")\n)\n\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\ninline
fun Element.removeClass(vararg cssClasses: String): Boolean = this.newRemoveClass(*cssClasses)\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.dom\n\nimport org.w3c.dom.Element\nimport org.w3c.dom.Node\nimport
kotlin.internal.LowPriorityInOverloadResolution\nimport kotlin.dom.isElement as newIsElement\nimport
kotlin.dom.isText as newIsText\n\n/**\n * Gets a value indicating whether this node is a TEXT_NODE or a
CDATA_SECTION_NODE.\n */\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API
is moved to another package, use 'kotlin.dom.isText' instead.\",\n    replaceWith = ReplaceWith(\"this.isText\",
\"kotlin.dom.isText\")\n)\n\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\npublic val
Node.isText: Boolean\n    inline get() = this.newIsText\n\n/**\n * Gets a value indicating whether this node is an
[Element].\n */\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to
another package, use 'kotlin.dom.isElement' instead.\",\n    replaceWith = ReplaceWith(\"this.isElement\",
\"kotlin.dom.isElement\")\n)\n\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\npublic val
Node.isElement: Boolean\n    inline get() = this.newIsElement\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage org.w3c.dom.events\n\npublic fun
EventListener(handler: (Event) -> Unit): EventListener = EventListenerHandler(handler)\n\nprivate class
EventListenerHandler(private val handler: (Event) -> Unit) : EventListener {\n    public override fun
handleEvent(event: Event) {\n        handler(event)\n    }\n\n    public override fun toString(): String =
\"EventListenerHandler($handler)\"\n\n}\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage org.w3c.dom\n\npublic external interface ItemArrayLike<out T> {\n
val length: Int\n    fun item(index: Int): T?\n\n}\n\n/**\n * Returns the view of this `ItemArrayLike<T>` collection as
`List<T>`\n */\n\n@public fun <T> ItemArrayLike<T>.asList(): List<T> = object : AbstractList<T>() {\n    override val
size: Int get() = this@asList.length\n\n    override fun get(index: Int): T = when (index) {\n        in 0..lastIndex ->
this@asList.item(index).unsafeCast<T>()\n        else -> throw IndexOutOfBoundsException(\"index $index is not in
range [0..$lastIndex]\")\n    }\n\n}\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport org.w3c.dom.Element\nimport
org.w3c.dom.Node\nimport kotlin.internal.LowPriorityInOverloadResolution\nimport kotlin.dom.appendText as

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newAppendText\nimport kotlin.dom.clear as newClear\n\n/** Removes all the children from this node.
*\n@LowPriorityInOverloadResolution\n@Deprecated(\n message = `This API is moved to another package,
use 'kotlin.dom.clear' instead.`,\n replaceWith = ReplaceWith(`this.clear()`),
`kotlin.dom.clear`)\n)\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.6`)\npublic inline fun
Node.clear() = this.newClear()\n\n/**\n * Creates text node and append it to the element.\n * @return this
element\n *\n@LowPriorityInOverloadResolution\n@Deprecated(\n message = `This API is moved to another
package, use 'kotlin.dom.appendText' instead.`,\n replaceWith = ReplaceWith(`this.appendText(text)`),
`kotlin.dom.appendText`)\n)\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.6`)\ninline fun
Element.appendText(text: String): Element = this.newAppendText(text)\n\n"/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n *\n@kotlin.internal.InlineOnly\npublic
inline fun Any?.asDynamic(): dynamic = this\n\n/**\n * Reinterprets this value as a value of the specified type [T]
without any actual type checking.\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T> Any?.unsafeCast():
@kotlin.internal.NoInfer T = this.asDynamic()\n\n/**\n * Reinterprets this `dynamic` value as a value of the
specified type [T] without any actual type checking.\n
*\n@kotlin.internal.DynamicExtension\n@JsName(`unsafeCastDynamic`)\n@kotlin.internal.InlineOnly\npublic
inline fun <T> dynamic.unsafeCast(): @kotlin.internal.NoInfer T = this\n\n/**\n * Allows to iterate this `dynamic`
object in the following cases:\n * - when it has an `iterator` function,\n * - when it is an array\n * - when it is an
instance of [kotlin.collections.Iterable]\n *\n@kotlin.internal.DynamicExtension\npublic operator fun
dynamic.iterator(): Iterator<dynamic> {\n val r: Any? = this\n return when {\n this[`iterator`] != null -
>\n this[`iterator`]()\n isArrayish(r) ->\n r.unsafeCast<Array<*>().iterator()\n else ->\n
(r as Iterable<*>).iterator()\n }\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n@kotlin.internal.InlineOnly\npublic inline fun throwNPE(message: String) {\n throw
NullPointerException(message)\n}\n\n@JsName(`throwCCE`)\ninternal fun throwCCE() {\n throw
ClassCastException(`Illegal cast`)\n}\n\n@JsName(`throwISE`)\ninternal fun throwISE(message: String) {\n
throw IllegalStateException(message)\n}\n\n@JsName(`throwUPAE`)\ninternal fun throwUPAE(propertyName:
String) {\n throw UninitializedPropertyAccessException(`lateinit property ${propertyName} has not been
initialized`)\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@kotlin.collections\n/**\n * Groups elements from the [Grouping] source by key and counts elements
in each group.\n * @return a [Map] associating the key of each group with the count of elements in the group.\n
*\n * @sample samples.collections.Grouping.groupingByEachCount\n *\n@SinceKotlin(`1.1`)\npublic actual fun
<T, K> Grouping<T, K>.eachCount(): Map<K, Int> =\n fold(0) { acc, _ -> acc + 1 }\n\n"/*\n * Groups
elements from the [Grouping] source by key and sums values provided by the [valueSelector] function for elements
in each group.\n * @return a [Map] associating the key of each group with the count of element in the group.\n
*\n@SinceKotlin(`1.1`)\npublic inline fun <T, K> Grouping<T, K>.eachSumOf(valueSelector: (T) -> Int):
Map<K, Int> =\n fold(0) { acc, e -> acc + valueSelector(e) }\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmName(`GroupingKt`)\n@file:kotlin.jvm.JvmMultifileClass\n@kotlin.collections\n\n/**\n * Represents a source of elements with a [keyOf] function, which can be applied to each
element to get its key.\n * A [Grouping] structure serves as an intermediate step in group-and-fold operations:\n
* they group elements by their keys and then fold each group with some aggregating operation.\n * It is created
by attaching `keySelector: (T) -> K` function to a source of elements.\n * To get an instance of [Grouping] use one
of `groupingBy` extension functions:\n * - [Iterable.groupingBy]\n * - [Sequence.groupingBy]\n * -

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[Array.groupingBy]\n * - [CharSequence.groupingBy]\n *\n * For the list of group-and-fold operations available,
see the [extension functions](#extension-functions) for `Grouping`.
*\n @SinceKotlin("1.1")\n\npublic interface
Grouping<T, out K> {\n    /** Returns an [Iterator] over the elements of the source of this grouping. */\n    fun
sourceIterator(): Iterator<T>\n    /** Extracts the key of an [element]. */\n    fun keyOf(element: T): K\n}\n\n/**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group
sequentially,\n * passing the previously accumulated value and the current element as arguments, and stores the
results in a new map.\n * The key for each element is provided by the [Grouping.keyOf] function.\n * \n * @param operation function is invoked on each element with the following parameters:\n * - `key`: the key of the
group this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group, can be `null`
if it's the first `element` encountered in the group;\n * - `element`: the element from the source being aggregated;\n
* - `first`: indicates whether it's the first `element` encountered in the group.\n * \n * @return a [Map] associating
the key of each group with the result of aggregation of the group elements.\n * \n * @sample
samples.collections.Grouping.aggregateByRadix\n *\n @SinceKotlin("1.1")\n\npublic inline fun <T, K, R>
Grouping<T, K>.aggregate(\n    operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R\n): Map<K,
R> {\n    return aggregateTo(mutableMapOf<K, R>(), operation)\n}\n\n/**\n * Groups elements from the
[Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the
previously accumulated value and the current element as arguments,\n * and stores the results in the given
[destination] map.\n * The key for each element is provided by the [Grouping.keyOf] function.\n * \n * @param
operation a function that is invoked on each element with the following parameters:\n * - `key`: the key of the group
this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group, can be `null` if it's
the first `element` encountered in the group;\n * - `element`: the element from the source being aggregated;\n * -
`first`: indicates whether it's the first `element` encountered in the group.\n * \n * If the [destination] map already has
a value corresponding to some key,\n * then the elements being aggregated for that key are never considered as
`first`.\n * \n * @return the [destination] map associating the key of each group with the result of aggregation of the
group elements.\n * \n * @sample samples.collections.Grouping.aggregateByRadixTo\n
*\n @SinceKotlin("1.1")\n\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T,
K>.aggregateTo(\n    destination: M,\n    operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R\n): M
{\n    for (e in this.sourceIterator()) {\n        val key = keyOf(e)\n        val accumulator = destination[key]\n
destination[key] = operation(key, accumulator, e, accumulator == null && !destination.containsKey(key))\n    }\n
return destination\n}\n\n/**\n * Groups elements from the [Grouping] source by key and applies [operation] to the
elements of each group sequentially,\n * passing the previously accumulated value and the current element as
arguments, and stores the results in a new map.\n * An initial value of accumulator is provided by
[initialValueSelector] function.\n * \n * @param initialValueSelector a function that provides an initial value of
accumulator for each group.\n * It's invoked with parameters:\n * - `key`: the key of the group;\n * - `element`: the
first element being encountered in that group.\n * \n * @param operation a function that is invoked on each element
with the following parameters:\n * - `key`: the key of the group this element belongs to;\n * - `accumulator`: the
current value of the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n
*\n * @return a [Map] associating the key of each group with the result of accumulating the group elements.\n * \n
* @sample samples.collections.Grouping.foldByEvenLengthWithComputedInitialValue\n
*\n @SinceKotlin("1.1")\n\npublic inline fun <T, K, R> Grouping<T, K>.fold(\n    initialValueSelector: (key: K,
element: T) -> R,\n    operation: (key: K, accumulator: R, element: T) -> R\n): Map<K, R> =\n
@Suppress("UNCHECKED_CAST")\n    aggregate { key, acc, e, first -> operation(key, if (first)
initialValueSelector(key, e) else acc as R, e) }\n}\n\n/**\n * Groups elements from the [Grouping] source by key and
applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the
current element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of
accumulator is provided by [initialValueSelector] function.\n * \n * @param initialValueSelector a function that
provides an initial value of accumulator for each group.\n * It's invoked with parameters:\n * - `key`: the key of the
group;\n * - `element`: the first element being encountered in that group.\n * \n * If the [destination] map already has

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a value corresponding to some key, that value is used as an initial value of the accumulator for that group and the [initialValueSelector] function is not called for that group.

`@param operation` a function that is invoked on each element with the following parameters:

- `key`: the key of the group this element belongs to;
- `accumulator`: the current value of the accumulator of the group;
- `element`: the element from the source being accumulated.

`@return` the [destination] map associating the key of each group with the result of accumulating the group elements.

`@sample`

```
samples.collections.Grouping.foldByEvenLengthWithComputedInitialValueTo
*/n*/n@SinceKotlin("1.1")\npublic
inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(\n destination: M,\n
initialValueSelector: (key: K, element: T) -> R,\n operation: (key: K, accumulator: R, element: T) -> R)\n): M =\n
@Suppress("UNCHECKED_CAST")\n aggregateTo(destination) { key, acc, e, first -> operation(key, if (first)
initialValueSelector(key, e) else acc as R, e) }\n\n\n*/n*/n * Groups elements from the [Grouping] source by key and
applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the
current element as arguments, and stores the results in a new map.\n * An initial value of accumulator is the same
[initialValue] for each group.\n * @param operation a function that is invoked on each element with the
following parameters:\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the
element from the source being accumulated.\n * @return a [Map] associating the key of each group with the
result of accumulating the group elements.\n * @sample
```

```
samples.collections.Grouping.foldByEvenLengthWithConstantInitialValue\n */n@SinceKotlin("1.1")\npublic
inline fun <T, K, R> Grouping<T, K>.fold(\n initialValue: R,\n operation: (accumulator: R, element: T) -> R)\n):
Map<K, R> =\n @Suppress("UNCHECKED_CAST")\n aggregate { _, acc, e, first -> operation(if (first)
initialValue else acc as R, e) }\n\n\n*/n*/n * Groups elements from the [Grouping] source by key and applies
[operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current
element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of accumulator
is the same [initialValue] for each group.\n * If the [destination] map already has a value corresponding to the key
of some group,\n * that value is used as an initial value of the accumulator for that group.\n * @param operation
a function that is invoked on each element with the following parameters:\n * - `accumulator`: the current value of
the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n * @return the
[destination] map associating the key of each group with the result of accumulating the group elements.\n *
```

```
@sample samples.collections.Grouping.foldByEvenLengthWithConstantInitialValueTo\n
*/n@SinceKotlin("1.1")\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(\n
destination: M,\n initialValue: R,\n operation: (accumulator: R, element: T) -> R)\n): M =\n
@Suppress("UNCHECKED_CAST")\n aggregateTo(destination) { _, acc, e, first -> operation(if (first)
initialValue else acc as R, e) }\n\n\n*/n*/n * Groups elements from the [Grouping] source by key and applies the
reducing [operation] to the elements of each group\n * sequentially starting from the second element of the group,\n
* passing the previously accumulated value and the current element as arguments,\n * and stores the results in a new
map.\n * An initial value of accumulator is the first element of the group.\n * @param operation a function that
is invoked on each subsequent element of the group with the following parameters:\n * - `key`: the key of the group
this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the
element from the source being accumulated.\n * @return a [Map] associating the key of each group with the
result of accumulating the group elements.\n * @sample
```

```
samples.collections.Grouping.reduceByMaxVowels\n
*/n@SinceKotlin("1.1")\npublic inline fun <S, T : S, K> Grouping<T, K>.reduce(\n operation: (key: K,
accumulator: S, element: T) -> S)\n): Map<K, S> =\n aggregate { key, acc, e, first ->\n
@Suppress("UNCHECKED_CAST")\n if (first) e else operation(key, acc as S, e)\n }\n\n\n*/n*/n * Groups
elements from the [Grouping] source by key and applies the reducing [operation] to the elements of each group\n
* sequentially starting from the second element of the group,\n * passing the previously accumulated value and the
current element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of
accumulator is the first element of the group.\n * If the [destination] map already has a value corresponding to
the key of some group,\n * that value is used as an initial value of the accumulator for that group and the first
```


element of that group is also subjected to the [operation].

`@param operation` a function that is invoked on each subsequent element of the group with the following parameters:

- `accumulator`: the current value of the accumulator of the group;
- `element`: the element from the source being folded;

`@return` the [destination] map associating the key of each group with the result of accumulating the group elements.

```

@sample samples.collections.Grouping.reduceByMaxVowelsTo
@SinceKotlin("1.1")
public inline fun <S, T : S, K, M : MutableMap<in K, S>> Grouping<T, K>.reduceTo(
    destination: M,
    operation: (key: K, accumulator: S, element: T) -> S): M =
    aggregateTo(destination) { key, acc, e, first ->
        @Suppress("UNCHECKED_CAST")
        if (first) e else operation(key, acc as S, e)
    }

```

Groups elements from the [Grouping] source by key and counts elements in each group to the given [destination] map.

If the [destination] map already has a value corresponding to the key of some group, that value is used as an initial value of the counter for that group.

`@return` the [destination] map associating the key of each group with the count of elements in the group.

```

@sample samples.collections.Grouping.groupingByEachCount
@SinceKotlin("1.1")
public fun <T, K, M : MutableMap<in K, Int>> Grouping<T, K>.eachCountTo(
    destination: M): M =
    foldTo(destination, 0) { acc, _ -> acc + 1 }

```

Groups elements from the [Grouping] source by key and sums values provided by the [valueSelector] function for elements in each group to the given [destination] map.

If the [destination] map already has a value corresponding to the key of some group, that value is used as an initial value of the sum for that group.

`@return` the [destination] map associating the key of each group with the sum of elements in the group.

```

@SinceKotlin("1.1")
public inline fun <T, K, M : MutableMap<in K, Int>> Grouping<T, K>.eachSumOfTo(
    destination: M, valueSelector: (T) -> Int): M =
    foldTo(destination, 0) { acc, e -> acc + valueSelector(e) }
// TODO: sum by long and by double overloads
public inline fun <T, K, M : MutableMap<in K, Long>> Grouping<T, K>.sumEachByLongTo(
    destination: M, valueSelector: (T) -> Long): M =
    foldTo(destination, 0L) { acc, e -> acc + valueSelector(e) }
public inline fun <T, K> Grouping<T, K>.sumEachByLong(
    valueSelector: (T) -> Long): Map<K, Long> =
    fold(0L) { acc, e -> acc + valueSelector(e) }
public inline fun <T, K, M : MutableMap<in K, Double>> Grouping<T, K>.sumEachByDoubleTo(
    destination: M, valueSelector: (T) -> Double): M =
    foldTo(destination, 0.0) { acc, e -> acc + valueSelector(e) }
public inline fun <T, K> Grouping<T, K>.sumEachByDouble(
    valueSelector: (T) -> Double): Map<K, Double> =
    fold(0.0) { acc, e -> acc + valueSelector(e) }

```

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```

package kotlin.js

An interface for indexing access to a collection of key-value pairs, where type of key is [String] and type of value is [Any?][Any?].

public external interface Json {
    /**
     * Calls to the function will be translated to indexing operation (square brackets) on the receiver with [propertyName] as the argument.
     * E.g. for next code:
     * ```kotlin
     * fun test(j: Json, p: String) = j["prop"] + j.get(p)
     * ```
     * will be generated:
     * ```js
     * function test(j, p) {
     *     return j["prop"] + j[p];
     * }
     * ```
     */
    operator fun get(propertyName: String): Any?

    /**
     * Calls of the function will be translated to an assignment of [value] to the receiver indexed (with square brackets/index operation) with [propertyName].
     * E.g. for the following code:
     * ```kotlin
     * fun test(j: Json, p: String, newValue: Any) {
     *     j["prop"] = 1
     *     j.set(p, newValue)
     * }
     * ```
     * will be generated:
     * ```js
     * function test(j, p, newValue) {
     *     j["prop"] = 1;
     *     j[p] = newValue;
     * }
     * ```
     */
    operator fun set(propertyName: String, value: Any?): Unit

    /**
     * Returns a simple JavaScript object (as [Json]) using provided key-value pairs as names and values of its properties.
     */
    public fun json(vararg pairs: Pair<String, Any?>): Json {
        val res: dynamic = js("{}")
        for ((name, value) in pairs) {
            res[name] = value
        }
        return res
    }

    /**
     * Adds key-value pairs from [other] to [this].
     * Returns the original receiver.
     */
    public fun Json.add(other: Json): Json {
        val keys: Array<String> = js("Object").keys(other)
        for (key in keys) {
            if (other.asDynamic().hasOwnProperty(key)) {
                this[key] = other[key];
            }
        }
        return this
    }

    /**
     * Exposes the JavaScript [JSON object](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/JSON) to Kotlin.
     */
}

```

```

*\n@Suppress("NOT_DOCUMENTED")\npublic external object JSON {\n    public fun stringify(o: Any?):
String\n    public fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?): String\n    public fun
stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)? = definedExternally, space: Int): String\n    public
fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)? = definedExternally, space: String): String\n
public fun stringify(o: Any?, replacer: Array<String>): String\n    public fun stringify(o: Any?, replacer:
Array<String>, space: Int): String\n    public fun stringify(o: Any?, replacer: Array<String>, space: String):
String\n\n    public fun <T> parse(text: String): T\n    public fun <T> parse(text: String, reviver: ((key: String, value:
Any?) -> Any?): T)\n}\n", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\npackage kotlin.math\n\nimport kotlin.internal.InlineOnly\nimport kotlin.js.JsMath
as nativeMath\n\n// region ===== Double Math
=====
\n\n/** Computes the sine of the angle [x] given in
radians.\n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sin(x: Double): Double =
nativeMath.sin(x)\n\n/** Computes the cosine of the angle [x] given in radians.\n * Special cases:\n * -
`cos(NaN|+Inf|-Inf)` is `NaN`\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun cos(x: Double):
Double = nativeMath.cos(x)\n\n/** Computes the tangent of the angle [x] given in radians.\n * Special cases:\n
* - `tan(NaN|+Inf|-Inf)` is `NaN`\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun tan(x:
Double): Double = nativeMath.tan(x)\n\n/** Computes the arc sine of the value [x];\n * the returned value is an
angle in the range from `-PI/2` to `PI/2` radians.\n * Special cases:\n * - `asin(x)` is `NaN`, when `abs(x) > 1`
or x is `NaN`\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun asin(x: Double): Double =
nativeMath.asin(x)\n\n/** Computes the arc cosine of the value [x];\n * the returned value is an angle in the
range from `0.0` to `PI` radians.\n * Special cases:\n * - `acos(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun acos(x: Double): Double =
nativeMath.acos(x)\n\n/** Computes the arc tangent of the value [x];\n * the returned value is an angle in the
range from `-PI/2` to `PI/2` radians.\n * Special cases:\n * - `atan(NaN)` is `NaN`\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun atan(x: Double): Double =
nativeMath.atan(x)\n\n/** Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n * to the
rectangular coordinates `(x, y)` by computing the arc tangent of the value [y] / [x];\n * the returned value is an
angle in the range from `-PI` to `PI` radians.\n * Special cases:\n * - `atan2(0.0, 0.0)` is `0.0`\n * - `atan2(0.0, x)`
is `0.0` for `x > 0` and `PI` for `x < 0`\n * - `atan2(-0.0, x)` is `-0.0` for `x > 0` and `-PI` for `x < 0`\n *
- `atan2(y, +Inf)` is `0.0` for `0 < y < +Inf` and `-0.0` for `-Inf < y < 0`\n * - `atan2(y, -Inf)` is `PI` for `0 < y < +Inf` and `-PI`
for `-Inf < y < 0`\n * - `atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`\n * - `atan2(+Inf, x)`
is `PI/2` for finite `x`\n * - `atan2(-Inf, x)` is `-PI/2` for finite `x`\n * - `atan2(NaN, x)` and `atan2(y, NaN)`
is `NaN`\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun atan2(y: Double, x: Double): Double =
nativeMath.atan2(y, x)\n\n/** Computes the hyperbolic sine of the value [x].\n * Special cases:\n * -
`sinh(NaN)` is `NaN`\n * - `sinh(+Inf)` is `+Inf`\n * - `sinh(-Inf)` is `-Inf`\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sinh(x: Double): Double =
nativeMath.sinh(x)\n\n/** Computes the hyperbolic cosine of the value [x].\n * Special cases:\n * -
`cosh(NaN)` is `NaN`\n * - `cosh(+Inf|-Inf)` is `+Inf`\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual
inline fun cosh(x: Double): Double = nativeMath.cosh(x)\n\n/** Computes the hyperbolic tangent of the value
[x].\n * Special cases:\n * - `tanh(NaN)` is `NaN`\n * - `tanh(+Inf)` is `1.0`\n * - `tanh(-Inf)` is `-1.0`\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun tanh(x: Double): Double =
nativeMath.tanh(x)\n\n/** Computes the inverse hyperbolic sine of the value [x].\n * The returned value is
`y` such that `sinh(y) == x`.\n * Special cases:\n * - `asinh(NaN)` is `NaN`\n * - `asinh(+Inf)` is `+Inf`\n * -
`asinh(-Inf)` is `-Inf`\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun asinh(x: Double): Double
= nativeMath.asinh(x)\n\n/** Computes the inverse hyperbolic cosine of the value [x].\n * The returned
value is positive `y` such that `cosh(y) == x`.\n * Special cases:\n * - `acosh(NaN)` is `NaN`\n * - `acosh(x)`

```

is `NaN` when $x < 1$.
`acosh(+Inf)` is `+Inf`.

`acosh(x: Double): Double` = `nativeMath.acosh(x)`
 Computes the inverse hyperbolic tangent of the value `[x]`.
 The returned value is `y` such that $\tanh(y) == x$.
 Special cases:
`tanh(NaN)` is `NaN`
`tanh(x)` is `NaN` when $x > 1$ or $x < -1$.
`tanh(1.0)` is `+Inf`
`tanh(-1.0)` is `-Inf`.

`atanh(x: Double): Double` = `nativeMath.atanh(x)`
 Computes $\sqrt{x^2 + y^2}$ without intermediate overflow or underflow.
 Special cases:
 - returns `+Inf` if any of arguments is infinite
 - returns `NaN` if any of arguments is `NaN` and the other is not infinite.

`hypot(x: Double, y: Double): Double` = `nativeMath.hypot(x, y)`
 Computes the positive square root of the value `[x]`.
 Special cases:
`sqrt(x)` is `NaN` when $x < 0$ or `x` is `NaN`.

`sqrt(x: Double): Double` = `nativeMath.sqrt(x)`
 Computes Euler's number `e` raised to the power of the value `[x]`.
 Special cases:
`exp(NaN)` is `NaN`
`exp(+Inf)` is `+Inf`
`exp(-Inf)` is `0.0`.

`exp(x: Double): Double` = `nativeMath.exp(x)`
 Computes $\exp(x) - 1$.
 This function can be implemented to produce more precise result for `[x]` near zero.
 Special cases:
`expm1(NaN)` is `NaN`
`expm1(+Inf)` is `+Inf`
`expm1(-Inf)` is `-1.0`.
 @see `[exp]` function.

`expm1(x: Double): Double` = `nativeMath.expm1(x)`
 Computes the logarithm of the value `[x]` to the given `[base]`.
 Special cases:
`log(x, b)` is `NaN` if either `x` or `b` are `NaN`.
`log(x, b)` is `NaN` when $x < 0$ or $b \leq 0$ or $b == 1.0$.
`log(+Inf, +Inf)` is `NaN`.
`log(+Inf, b)` is `+Inf` for $b > 1$ and `-Inf` for $b < 1$.
`log(0.0, b)` is `-Inf` for $b > 1$ and `+Inf` for $b > 1$.
 See also logarithm functions for common fixed bases: `[ln]`, `[log10]` and `[log2]`.

`log(x: Double, base: Double): Double` {
 if $(base \leq 0.0 \parallel base == 1.0)$ return `Double.NaN`
 return `nativeMath.log(x) / nativeMath.log(base)`.
 Computes the natural logarithm (base `E`) of the value `[x]`.
 Special cases:
`ln(NaN)` is `NaN`
`ln(x)` is `NaN` when $x < 0.0$.
`ln(+Inf)` is `+Inf`
`ln(0.0)` is `-Inf`.

`ln(x: Double): Double` = `nativeMath.log(x)`
 Computes the common logarithm (base 10) of the value `[x]`.
 @see `[ln]` function for special cases.

`log10(x: Double): Double` = `nativeMath.log10(x)`
 Computes the binary logarithm (base 2) of the value `[x]`.
 @see `[ln]` function for special cases.

`log2(x: Double): Double` = `nativeMath.log2(x)`
 Computes $\ln(x + 1)$.
 This function can be implemented to produce more precise result for `[x]` near zero.
 Special cases:
`ln1p(NaN)` is `NaN`
`ln1p(x)` is `NaN` where $x < -1.0$.
`ln1p(-1.0)` is `-Inf`
`ln1p(+Inf)` is `+Inf`.
 @see `[ln]` function
 @see `[expm1]` function.

`ln1p(x: Double): Double` = `nativeMath.log1p(x)`
 Rounds the given value `[x]` to an integer towards positive infinity.
 @return the smallest double value that is greater than or equal to the given value `[x]` and is a mathematical integer.
 Special cases:
`ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.

`ceil(x: Double): Double` = `nativeMath.ceil(x)`
 Rounds the given value `[x]` to an integer towards negative infinity.
 @return the largest double value that is smaller than or equal to the given value `[x]` and is a mathematical integer.
 Special cases:
`floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.

`floor(x: Double): Double` = `nativeMath.floor(x)`
 Rounds the given value `[x]` to an integer towards zero.
 @return the value `[x]` having its fractional part truncated.
 Special cases:
`truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.

`truncate(x: Double): Double` = `nativeMath.trunc(x)`
 Rounds the given value `[x]` towards the closest integer with ties rounded towards even integer.
 Special cases:
`round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.

`round(x: Double): Double` = `nativeMath.round(x)`

```

{\n  if (x % 0.5 != 0.0) {\n    return nativeMath.round(x)\n  }\n  val floor = floor(x)\n  return if (floor % 2 ==
0.0) floor else ceil(x)\n}\n\n/**\n * Returns the absolute value of the given value [x].\n *\n * Special cases:\n * - `abs(NaN)` is `NaN`\n *\n * @see absoluteValue extension property for [Double]\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun abs(x: Double): Double =
nativeMath.abs(x)\n\n/**\n * Returns the sign of the given value [x]:\n * - `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n * Special case:\n * - `sign(NaN)` is `NaN`\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sign(x: Double): Double =
nativeMath.sign(x)\n\n/**\n * Returns the smaller of two values.\n *\n * If either value is `NaN`, then the result is
`NaN`.\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun min(a: Double, b: Double): Double =
nativeMath.min(a, b)\n\n/**\n * Returns the greater of two values.\n *\n * If either value is `NaN`, then the result is
`NaN`.\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun max(a: Double, b: Double): Double =
nativeMath.max(a, b)\n\n// extensions\n\n/**\n * Raises this value to the power [x].\n *\n * Special cases:\n * - `b.pow(0.0)` is `1.0`\n * - `b.pow(1.0) == b`\n * - `b.pow(NaN)` is `NaN`\n * - `NaN.pow(x)` is `NaN` for `x !=
0.0`\n * - `b.pow(Inf)` is `NaN` for `abs(b) == 1.0`\n * - `b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not
an integer\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Double.pow(x: Double): Double =
nativeMath.pow(this, x)\n\n/**\n * Raises this value to the integer power [n].\n *\n * See the other overload of
[pow] for details.\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Double.pow(n: Int): Double =
nativeMath.pow(this, n.toDouble())\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n * -
`NaN.absoluteValue` is `NaN`\n *\n * @see abs function\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic
actual inline val Double.absoluteValue: Double get() = nativeMath.abs(this)\n\n/**\n * Returns the sign of this
value:\n * - `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n *
Special case:\n * - `NaN.sign` is `NaN`\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val
Double.sign: Double get() = nativeMath.sign(this)\n\n/**\n * Returns this value with the sign bit same as of the
[sign] value.\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Double.withSign(sign: Int):
Double = this.withSign(sign.toDouble())\n\n/**\n * Returns the ulp (unit in the last place) of this value.\n *\n * An
ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude.\n *\n * Special
Cases:\n * - `NaN.ulp` is `NaN`\n * - `x.ulp` is `+Inf` when `x` is `+Inf` or `-Inf`\n * - `0.0.ulp` is
`Double.MIN_VALUE`\n */\n@SinceKotlin("1.2")\npublic actual val Double.ulp: Double get() = when {\n  this
< 0 -> (-this).ulp\n  this.isNaN() || this == Double.POSITIVE_INFINITY -> this\n  this ==
Double.MAX_VALUE -> this - this.nextDown()\n  else -> this.nextUp() - this\n}\n\n/**\n * Returns the [Double]
value nearest to this value in direction of positive infinity.\n */\n@SinceKotlin("1.2")\npublic actual fun
Double.nextUp(): Double = when {\n  this.isNaN() || this == Double.POSITIVE_INFINITY -> this\n  this == 0.0
-> Double.MIN_VALUE\n  else -> Double.fromBits(this.toRawBits() + if (this > 0) 1 else -1)\n}\n\n/**\n *
Returns the [Double] value nearest to this value in direction of negative infinity.\n */\n@SinceKotlin("1.2")\npublic
actual fun Double.nextDown(): Double = when {\n  this.isNaN() || this ==
Double.NEGATIVE_INFINITY -> this\n  this == 0.0 -> -Double.MIN_VALUE\n  else ->
Double.fromBits(this.toRawBits() + if (this > 0) -1 else 1)\n}\n\n/**\n * Returns the [Double] value nearest to this
value in direction from this value towards the value [to].\n *\n * Special cases:\n * - `x.nextTowards(y)` is `NaN` if
either `x` or `y` are `NaN`\n * - `x.nextTowards(x) == x`\n */\n@SinceKotlin("1.2")\npublic actual fun
Double.nextTowards(to: Double): Double = when {\n  this.isNaN() || to.isNaN() -> Double.NaN\n  to == this ->
to\n  to > this -> this.nextUp()\n  else /* to < this */ -> this.nextDown()\n}\n\n/**\n * Rounds this [Double]
value to the nearest integer and converts the result to [Int].\n *\n * Ties are rounded towards positive infinity.\n *\n *
Special cases:\n * - `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`\n * - `x.roundToInt()
== Int.MIN_VALUE` when `x < Int.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value is
`NaN`\n */\n@SinceKotlin("1.2")\npublic actual fun Double.roundToInt(): Int = when {\n  isNaN() -> throw
IllegalArgumentException("Cannot round NaN value.")\n  this > Int.MAX_VALUE -> Int.MAX_VALUE\n  this <
Int.MIN_VALUE -> Int.MIN_VALUE\n  else -> nativeMath.round(this).toInt()\n}\n\n/**\n * Rounds this
[Double] value to the nearest integer and converts the result to [Long].\n *\n * Ties are rounded towards positive

```

```

infinity.\n *\n * Special cases:\n * - `x.roundToLong() == Long.MAX_VALUE` when `x >
Long.MAX_VALUE`\n * - `x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE`\n *\n *
@throws IllegalArgumentException when this value is `NaN`\n *\n @SinceKotlin("1.2")\n\npublic actual fun
Double.roundToLong(): Long = when {\n isNaN() -> throw IllegalArgumentException("Cannot round NaN
value.")\n this > Long.MAX_VALUE -> Long.MAX_VALUE\n this < Long.MIN_VALUE ->
Long.MIN_VALUE\n else -> nativeMath.round(this).toLong()\n }\n\n// endregion\n\n\n// region
===== Float Math =====\n\n\n/** Computes the
sine of the angle [x] given in radians.\n *\n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n
*\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline fun sin(x: Float): Float =
nativeMath.sin(x.toDouble()).toFloat()\n\n\n/** Computes the cosine of the angle [x] given in radians.\n *\n * Special
cases:\n * - `cos(NaN|+Inf|-Inf)` is `NaN`\n *\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline fun
cos(x: Float): Float = nativeMath.cos(x.toDouble()).toFloat()\n\n\n/** Computes the tangent of the angle [x] given in
radians.\n *\n * Special cases:\n * - `tan(NaN|+Inf|-Inf)` is `NaN`\n
*\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline fun tan(x: Float): Float =
nativeMath.tan(x.toDouble()).toFloat()\n\n\n\n/** Computes the arc sine of the value [x];\n *\n * the returned value is
an angle in the range from  $-\pi/2$  to  $\pi/2$  radians.\n *\n * Special cases:\n * - `asin(x)` is `NaN`, when `abs(x) >
1` or x is `NaN`\n *\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline fun asin(x: Float): Float =
nativeMath.asin(x.toDouble()).toFloat()\n\n\n\n/** Computes the arc cosine of the value [x];\n *\n * the returned value
is an angle in the range from  $0.0$  to  $\pi$  radians.\n *\n * Special cases:\n * - `acos(x)` is `NaN`, when `abs(x) >
1` or x is `NaN`\n *\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline fun acos(x: Float): Float =
nativeMath.acos(x.toDouble()).toFloat()\n\n\n\n/** Computes the arc tangent of the value [x];\n *\n * the returned value
is an angle in the range from  $-\pi/2$  to  $\pi/2$  radians.\n *\n * Special cases:\n * - `atan(NaN)` is `NaN`\n
*\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline fun atan(x: Float): Float =
nativeMath.atan(x.toDouble()).toFloat()\n\n\n\n/** Returns the angle `theta` of the polar coordinates `(r, theta)` that
correspond\n *\n * to the rectangular coordinates `(x, y)` by computing the arc tangent of the value  $y / x$ ;\n *\n * the
returned value is an angle in the range from  $-\pi$  to  $\pi$  radians.\n *\n * Special cases:\n * - `atan2(0.0, 0.0)` is
 $0.0$ \n * - `atan2(0.0, x)` is  $0.0$  for  $x > 0$  and  $\pi$  for  $x < 0$ \n * - `atan2(-0.0, x)` is  $-0.0$  for  $x > 0$  and  $-\pi$ 
for  $x < 0$ \n * - `atan2(y, +Inf)` is  $0.0$  for  $0 < y < +Inf$  and  $-0.0$  for  $-\infty < y < 0$ \n * - `atan2(y, -Inf)` is  $\pi$ 
for  $0 < y < +Inf$  and  $-\pi$  for  $-\infty < y < 0$ \n * - `atan2(y, 0.0)` is  $\pi/2$  for  $y > 0$  and  $-\pi/2$  for  $y < 0$ \n * -
`atan2(+Inf, x)` is  $\pi/2$  for finite  $x \neq 0$ \n * - `atan2(-Inf, x)` is  $-\pi/2$  for finite  $x \neq 0$ \n * - `atan2(NaN, x)` and
`atan2(y, NaN)` is `NaN`\n *\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline fun atan2(y: Float, x:
Float): Float = nativeMath.atan2(y.toDouble(), x.toDouble()).toFloat()\n\n\n\n/** Computes the hyperbolic sine of
the value [x].\n *\n * Special cases:\n * - `sinh(NaN)` is `NaN`\n * - `sinh(+Inf)` is  $+\infty$ \n * - `sinh(-Inf)` is  $-\infty$ \n
*\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline fun sinh(x: Float): Float =
nativeMath.sinh(x.toDouble()).toFloat()\n\n\n\n/** Computes the hyperbolic cosine of the value [x].\n *\n * Special
cases:\n * - `cosh(NaN)` is `NaN`\n * - `cosh(+Inf|-Inf)` is  $+\infty$ \n
*\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline fun cosh(x: Float): Float =
nativeMath.cosh(x.toDouble()).toFloat()\n\n\n\n/** Computes the hyperbolic tangent of the value [x].\n *\n * Special
cases:\n * - `tanh(NaN)` is `NaN`\n * - `tanh(+Inf)` is  $1.0$ \n * - `tanh(-Inf)` is  $-1.0$ \n
*\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline fun tanh(x: Float): Float =
nativeMath.tanh(x.toDouble()).toFloat()\n\n\n\n/** Computes the inverse hyperbolic sine of the value [x].\n *\n *
The returned value is `y` such that  $\sinh(y) == x$ .\n *\n * Special cases:\n * - `asinh(NaN)` is `NaN`\n * -
`asinh(+Inf)` is  $+\infty$ \n * - `asinh(-Inf)` is  $-\infty$ \n *\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline
fun asinh(x: Float): Float = nativeMath.asinh(x.toDouble()).toFloat()\n\n\n\n/** Computes the inverse hyperbolic
cosine of the value [x].\n *\n * The returned value is positive `y` such that  $\cosh(y) == x$ .\n *\n * Special cases:\n *
- `acosh(NaN)` is `NaN`\n * - `acosh(x)` is `NaN` when  $x < 1$ \n * - `acosh(+Inf)` is  $+\infty$ \n
*\n @SinceKotlin("1.2")\n\n@InlineOnly\n\npublic actual inline fun acosh(x: Float): Float =
nativeMath.acosh(x.toDouble()).toFloat()\n\n\n\n/** Computes the inverse hyperbolic tangent of the value [x].\n *\n *

```

* The returned value is `y` such that $\tanh(y) == x$.
Special cases:
- $\tanh(\text{NaN})$ is NaN
- $\tanh(x)$ is NaN when $x > 1$ or $x < -1$
- $\tanh(1.0)$ is $+\text{Inf}$
- $\tanh(-1.0)$ is $-\text{Inf}$

```

* \n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun atanh(x: Float): Float =
nativeMath.atanh(x.toDouble()).toFloat()\n\n**\n * Computes  $\sqrt{x^2 + y^2}$  without intermediate overflow or
underflow.\n\n * Special cases:  

- returns  $+\text{Inf}$  if any of arguments is infinite  

- returns  $\text{NaN}$  if any of arguments is  $\text{NaN}$  and the other is not infinite\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun
hypot(x: Float, y: Float): Float = nativeMath.hypot(x.toDouble(), y.toDouble()).toFloat()\n\n**\n * Computes the
positive square root of the value [x].\n\n * Special cases:  

-  $\sqrt{x}$  is  $\text{NaN}$  when  $x < 0$  or  $x$  is  $\text{NaN}$ \n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sqrt(x: Float): Float =
nativeMath.sqrt(x.toDouble()).toFloat()\n\n**\n * Computes Euler's number `e` raised to the power of the value
[x].\n\n * Special cases:  

-  $\exp(\text{NaN})$  is  $\text{NaN}$   

-  $\exp(+\text{Inf})$  is  $+\text{Inf}$   

-  $\exp(-\text{Inf})$  is  $0.0$ \n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun exp(x: Float): Float =
nativeMath.exp(x.toDouble()).toFloat()\n\n**\n * Computes  $\exp(x) - 1$ .  

This function can be implemented to produce more precise result for [x] near zero.\n\n * Special cases:  

-  $\text{expm1}(\text{NaN})$  is  $\text{NaN}$   

-  $\text{expm1}(+\text{Inf})$  is  $+\text{Inf}$   

-  $\text{expm1}(-\text{Inf})$  is  $-1.0$   

@see [exp] function.\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun expm1(x: Float): Float =
nativeMath.expm1(x.toDouble()).toFloat()\n\n**\n * Computes the logarithm of the value [x] to the given [base].\n\n * Special cases:  

-  $\log(x, b)$  is  $\text{NaN}$  if either  $x$  or  $b$  are  $\text{NaN}$   

-  $\log(x, b)$  is  $\text{NaN}$  when  $x < 0$  or  $b <= 0$  or  $b == 1.0$   

-  $\log(+\text{Inf}, +\text{Inf})$  is  $\text{NaN}$   

-  $\log(+\text{Inf}, b)$  is  $+\text{Inf}$  for  $b > 1$  and  $-\text{Inf}$  for  $b < 1$   

-  $\log(0.0, b)$  is  $-\text{Inf}$  for  $b > 1$  and  $+\text{Inf}$  for  $b > 1$   

* See also logarithm functions for common fixed bases: [ln], [log10] and [log2].\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun log(x:
Float, base: Float): Float = log(x.toDouble(), base.toDouble()).toFloat()\n\n**\n * Computes the natural logarithm
(base `E`) of the value [x].\n\n * Special cases:  

-  $\ln(\text{NaN})$  is  $\text{NaN}$   

-  $\ln(x)$  is  $\text{NaN}$  when  $x < 0.0$   

-  $\ln(+\text{Inf})$  is  $+\text{Inf}$   

-  $\ln(0.0)$  is  $-\text{Inf}$ \n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun ln(x: Float): Float = nativeMath.log(x.toDouble()).toFloat()\n\n**\n * Computes the common logarithm (base 10)
of the value [x].  

@see [ln] function for special cases.\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun log10(x: Float): Float = nativeMath.log10(x.toDouble()).toFloat()\n\n**\n * Computes the binary
logarithm (base 2) of the value [x].  

@see [ln] function for special cases.\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun log2(x: Float): Float =
nativeMath.log2(x.toDouble()).toFloat()\n\n**\n * Computes  $\ln(a + 1)$ .  

This function can be implemented to produce more precise result for [x] near zero.  

Special cases:  

-  $\ln1p(\text{NaN})$  is  $\text{NaN}$   

-  $\ln1p(x)$  is  $\text{NaN}$  where  $x < -1.0$   

-  $\ln1p(-1.0)$  is  $-\text{Inf}$   

-  $\ln1p(+\text{Inf})$  is  $+\text{Inf}$   

@see [ln] function  

@see [expm1] function\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun ln1p(x: Float): Float =
nativeMath.log1p(x.toDouble()).toFloat()\n\n**\n * Rounds the given value [x] to an integer towards positive
infinity.  

@return the smallest Float value that is greater than or equal to the given value [x] and is a
mathematical integer.\n\n * Special cases:  

-  $\text{ceil}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a
mathematical integer.\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun ceil(x: Float): Float =
nativeMath.ceil(x.toDouble()).toFloat()\n\n**\n * Rounds the given value [x] to an integer towards negative
infinity.  

@return the largest Float value that is smaller than or equal to the given value [x] and is a
mathematical integer.\n\n * Special cases:  

-  $\text{floor}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a
mathematical integer.\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun floor(x: Float): Float =
nativeMath.floor(x.toDouble()).toFloat()\n\n**\n * Rounds the given value [x] to an integer towards zero.  

@return the value [x] having its fractional part truncated.  

Special cases:  

-  $\text{truncate}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic
actual inline fun truncate(x: Float): Float = truncate(x.toDouble()).toFloat()\n\n**\n * Rounds the given value [x]
towards the closest integer with ties rounded towards even integer.  

Special cases:  

-  $\text{round}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun round(x: Float): Float =

```


Returns the sign of this value: `-1` if the value is negative, `0` if the value is zero, `1` if the value is positive

```

@SinceKotlin("1.2")
public actual val Int.sign: Int get() = when {
    this < 0 -> -1
    this > 0 -> 1
    else -> 0
}


```

Returns the absolute value of the given value [n].

Special cases: `-Long.MIN_VALUE` is `Long.MIN_VALUE` due to an overflow

@see `absoluteValue` extension property for [Long]

```

@SinceKotlin("1.2")
public actual fun abs(n: Long): Long = if (n < 0) -n else n


```

Returns the smaller of two values.

```

@SinceKotlin("1.2")
@Suppress("NOTHING_TO_INLINE")
public actual inline fun min(a: Long, b: Long): Long = if (a <= b) a else b


```

Returns the greater of two values.

```

@SinceKotlin("1.2")
@Suppress("NOTHING_TO_INLINE")
public actual inline fun max(a: Long, b: Long): Long = if (a >= b) a else b


```

Returns the absolute value of this value.

Special cases: `-Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow

@see `abs` function

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline val Long.absoluteValue: Long get() =
    abs(this)


```

Returns the sign of this value: `-1` if the value is negative, `0` if the value is zero, `1` if the value is positive

```

@SinceKotlin("1.2")
public actual val Long.sign: Int get() = when {
    this < 0 -> -1
    this > 0 -> 1
    else -> 0
}


```

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```

package kotlin


```

Returns `true` if the specified number is a Not-a-Number (NaN) value, `false` otherwise.

```

public actual fun Double.isNaN(): Boolean =
    this != this


```

Returns `true` if the specified number is a Not-a-Number (NaN) value, `false` otherwise.

```

public actual fun Float.isNaN(): Boolean = this != this


```

Returns `true` if this value is infinitely large in magnitude.

```

public actual fun Double.isInfinite(): Boolean = this == Double.POSITIVE_INFINITY || this == Double.NEGATIVE_INFINITY


```

Returns `true` if this value is infinitely large in magnitude.

```

public actual fun Float.isInfinite(): Boolean = this == Float.POSITIVE_INFINITY || this == Float.NEGATIVE_INFINITY


```

Returns `true` if the argument is a finite floating-point value; returns `false` otherwise (for `NaN` and infinity arguments).

```

public actual fun Double.isFinite(): Boolean =
    !isInfinite() && !isNaN()


```

Returns `true` if the argument is a finite floating-point value; returns `false` otherwise (for `NaN` and infinity arguments).

```

public actual fun Float.isFinite(): Boolean = !isInfinite() && !isNaN()


```

Counts the number of set bits in the binary representation of this [Int] number.

```

@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public actual fun
Int.countOneBits(): Int {
    // Hacker's Delight 5-1 algorithm
    var v = this
    v = (v and 0x55555555) +
        (v.ushr(1) and 0x55555555)
    v = (v and 0x33333333) + (v.ushr(2) and 0x33333333)
    v = (v and 0x0F0F0F0F) + (v.ushr(4) and 0x0F0F0F0F)
    v = (v and 0x00FF00FF) + (v.ushr(8) and 0x00FF00FF)
    v = (v and 0x0000FFFF) + (v.ushr(16))
    return v
}


```

Counts the number of consecutive most significant bits that are zero in the binary representation of this [Int] number.

```

@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public actual inline fun Int.countLeadingZeroBits(): Int = JsMath.clz32(this)


```

Counts the number of consecutive least significant bits that are zero in the binary representation of this [Int] number.

```

@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public actual fun
Int.countTrailingZeroBits(): Int =
    // Hacker's Delight 5-4 algorithm for expressing countTrailingZeroBits with countLeadingZeroBits
    Int.SIZE_BITS - (this or -this).inv().countLeadingZeroBits()


```

Returns a number having a single bit set in the position of the most significant set bit of this [Int] number, or zero, if this number is zero.

```

@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public actual fun
Int.takeHighestOneBit(): Int =
    if (this == 0) 0 else 1.shl(Int.SIZE_BITS - 1 - countLeadingZeroBits())


```

Returns a number having a single bit set in the position of the least significant set bit of this [Int] number, or zero, if this number is zero.

```

@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public actual fun
Int.takeLowestOneBit(): Int =
    // Hacker's Delight 2-1 algorithm for isolating rightmost 1-bit
    this and -this


```

Rotates the binary representation of this [Int] number left by the specified [bitCount] number of


```

= getKClass(this)\n", "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal abstract
class KClassImpl<T : Any>(\n    internal open val jClass: JsClass<T>\n) : KClass<T> {\n\n    override val
qualifiedName: String?\n    get() = TODO()\n\n    override fun equals(other: Any?): Boolean {\n        return other
is KClassImpl<*> && jClass == other.jClass\n    }\n\n    // TODO: use FQN\n    override fun hashCode(): Int =
simpleName?.hashCode() ?: 0\n\n    override fun toString(): String {\n        // TODO: use FQN\n        return "\"class
$simpleName\"\n    }\n}\n\ninternal class SimpleKClassImpl<T : Any>(jClass: JsClass<T>) :
KClassImpl<T>(jClass) {\n    override val simpleName: String? =
jClass.asDynamic().`$metadata$`.simpleName.unsafeCast<String?>()\n\n    override fun isInstance(value: Any?):
Boolean {\n        return jsIsType(value, jClass)\n    }\n}\n\ninternal class PrimitiveKClassImpl<T : Any>(\n
jClass: JsClass<T>,\n    private val givenSimpleName: String,\n    private val isInstanceFunction: (Any?) ->
Boolean\n) : KClassImpl<T>(jClass) {\n    override fun equals(other: Any?): Boolean {\n        if (other !is
PrimitiveKClassImpl<*>) return false\n        return super.equals(other) && givenSimpleName ==
other.givenSimpleName\n    }\n\n    override val simpleName: String? get() = givenSimpleName\n\n    override fun
isInstance(value: Any?): Boolean {\n        return isInstanceFunction(value)\n    }\n}\n\ninternal object
NothingKClassImpl : KClassImpl<Nothing>(js("Object")) {\n    override val simpleName: String =
"Nothing"\n\n    override fun isInstance(value: Any?): Boolean = false\n\n    override val jClass:
JsClass<Nothing>\n        get() = throw UnsupportedOperationException("There's no native JS class for Nothing
type")\n\n    override fun equals(other: Any?): Boolean = other === this\n\n    override fun hashCode(): Int =
0\n}\n\ninternal class ErrorKClass : KClass<Nothing> {\n    override val simpleName: String? get() =
error("Unknown simpleName for ErrorKClass")\n\n    override val qualifiedName: String? get() = error("Unknown
qualifiedName for ErrorKClass")\n\n    override fun isInstance(value: Any?): Boolean = error("Can't check
isInstance on ErrorKClass")\n\n    override fun equals(other: Any?): Boolean = other === this\n\n    override fun
hashCode(): Int = 0\n}", "/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.reflect\n\ninternal actual inline val
KClass<*>.qualifiedOrSimpleName: String?\n    get() = simpleName", "/*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under
the module\n\n// TODO: Remove once JsReflectionAPICallChecker supports more reflection
types\n@file:Suppress("Unsupported")\n\nimport kotlin.reflect.*\n\nimport
kotlin.reflect.js.internal.*\n\n@JsName("createKType")\n\ninternal fun createKType(\n    classifier: KClassifier,\n
arguments: Array<KTypeProjection>,\n    isMarkedNullable: Boolean\n) =\n    KTypeImpl(classifier,
arguments.asList(), isMarkedNullable)\n\n@JsName("createDynamicKType")\n\ninternal fun
createDynamicKType(): KType = DynamicKType\n\n@JsName("markKTypeNullable")\n\ninternal fun
markKTypeNullable(kType: KType) = KTypeImpl(kType.classifier!!, kType.arguments,
true)\n\n@JsName("createKTypeParameter")\n\ninternal fun createKTypeParameter(\n    name: String,\n
upperBounds: Array<KType>,\n    variance: String\n): KTypeParameter {\n    val kVariance = when (variance) {\n
        "in" -> KVariance.IN\n        "out" -> KVariance.OUT\n        else -> KVariance.INVARIANT\n    }\n\n    return
KTypeParameterImpl(name, upperBounds.asList(), kVariance,
false)\n}\n\n@JsName("getStarKTypeProjection")\n\ninternal fun getStarKTypeProjection(): KTypeProjection =\n
KTypeProjection.STAR\n\n@JsName("createCovariantKTypeProjection")\n\ninternal fun
createCovariantKTypeProjection(type: KType): KTypeProjection =\n
KTypeProjection.covariant(type)\n\n@JsName("createInvariantKTypeProjection")\n\ninternal fun
createInvariantKTypeProjection(type: KType): KTypeProjection =\n
KTypeProjection.invariant(type)\n\n@JsName("createContravariantKTypeProjection")\n\ninternal fun
createContravariantKTypeProjection(type: KType): KTypeProjection =\n

```

```

KTypeProjection.contravariant(type)\n", "/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal class
KTypeImpl(\n    override val classifier: KClassifier,\n    override val arguments: List<KTypeProjection>,\n    override val isMarkedNullable: Boolean\n) : KType {\n    override fun equals(other: Any?): Boolean =\n        other
is KTypeImpl &&\n            classifier == other.classifier && arguments == other.arguments &&
isMarkedNullable == other.isMarkedNullable\n\n    override fun hashCode(): Int =\n        (classifier.hashCode() * 31
+ arguments.hashCode()) * 31 + isMarkedNullable.hashCode()\n\n    override fun toString(): String {\n        val
kClass = (classifier as? KClass<*>)\n        val classifierName = when {\n            kClass == null ->
classifier.toString()\n            kClass.simpleName != null -> kClass.simpleName\n            else -> \"(non-denotable
type)\"\n        }\n        val args =\n            if (arguments.isEmpty()) \"\"\n            else arguments.joinToString(\" \", \"
\", \"<\", \">\") { it.asString() }\n        val nullable = if (isMarkedNullable) \"?\" else \"\"\n        return classifierName
+ args + nullable\n    }\n\n    // TODO: this should be the implementation of KTypeProjection.toString, see KT-
30071\n    private fun KTypeProjection.asString(): String {\n        if (variance == null) return \"*\n        return
variance.prefixString() + type.toString()\n    }\n\n    internal object DynamicKType : KType {\n        override val
classifier: KClassifier? = null\n        override val arguments: List<KTypeProjection> = emptyList()\n        override val
isMarkedNullable: Boolean = false\n        override fun toString(): String = \"dynamic\"\n    }\n\n    internal fun
KVariance.prefixString() =\n        when (this) {\n            KVariance.INVARIANT -> \"\"\n            KVariance.IN -> \"in \"\n
KVariance.OUT -> \"out \"\n        }\n    }\n}
/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal data class
KTypeParameterImpl(\n    override val name: String,\n    override val upperBounds: List<KType>,\n    override val
variance: KVariance,\n    override val isReified: Boolean\n) : KTypeParameter {\n    override fun toString(): String
= name\n}
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of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.js.JsClass\n\n@JsName(\"PrimitiveClasses\")\ninternal
object PrimitiveClasses {\n    @JsName(\"anyClass\")\n    val anyClass =
PrimitiveKClassImpl(js(\"Object\").unsafeCast<JsClass<Any>>(), \"Any\", { it is Any })\n\n    @JsName(\"numberClass\")\n    val numberClass =
PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Number>>(), \"Number\", { it is Number })\n\n    @JsName(\"nothingClass\")\n    val nothingClass = NothingKClassImpl\n\n    @JsName(\"booleanClass\")\n    val
booleanClass = PrimitiveKClassImpl(js(\"Boolean\").unsafeCast<JsClass<Boolean>>(), \"Boolean\", { it is Boolean
})\n\n    @JsName(\"byteClass\")\n    val byteClass =
PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Byte>>(), \"Byte\", { it is Byte })\n\n    @JsName(\"shortClass\")\n    val shortClass = PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Short>>(),
\"Short\", { it is Short })\n\n    @JsName(\"intClass\")\n    val intClass =
PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Int>>(), \"Int\", { it is Int })\n\n    @JsName(\"floatClass\")\n    val floatClass = PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Float>>(),
\"Float\", { it is Float })\n\n    @JsName(\"doubleClass\")\n    val doubleClass =
PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Double>>(), \"Double\", { it is Double })\n\n    @JsName(\"arrayClass\")\n    val arrayClass =
PrimitiveKClassImpl(js(\"Array\").unsafeCast<JsClass<Array<*>>(), \"Array\", { it is Array<*> })\n\n    @JsName(\"stringClass\")\n    val stringClass = PrimitiveKClassImpl(js(\"String\").unsafeCast<JsClass<String>>(),
\"String\", { it is String })\n\n    @JsName(\"throwableClass\")\n    val throwableClass =
PrimitiveKClassImpl(js(\"Error\").unsafeCast<JsClass<Throwable>>(), \"Throwable\", { it is Throwable })\n\n    @JsName(\"booleanArrayClass\")\n    val booleanArrayClass =
PrimitiveKClassImpl(js(\"Array\").unsafeCast<JsClass<BooleanArray>>(), \"BooleanArray\", { it is BooleanArray
})\n\n    @JsName(\"charArrayClass\")\n    val charArrayClass =

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PrimitiveKClassImpl(js("Uint16Array").unsafeCast<JsClass<CharArray>>(), "CharArray", { it is CharArray
})\n\n @JsName("byteArrayClass")\n val byteArrayClass =
PrimitiveKClassImpl(js("Int8Array").unsafeCast<JsClass<ByteArray>>(), "ByteArray", { it is ByteArray })\n\n
@JsName("shortArrayClass")\n val shortArrayClass =
PrimitiveKClassImpl(js("Int16Array").unsafeCast<JsClass<ShortArray>>(), "ShortArray", { it is ShortArray
})\n\n @JsName("intArrayClass")\n val intArrayClass =
PrimitiveKClassImpl(js("Int32Array").unsafeCast<JsClass<IntArray>>(), "IntArray", { it is IntArray })\n\n
@JsName("longArrayClass")\n val longArrayClass =
PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<LongArray>>(), "LongArray", { it is LongArray })\n\n
@JsName("floatArrayClass")\n val floatArrayClass =
PrimitiveKClassImpl(js("Float32Array").unsafeCast<JsClass<FloatArray>>(), "FloatArray", { it is FloatArray
})\n\n @JsName("doubleArrayClass")\n val doubleArrayClass =
PrimitiveKClassImpl(js("Float64Array").unsafeCast<JsClass<DoubleArray>>(), "DoubleArray", { it is
DoubleArray })\n\n @JsName("functionClass")\n fun functionClass(arity: Int): KClassImpl<Any> {\n
return functionClasses.get(arity) ?: run {\n val result =
PrimitiveKClassImpl(js("Function").unsafeCast<JsClass<Any>>(), "Function$arity",\n
{ jsTypeOf(it) === "function" && it.asDynamic().length === arity })\n functionClasses.asDynamic()[arity]
= result\n result\n }\n }\n\nprivate val functionClasses =
arrayOfNulls<KClassImpl<Any>>(0),"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n a package is omitted to get declarations directly under the module\n\nimport
kotlin.reflect.*\nimport kotlin.reflect.js.internal.*\n\n@JsName("getKClass")\ninternal fun <T : Any>
getKClass(jClass: Any /* JsClass<T> | Array<JsClass<T>> */): KClass<T> {\n return if
(js("Array").isArray(jClass)) {\n getKClassM(jClass.unsafeCast<Array<JsClass<T>>>())\n } else {\n
getKClass1(jClass.unsafeCast<JsClass<T>>())\n }\n}\n\n@JsName("getKClassM")\ninternal fun <T : Any>
getKClassM(jClasses: Array<JsClass<T>>): KClass<T> = when (jClasses.size) {\n 1 ->
getKClass1(jClasses[0])\n 0 -> NothingKClassImpl.unsafeCast<KClass<T>>()\n else ->
ErrorKClass().unsafeCast<KClass<T>>()\n}\n\n@JsName("getKClassFromExpression")\ninternal fun <T : Any>
getKClassFromExpression(e: T): KClass<T> =\n when (jsTypeOf(e)) {\n "string" ->
PrimitiveClasses.stringClass\n "number" -> if (jsBitwiseOr(e, 0).asDynamic() === e)
PrimitiveClasses.intClass else PrimitiveClasses.doubleClass\n "boolean" -> PrimitiveClasses.booleanClass\n
"function" -> PrimitiveClasses.functionClass(e.asDynamic().length)\n else -> {\n when {\n e
is BooleanArray -> PrimitiveClasses.booleanArrayClass\n e is CharArray ->
PrimitiveClasses.charArrayClass\n e is ByteArray -> PrimitiveClasses.byteArrayClass\n e is
ShortArray -> PrimitiveClasses.shortArrayClass\n e is IntArray -> PrimitiveClasses.intArrayClass\n
e is LongArray -> PrimitiveClasses.longArrayClass\n e is FloatArray ->
PrimitiveClasses.floatArrayClass\n e is DoubleArray -> PrimitiveClasses.doubleArrayClass\n e is
KClass<*> -> KClass::class\n e is Array<*> -> PrimitiveClasses.arrayClass\n else -> {\n
val constructor = js("Object").getPrototypeOf(e).constructor\n when {\n constructor
=== js("Object") -> PrimitiveClasses.anyClass\n constructor === js("Error") ->
PrimitiveClasses.throwableClass\n else -> {\n val jsClass: JsClass<T> =
constructor\n getKClass1(jsClass)\n }\n }\n }\n }\n\nunsafeCast<KClass<T>>()\n\n@JsName("getKClass1")\ninternal fun <T : Any> getKClass1(jClass:
JsClass<T>): KClass<T> {\n if (jClass === js("String")) return
PrimitiveClasses.stringClass.unsafeCast<KClass<T>>()\n\n val metadata = jClass.asDynamic().`$metadata$\n\n
return if (metadata != null) {\n if (metadata.`$kClass$` == null) {\n val kClass =
SimpleKClassImpl(jClass)\n metadata.`$kClass$` = kClass\n kClass\n } else {\n
metadata.`$kClass$`\n }\n } else {\n SimpleKClassImpl(jClass)\n }\n }"/*\n * Copyright 2010-2018

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JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Exposes
the JavaScript [RegExp
object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/RegExp) to Kotlin.\n
*\n\n@Suppress("NOT_DOCUMENTED")\npublic external class RegExp(pattern: String, flags: String? =
definedExternally) {\n\n    public fun test(str: String): Boolean\n\n    public fun exec(str: String): RegExpMatch?\n\n    public override fun toString(): String\n\n    /**\n     * The lastIndex is a read/write integer property of regular
expressions that specifies the index at which to start the next match.\n     *\n     * public var lastIndex: Int\n\n     public
val global: Boolean\n     public val ignoreCase: Boolean\n     public val multiline: Boolean\n\n}\n\n/**\n * Resets the
regular expression so that subsequent [RegExp.test] and [RegExp.exec] calls will match starting with the beginning
of the input string.\n *\n\npublic fun RegExp.reset() {\n    lastIndex = 0\n}\n\n// TODO: Inherit from array or
introduce asArray() extension\n\n/**\n * Represents the return value of [RegExp.exec].\n
*\n\n@Suppress("NOT_DOCUMENTED")\npublic external interface RegExpMatch {\n    public val index: Int\n
public val input: String\n    public val length: Int\n}\n\n/**\n * Returns the entire text matched by [RegExp.exec] if
the [index] parameter is 0, or the text matched by the capturing parenthesis\n * at the given index.\n *\n\npublic inline
operator fun RegExpMatch.get(index: Int): String? = asDynamic()[index]\n\n/**\n * Converts the result of
[RegExp.exec] to an array where the first element contains the entire matched text and each subsequent\n * element
is the text matched by each capturing parenthesis.\n *\n\npublic inline fun RegExpMatch.asArray(): Array<out
String?> = unsafeCast<Array<out String?>>()\n\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.sequences\n\ninternal actual class
ConstrainedOnceSequence<T> actual constructor(sequence: Sequence<T>) : Sequence<T> {\n    private var
sequenceRef: Sequence<T>? = sequence\n\n    actual override fun iterator(): Iterator<T> {\n        val sequence =
sequenceRef ?: throw IllegalStateException("This sequence can be consumed only once.")\n        sequenceRef =
null\n        return sequence.iterator()\n    }\n\n"/\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n@SinceKotlin("1.5")\npublic actual enum
class CharCategory(internal val value: Int, public actual val code: String) {\n    /**\n     * General category "Cn" in
the Unicode specification.\n     *\n     * UNASSIGNED(0, "Cn"),\n\n     /**\n     * General category "Lu" in the
Unicode specification.\n     *\n     * UPPERCASE_LETTER(1, "Lu"),\n\n     /**\n     * General category "Ll" in the
Unicode specification.\n     *\n     * LOWERCASE_LETTER(2, "Ll"),\n\n     /**\n     * General category "Lt" in the
Unicode specification.\n     *\n     * TITLECASE_LETTER(3, "Lt"),\n\n     /**\n     * General category "Lm" in the
Unicode specification.\n     *\n     * MODIFIER_LETTER(4, "Lm"),\n\n     /**\n     * General category "Lo" in the
Unicode specification.\n     *\n     * OTHER_LETTER(5, "Lo"),\n\n     /**\n     * General category "Mn" in the
Unicode specification.\n     *\n     * NON_SPACING_MARK(6, "Mn"),\n\n     /**\n     * General category "Me" in
the Unicode specification.\n     *\n     * ENCLOSING_MARK(7, "Me"),\n\n     /**\n     * General category "Mc" in
the Unicode specification.\n     *\n     * COMBINING_SPACING_MARK(8, "Mc"),\n\n     /**\n     * General
category "Nd" in the Unicode specification.\n     *\n     * DECIMAL_DIGIT_NUMBER(9, "Nd"),\n\n     /**\n     *
General category "Nl" in the Unicode specification.\n     *\n     * LETTER_NUMBER(10, "Nl"),\n\n     /**\n     *
General category "No" in the Unicode specification.\n     *\n     * OTHER_NUMBER(11, "No"),\n\n     /**\n     *
General category "Zs" in the Unicode specification.\n     *\n     * SPACE_SEPARATOR(12, "Zs"),\n\n     /**\n     *
General category "Zl" in the Unicode specification.\n     *\n     * LINE_SEPARATOR(13, "Zl"),\n\n     /**\n     *
General category "Zp" in the Unicode specification.\n     *\n     * PARAGRAPH_SEPARATOR(14, "Zp"),\n\n     /**\n     *
General category "Cc" in the Unicode specification.\n     *\n     * CONTROL(15, "Cc"),\n\n     /**\n     *
General category "Cf" in the Unicode specification.\n     *\n     * FORMAT(16, "Cf"),\n\n     /**\n     * General
category "Co" in the Unicode specification.\n     *\n     * PRIVATE_USE(18, "Co"),\n\n     /**\n     * General
category "Cs" in the Unicode specification.\n     *\n     * SURROGATE(19, "Cs"),\n\n     /**\n     * General category
"Pd" in the Unicode specification.\n     *\n     * DASH_PUNCTUATION(20, "Pd"),\n\n     /**\n     * General

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category \"Ps\" in the Unicode specification.\n    */\n    START_PUNCTUATION(21, \"Ps\"),\n\n    /**\n     *
General category \"Pe\" in the Unicode specification.\n    */\n    END_PUNCTUATION(22, \"Pe\"),\n\n    /**\n     *
General category \"Pc\" in the Unicode specification.\n    */\n    CONNECTOR_PUNCTUATION(23, \"Pc\"),\n\n    /**\n     *
General category \"Po\" in the Unicode specification.\n    */\n    OTHER_PUNCTUATION(24,
\"Po\"),\n\n    /**\n     *
General category \"Sm\" in the Unicode specification.\n    */\n    MATH_SYMBOL(25,
\"Sm\"),\n\n    /**\n     *
General category \"Sc\" in the Unicode specification.\n    */\n
CURRENCY_SYMBOL(26, \"Sc\"),\n\n    /**\n     *
General category \"Sk\" in the Unicode specification.\n    */\n
MODIFIER_SYMBOL(27, \"Sk\"),\n\n    /**\n     *
General category \"So\" in the Unicode specification.\n    */\n
OTHER_SYMBOL(28, \"So\"),\n\n    /**\n     *
General category \"Pi\" in the Unicode specification.\n    */\n
INITIAL_QUOTE_PUNCTUATION(29, \"Pi\"),\n\n    /**\n     *
General category \"Pf\" in the Unicode
specification.\n    */\n    FINAL_QUOTE_PUNCTUATION(30, \"Pf\");\n\n    /**\n     *
Returns `true` if [char]
character belongs to this category.\n    */\n    public actual operator fun contains(char: Char): Boolean =
char.getCategoryValue() == this.value\n\n    companion object {\n        internal fun valueOf(category: Int):
CharCategory =\n            when (category) {\n                in 0..16 -> values()[category]\n                in 18..30 ->
values()[category - 1]\n                else -> throw IllegalArgumentException(\"Category #\$category is not defined.\")\n            }\n    }\n\n    /**\n     * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n    @package kotlin.text\n\n    /**\n     * The exception thrown when a character encoding or decoding error occurs.\n
*/\n\n    @SinceKotlin(\"1.4\")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    public actual open class
CharacterCodingException(message: String?) : Exception(message) {\n        actual constructor() : this(null)\n    }\n\n    /**\n     * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n    */\n\n    @package
kotlin.text\n\n    /**\n     * A mutable sequence of characters.\n    */\n    /**\n     * String builder can be used to efficiently perform
multiple string manipulation operations.\n    */\n\n    public actual class StringBuilder actual constructor(content: String) :
Appendable, CharSequence {\n        /**\n         * Constructs an empty string builder with the specified initial [capacity].\n
*/\n        /**\n         * In Kotlin/JS implementation of StringBuilder the initial capacity has no effect on the further performance
of operations.\n        */\n        actual constructor(capacity: Int) : this() {\n        }\n\n        /**\n         * Constructs a string builder that
contains the same characters as the specified [content] char sequence.\n        */\n        actual constructor(content:
CharSequence) : this(content.toString()) {\n        }\n\n        /**\n         * Constructs an empty string builder.\n        */\n        actual constructor() :
this(\"\")\n\n        private var string: String = if (content != undefined) content else \"\"\n\n        actual override val
length: Int\n            get() = string.asDynamic().length\n\n        actual override fun get(index: Int): Char =\n            string.getOrElse(index) { throw IndexOutOfBoundsException(\"index: \$index, length: \$length\") }\n\n        actual
override fun subSequence(startIndex: Int, endIndex: Int): CharSequence = string.substring(startIndex, endIndex)\n\n        actual override fun append(value: Char): StringBuilder {\n            string += value\n            return this\n        }\n\n        actual
override fun append(value: CharSequence?): StringBuilder {\n            string += value.toString()\n            return this\n        }\n\n        actual override fun append(value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder =\n            this.appendRange(value?: \"null\", startIndex, endIndex)\n\n        /**\n         * Reverses the contents of this string builder
and returns this instance.\n        */\n        /**\n         * Surrogate pairs included in this string builder are treated as single
characters.\n        */\n        /**\n         * Therefore, the order of the high-low surrogates is never reversed.\n        */\n        /**\n         * Note that the reverse
operation may produce new surrogate pairs that were unpaired low-surrogates and high-surrogates before the
operation.\n        */\n        /**\n         * For example, reversing `\"\\uDC00\\uD800\"` produces `\"\\uD800\\uDC00\"` which is a valid
surrogate pair.\n        */\n        actual fun reverse(): StringBuilder {\n            var reversed = \"\"\n            var index =
string.length - 1\n            while (index >= 0) {\n                val low = string[index--]\n                if (low.isLowSurrogate() &&
index >= 0) {\n                    val high = string[index--]\n                    if (high.isHighSurrogate()) {\n                        reversed =
reversed + high + low\n                    } else {\n                        reversed = reversed + low + high\n                    }\n                }
else {\n                    reversed += low\n                }\n            }\n            string = reversed\n            return this\n        }\n\n        /**\n         * Appends the string representation of the specified object [value] to this string builder and returns this instance.\n
*/\n        /**\n         * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n

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* and then that string was appended to this string builder.\n    */\n    actual fun append(value: Any?): StringBulder
{\n    string += value.toString()\n    return this\n }\n\n /**\n * Appends the string representation of the
specified boolean [value] to this string builder and returns this instance.\n    */\n * The overall effect is exactly as
if the [value] were converted to a string by the `value.toString()` method,\n    * and then that string was appended to
this string builder.\n    */\n @SinceKotlin("1.3")\n    actual fun append(value: Boolean): StringBulder {\n
string += value\n    return this\n }\n\n /**\n * Appends characters in the specified character array [value] to
this string builder and returns this instance.\n    */\n * Characters are appended in order, starting at the index 0.\n
*/\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun append(value:
CharArray): StringBulder {\n    string += value.concatToString()\n    return this\n }\n\n @Deprecated("Provided for binary compatibility.", level = DeprecationLevel.HIDDEN)\n    fun append(value:
String): StringBulder = append(value)\n\n /**\n * Appends the specified string [value] to this string builder and
returns this instance.\n    */\n * If [value] is `null`, then the four characters `null` are appended.\n    */\n
@SinceKotlin("1.3")\n    actual fun append(value: String?): StringBulder {\n    this.string += value ?: "null"\n
return this\n }\n\n /**\n * Returns the current capacity of this string builder.\n    */\n * The capacity is the
maximum length this string builder can have before an allocation occurs.\n    */\n * In Kotlin/JS implementation
of StringBulder the value returned from this method may not indicate the actual size of the backing storage.\n
*/\n @SinceKotlin("1.3")\n // @ExperimentalStdlibApi\n @Deprecated("Obtaining StringBulder capacity is
not supported in JS and common code.", level = DeprecationLevel.ERROR)\n    actual fun capacity(): Int =
length\n\n /**\n * Ensures that the capacity of this string builder is at least equal to the specified
[minimumCapacity].\n    */\n * If the current capacity is less than the [minimumCapacity], a new backing storage
is allocated with greater capacity.\n    * Otherwise, this method takes no action and simply returns.\n    */\n * In
Kotlin/JS implementation of StringBulder the size of the backing storage is not extended to comply the given
[minimumCapacity],\n    * thus calling this method has no effect on the further performance of operations.\n    */\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun
ensureCapacity(minimumCapacity: Int) {\n    }\n\n /**\n * Returns the index within this string builder of the
first occurrence of the specified [string].\n    */\n * Returns -1 if the specified [string] does not occur in this
string builder.\n    */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n    actual
fun indexOf(string: String): Int = this.string.asDynamic().indexOf(string)\n\n /**\n * Returns the index within
this string builder of the first occurrence of the specified [string],\n    * starting at the specified [startIndex].\n    */\n
* Returns -1 if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n
*/\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun indexOf(string:
String, startIndex: Int): Int = this.string.asDynamic().indexOf(string, startIndex)\n\n /**\n * Returns the index
within this string builder of the last occurrence of the specified [string].\n    * The last occurrence of empty string
`""` is considered to be at the index equal to `this.length`.\n    */\n * Returns -1 if the specified [string] does not
occur in this string builder.\n    */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n
    actual fun lastIndexOf(string: String): Int =
this.string.asDynamic().lastIndexOf(string)\n\n /**\n * Returns the index within this string builder of the last
occurrence of the specified [string],\n    * starting from the specified [startIndex] toward the beginning.\n    */\n
* Returns -1 if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n
*/\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun
lastIndexOf(string: String, startIndex: Int): Int {\n    if (string.isEmpty() && startIndex < 0) return -1\n    return
this.string.asDynamic().lastIndexOf(string, startIndex)\n }\n\n /**\n * Inserts the string representation of the
specified boolean [value] into this string builder at the specified [index] and returns this instance.\n    */\n * The
overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n    * and then
that string was inserted into this string builder at the specified [index].\n    */\n * @throws
IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n    */\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value:
Boolean): StringBulder {\n    AbstractList.checkPositionIndex(index, length)\n    string = string.substring(0,

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index) + value + string.substring(index)\n    return this\n }\n\n /**\n  * Inserts the specified character [value]
into this string builder at the specified [index] and returns this instance.\n  *\n  * @throws
IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n  */\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int, value:
Char): StringBuilder {\n    AbstractList.checkPositionIndex(index, length)\n\n    string = string.substring(0,
index) + value + string.substring(index)\n    return this\n }\n\n /**\n  * Inserts characters in the specified
character array [value] into this string builder at the specified [index] and returns this instance.\n  *\n  * The
inserted characters go in same order as in the [value] character array, starting at [index].\n  *\n  * @throws
IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n  */\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int, value:
CharArray): StringBuilder {\n    AbstractList.checkPositionIndex(index, length)\n\n    string =
string.substring(0, index) + value.concatToString() + string.substring(index)\n    return this\n }\n\n /**\n  *
Inserts characters in the specified character sequence [value] into this string builder at the specified [index] and
returns this instance.\n  *\n  * The inserted characters go in the same order as in the [value] character sequence,
starting at [index].\n  *\n  * @param index the position in this string builder to insert at.\n  * @param value the
character sequence from which characters are inserted. If [value] is `null`, then the four characters `"\u0000\u0000\u0000\u0000"` are
inserted.\n  *\n  * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of
this string builder.\n  */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int, value: CharSequence?): StringBuilder {\n    AbstractList.checkPositionIndex(index,
length)\n\n    string = string.substring(0, index) + value.toString() + string.substring(index)\n    return this\n
}\n\n /**\n  * Inserts the string representation of the specified object [value] into this string builder at the
specified [index] and returns this instance.\n  *\n  * The overall effect is exactly as if the [value] were converted
to a string by the `value.toString()` method,\n  * and then that string was inserted into this string builder at the
specified [index].\n  *\n  * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the
length of this string builder.\n  */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int, value: Any?): StringBuilder {\n    AbstractList.checkPositionIndex(index, length)\n\n    string = string.substring(0, index) + value.toString() +
string.substring(index)\n    return this\n }\n\n @Deprecated("Provided for binary compatibility.", level =
DeprecationLevel.HIDDEN)\n fun insert(index: Int, value: String): StringBuilder = insert(index, value)\n\n /**\n  *
Inserts the string [value] into this string builder at the specified [index] and returns this instance.\n  *\n  * If
[value] is `null`, then the four characters `"\u0000\u0000\u0000\u0000"` are inserted.\n  *\n  * @throws IndexOutOfBoundsException
if [index] is less than zero or greater than the length of this string builder.\n  */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int, value: String?): StringBuilder
{\n    AbstractList.checkPositionIndex(index, length)\n\n    val toInsert = value ?: "\u0000"\n    this.string =
this.string.substring(0, index) + toInsert + this.string.substring(index)\n    return this\n }\n\n /**\n  * Sets
the length of this string builder to the specified [newLength].\n  *\n  * If the [newLength] is less than the current
length, it is changed to the specified [newLength].\n  * Otherwise, null characters '\u0000' are appended to this
string builder until its length is less than the [newLength].\n  *\n  * Note that in Kotlin/JS [set] operator function
has non-constant execution time complexity.\n  * Therefore, increasing length of this string builder and then
updating each character by index may slow down your program.\n  *\n  * @throws
IndexOutOfBoundsException or [IllegalArgumentException] if [newLength] is less than zero.\n  */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun setLength(newLength:
Int) {\n    if (newLength < 0) {\n        throw IllegalArgumentException("Negative new length:
$newLength.")\n    }\n\n    if (newLength <= length) {\n        string = string.substring(0, newLength)\n    }
else {\n        for (i in length until newLength) {\n            string += "\u0000"\n        }\n    }\n\n\n /**\n  * Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the
[length] (exclusive).\n  *\n  * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater
than the length of this string builder.\n  */\n @SinceKotlin("1.4")\n

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@WasExperimental(ExperimentalStdlibApi::class)\n actual fun substring(startIndex: Int): String {\n
AbstractList.checkPositionIndex(startIndex, length)\n\n return string.substring(startIndex)\n }\n\n /**\n *
Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the
[endIndex] (exclusive).\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when
[startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n * \n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun substring(startIndex:
Int, endIndex: Int): String {\n AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n\n return
string.substring(startIndex, endIndex)\n }\n\n /**\n * Attempts to reduce storage used for this string builder.\n
*\n * If the backing storage of this string builder is larger than necessary to hold its current contents,\n * then
it may be resized to become more space efficient.\n * Calling this method may, but is not required to, affect the
value of the [capacity] property.\n * \n * In Kotlin/JS implementation of StringBuilder the size of the backing
storage is always equal to the length of the string builder.\n * \n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n actual fun trimToSize() {\n }\n\n override fun toString():
String = string\n\n /**\n * Clears the content of this string builder making it empty and returns this instance.\n
*\n * @sample samples.text.Strings.clearStringBuilder\n * \n @SinceKotlin("1.3")\n public fun clear():
StringBuilder {\n string = ""\n\n return this\n }\n\n /**\n * Sets the character at the specified [index]
to the specified [value].\n * \n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string
builder.\n * \n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public
operator fun set(index: Int, value: Char) {\n AbstractList.checkElementIndex(index, length)\n\n string =
string.substring(0, index) + value + string.substring(index + 1)\n }\n\n /**\n * Replaces characters in the
specified range of this string builder with characters in the specified string [value] and returns this instance.\n
*\n * @param startIndex the beginning (inclusive) of the range to replace.\n * @param endIndex the end (exclusive)
of the range to replace.\n * @param value the string to replace with.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] if [startIndex] is less than zero, greater than the length
of this string builder, or `startIndex > endIndex`.\n * \n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n public fun setRange(startIndex: Int, endIndex: Int, value:
String): StringBuilder {\n checkReplaceRange(startIndex, endIndex, length)\n\n this.string =
this.string.substring(0, startIndex) + value + this.string.substring(endIndex)\n\n return this\n }\n\n private fun
checkReplaceRange(startIndex: Int, endIndex: Int, length: Int) {\n if (startIndex < 0 || startIndex > length) {\n
throw IndexOutOfBoundsException("`startIndex: $startIndex, length: $length`")\n }\n if (startIndex >
endIndex) {\n throw IllegalArgumentException("`startIndex($startIndex) > endIndex($endIndex)`")\n }\n
}\n\n /**\n * Removes the character at the specified [index] from this string builder and returns this instance.\n
*\n * If the `Char` at the specified [index] is part of a supplementary code point, this method does not remove
the entire supplementary character.\n * \n * @param index the index of `Char` to remove.\n * \n * @throws
IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n * \n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n public fun deleteAt(index: Int): StringBuilder {\n
AbstractList.checkElementIndex(index, length)\n\n string = string.substring(0, index) + string.substring(index +
1)\n\n return this\n }\n\n /**\n * Removes characters in the specified range from this string builder and
returns this instance.\n * \n * @param startIndex the beginning (inclusive) of the range to remove.\n *
*\n * @param endIndex the end (exclusive) of the range to remove.\n * \n * @throws IndexOutOfBoundsException
or [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex >
endIndex`.\n * \n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun
deleteRange(startIndex: Int, endIndex: Int): StringBuilder {\n checkReplaceRange(startIndex, endIndex,
length)\n\n string = string.substring(0, startIndex) + string.substring(endIndex)\n\n return this\n }\n\n
/**\n * Copies characters from this string builder into the [destination] character array.\n * \n * @param
destination the array to copy to.\n * @param destinationOffset the position in the array to copy to, 0 by default.\n
*\n * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n * @param endIndex the end
(exclusive) of the range to copy, length of this string builder by default.\n * \n * @throws

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IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this
string builder indices or when `startIndex > endIndex`.n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],n * or when that index
is out of the [destination] array indices range.n */n @SinceKotlin("1.4")n
@WasExperimental(ExperimentalStdlibApi::class)n public fun toCharArray(destination: CharArray,
destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = this.length) {n
AbstractList.checkBoundsIndexes(startIndex, endIndex, length)n
AbstractList.checkBoundsIndexes(destinationOffset, destinationOffset + endIndex - startIndex, destination.size)n\n
    var dstIndex = destinationOffset\n        for (index in startIndex until endIndex) {n            destination[dstIndex++]
= string[index]\n        }\n    }n\n    /**n * Appends characters in a subarray of the specified character array
[value] to this string builder and returns this instance.n *n * Characters are appended in order, starting at
specified [startIndex].n *n * @param value the array from which characters are appended.n * @param
startIndex the beginning (inclusive) of the subarray to append.n * @param endIndex the end (exclusive) of the
subarray to append.n *n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when
[startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.n */n
@SinceKotlin("1.4")n @WasExperimental(ExperimentalStdlibApi::class)n public fun appendRange(value:
CharArray, startIndex: Int, endIndex: Int): StringBuilder {n    string += value.concatToString(startIndex,
endIndex)\n    return this\n }n\n    /**n * Appends a subsequence of the specified character sequence [value]
to this string builder and returns this instance.n *n * @param value the character sequence from which a
subsequence is appended.n * @param startIndex the beginning (inclusive) of the subsequence to append.n *
@param endIndex the end (exclusive) of the subsequence to append.n *n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] character sequence indices or when `startIndex > endIndex`.n */n @SinceKotlin("1.4")n
@WasExperimental(ExperimentalStdlibApi::class)n public fun appendRange(value: CharSequence, startIndex:
Int, endIndex: Int): StringBuilder {n    val stringCsq = value.toString()\n    AbstractList.checkBoundsIndexes(startIndex, endIndex, stringCsq.length)\n\n    string +=
stringCsq.substring(startIndex, endIndex)\n    return this\n }n\n    /**n * Inserts characters in a subarray of
the specified character array [value] into this string builder at the specified [index] and returns this instance.n
*n * The inserted characters go in same order as in the [value] array, starting at [index].n *n * @param index
the position in this string builder to insert at.n * @param value the array from which characters are inserted.n
*n * @param startIndex the beginning (inclusive) of the subarray to insert.n * @param endIndex the end (exclusive)
of the subarray to insert.n *n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when
[startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.n *
@throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.n
*/n @SinceKotlin("1.4")n @WasExperimental(ExperimentalStdlibApi::class)n public fun
insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder {n
AbstractList.checkPositionIndex(index, this.length)\n\n    string = string.substring(0, index) +
value.concatToString(startIndex, endIndex) + string.substring(index)\n    return this\n }n\n    /**n * Inserts
characters in a subsequence of the specified character sequence [value] into this string builder at the specified
[index] and returns this instance.n *n * The inserted characters go in the same order as in the [value] character
sequence, starting at [index].n *n * @param index the position in this string builder to insert at.n *
@param value the character sequence from which a subsequence is inserted.n * @param startIndex the beginning
(inclusive) of the subsequence to insert.n * @param endIndex the end (exclusive) of the subsequence to insert.n
*n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is
out of range of the [value] character sequence indices or when `startIndex > endIndex`.n * @throws
IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.n */n
@SinceKotlin("1.4")n @WasExperimental(ExperimentalStdlibApi::class)n public fun insertRange(index: Int,
value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder {n    AbstractList.checkPositionIndex(index,

```


characters are appended.\n * @param startIndex the beginning (inclusive) of the subarray to append.\n * @param endIndex the end (exclusive) of the subarray to append.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n

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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
StringBuilder.appendRange(value: CharArray, startIndex: Int, endIndex: Int): StringBuilder =\n
this.appendRange(value, startIndex, endIndex)\n\n/**\n * Appends a subsequence of the specified character
sequence [value] to this string builder and returns this instance.\n * \n * @param value the character sequence from
which a subsequence is appended.\n * @param startIndex the beginning (inclusive) of the subsequence to append.\n
* @param endIndex the end (exclusive) of the subsequence to append.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] character sequence indices or when `startIndex > endIndex`.\n

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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
StringBuilder.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder =\n
this.appendRange(value, startIndex, endIndex)\n\n/**\n * Inserts characters in a subarray of the specified character
array [value] into this string builder at the specified [index] and returns this instance.\n * \n * The inserted characters
go in same order as in the [value] array, starting at [index].\n * \n * @param index the position in this string builder
to insert at.\n * @param value the array from which characters are inserted.\n * @param startIndex the beginning
(inclusive) of the subarray to insert.\n * @param endIndex the end (exclusive) of the subarray to insert.\n * \n *
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of the [value] array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException if
[index] is less than zero or greater than the length of this string builder.\n

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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
StringBuilder.insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder =\n
this.insertRange(index, value, startIndex, endIndex)\n\n/**\n * Inserts characters in a subsequence of the specified
character sequence [value] into this string builder at the specified [index] and returns this instance.\n * \n * The
inserted characters go in the same order as in the [value] character sequence, starting at [index].\n * \n * @param
index the position in this string builder to insert at.\n * @param value the character sequence from which a
subsequence is inserted.\n * @param startIndex the beginning (inclusive) of the subsequence to insert.\n * @param
endIndex the end (exclusive) of the subsequence to insert.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence
indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException if [index] is less than zero or
greater than the length of this string builder.\n

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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
StringBuilder.insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder =\n
this.insertRange(index, value, startIndex, endIndex)\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n * \n * \n * Returns `true` if the content of this
string is equal to the word `true`, ignoring case, and `false` otherwise.\n * \n * @Deprecated("Use Kotlin compiler
1.4 to avoid deprecation warning.")\n * @DeprecatedSinceKotlin(hiddenSince =
"1.4")\n * @kotlin.internal.InlineOnly\n * \n * public actual inline fun String.toBoolean(): Boolean =
this.toBoolean()\n * \n * Returns `true` if this string is not `null` and its content is equal to the word `true`,
ignoring case, and `false` otherwise.\n * \n * There are also strict versions of the function available on non-nullable
String, [toBooleanStrict] and [toBooleanStrictOrNull].\n * \n * \n * @SinceKotlin("1.4")\n * \n * public actual fun

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String?.toBoolean(): Boolean = this != null && this.lowercase() == "true"\n\n/**\n * Parses the string as a signed
[Byte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n */\npublic actual fun String.toByte(): Byte = toByteOrNull() ?:
numberFormatError(this)\n\n/**\n * Parses the string as a signed [Byte] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun
String.toByte(radix: Int): Byte = toByteOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a
[Short] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n */\npublic actual fun String.toShort(): Short = toShortOrNull() ?:
numberFormatError(this)\n\n/**\n * Parses the string as a [Short] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun
String.toShort(radix: Int): Short = toShortOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as
an [Int] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n */\npublic actual fun String.toInt(): Int = toIntOrNull() ?:
numberFormatError(this)\n\n/**\n * Parses the string as an [Int] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun
String.toInt(radix: Int): Int = toIntOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a [Long]
number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a
number.\n */\npublic actual fun String.toLong(): Long = toLongOrNull() ?: numberFormatError(this)\n\n/**\n *
Parses the string as a [Long] number and returns the result.\n * @throws NumberFormatException if the string is not
a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for
string to number conversion.\n */\npublic actual fun String.toLong(radix: Int): Long = toLongOrNull(radix) ?:
numberFormatError(this)\n\n/**\n * Parses the string as a [Double] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n */\npublic actual fun
String.toDouble(): Double = +(this.asDynamic()).unsafeCast<Double>().also {\n    if (it.isNaN() && !this.isNaN())
|| it == 0.0 && this.isBlank())\n        numberFormatError(this)\n}\n\n/**\n * Parses the string as a [Float] number
and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a
number.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toFloat(): Float =
toDouble().unsafeCast<Float>()\n\n/**\n * Parses the string as a [Double] number and returns the result\n * or `null`
if the string is not a valid representation of a number.\n */\npublic actual fun String.toDoubleOrNull(): Double? =
+(this.asDynamic()).unsafeCast<Double>().takeIf {\n    !(it.isNaN() && !this.isNaN() || it == 0.0 &&
this.isBlank())\n}\n\n/**\n * Parses the string as a [Float] number and returns the result\n * or `null` if the string is
not a valid representation of a number.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun
String.toFloatOrNull(): Float? = toDoubleOrNull().unsafeCast<Float?>()\n\n/**\n * Returns a string representation
of this [Byte] value in the specified [radix].\n * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.\n */\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual
inline fun Byte.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of
this [Short] value in the specified [radix].\n * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.\n */\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual
inline fun Short.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of
this [Int] value in the specified [radix].\n * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.\n */\n@SinceKotlin("1.2")\npublic actual fun Int.toString(radix: Int): String =
asDynamic().toString(checkRadix(radix))\n\nprivate fun String.isNaN(): Boolean = when (this.lowercase()) {\n
"nan", "+nan", "-nan" -> true\n    else -> false\n}\n\n/**\n * Checks whether the given [radix] is valid radix for
string to number and number to string conversion.\n */\n@PublishedApi\ninternal actual fun checkRadix(radix: Int):
Int {\n    if (radix !in 2..36) {\n        throw IllegalArgumentException("\nradix $radix was not in valid range 2..36")\n    }\n}

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}
return radix
}

internal actual fun digitOf(char: Char, radix: Int): Int = when {
    char >= '0' && char <= '9' -> char - '0'
    char >= 'A' && char <= 'Z' -> char - 'A' + 10
    char >= 'a' && char <= 'z' -> char - 'a' + 10
    char < '\u0080' -> -1
    char >= '\uFF21' && char <= '\uFF3A' -> char - '\uFF21' + 10 // full-width latin capital letter
    char >= '\uFF41' && char <= '\uFF5A' -> char - '\uFF41' + 10 // full-width latin small letter
    else -> char.digitToIntImpl()
}.let { if (it >= radix) -1 else it }

/*
 * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package kotlin.text
import kotlin.js.RegExp

/**
 * Provides enumeration values to use to set regular expression options.
 */
public actual enum class RegexOptions(val value: String) {
    /** Enables case-insensitive matching. */
    IGNORE_CASE("\\i"),
    /** Enables multiline mode.
     * In multiline mode the expressions `^` and `$` match just after or just before, respectively, a line terminator or the end of the input sequence.
     */
    MULTILINE("\\m")
}

private fun Iterable<RegexOption>.toFlags(prepend: String): String = joinToString("\\", prefix = prepend) { it.value }

/**
 * Represents the results from a single capturing group within a [MatchResult] of [Regex].
 * @param value The value of captured group.
 */
public actual data class MatchGroup(actual val value: String)

/**
 * Represents a compiled regular expression.
 * Provides functions to match strings in text with a pattern, replace the found occurrences and split text around matches.
 * For pattern syntax reference see [MDN RegExp](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp#Special_characters_meaning_in_regular_expressions)
 */
and {
    http://www.w3schools.com/jsref/jsref_obj_regexp.asp)(https://www.w3schools.com/jsref/jsref_obj_regexp.asp)
}

/**
 * Note that `RegExp` objects under the hood are constructed with [the `u` flag](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp/unicode)
 * that enables Unicode-related features in regular expressions. This also makes the pattern syntax more strict,
 * for example, prohibiting unnecessary escape sequences.
 */
@constructor Creates a regular expression from the specified [pattern] string and the specified set of [options].
public actual class Regex actual constructor(pattern: String, options: Set<RegexOption>) {
    /** Creates a regular expression from the specified [pattern] string and the specified single [option].
     * public actual constructor(pattern: String, option: RegexOptions) : this(pattern, setOf(option))
    */
    /** Creates a regular expression from the specified [pattern] string and the default options.
     * public actual constructor(pattern: String) : this(pattern, emptySet())
    */
    /** The pattern string of this regular expression.
     * public actual val pattern: String = pattern
    */
    /** The set of options that were used to create this regular expression.
     * public actual val options: Set<RegexOption> = options.toSet()
    */
    private val nativePattern: RegExp = RegExp(pattern, options.toFlags("\\gu"))
    private var nativeStickyPattern: RegExp? = null
    private fun initStickyPattern(): RegExp = nativeStickyPattern ?: RegExp(pattern, options.toFlags("\\yu"))
    also { nativeStickyPattern = it }
    private var nativeMatchesEntirePattern: RegExp? = null
    private fun initMatchesEntirePattern(): RegExp = nativeMatchesEntirePattern ?: run {
        if (pattern.startsWith('^') && pattern.endsWith('$'))
            nativePattern
        else
            return RegExp("^${pattern.trimStart('^').trimEnd('$')}\$", options.toFlags("\\gu"))
    }
    also { nativeMatchesEntirePattern = it }
    /** Indicates whether the regular expression matches the entire [input].
     * public actual infix fun matches(input: CharSequence): Boolean {
        nativePattern.reset()
        val match = nativePattern.exec(input.toString())
        return match != null && match.index == 0 && nativePattern.lastIndex == input.length
    }
    /** Indicates whether the regular expression can find at least one match in the specified [input].
     * public actual fun containsMatchIn(input: CharSequence): Boolean {
        nativePattern.reset()
        return nativePattern.test(input.toString())
    }
}

@SinceKotlin("1.5")
@ExperimentalStdlibApi
public actual fun matchesAt(input: CharSequence, index: Int): Boolean {
    if (index < 0 || index > input.length)
        throw IndexOutOfBoundsException("index out of bounds: $index, input length: ${input.length}")
    val pattern = initStickyPattern()
    pattern.lastIndex = index
    return pattern.test(input.toString())
}

/**
 * Returns the first match of a regular expression in the [input], beginning at the specified [startIndex].
 * @param startIndex An index to

```

```

start search with, by default 0. Must be not less than zero and not greater than `input.length()`\n * @return An
instance of [MatchResult] if match was found or `null` otherwise.\n * @throws IndexOutOfBoundsException if
[startIndex] is less than zero or greater than the length of the [input] char sequence.\n * @sample
samples.text.Regexps.find\n */\n
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public actual fun find(input:
CharSequence, startIndex: Int = 0): MatchResult? {\n    if (startIndex < 0 || startIndex > input.length) {\n
throw IndexOutOfBoundsException("Start index out of bounds: $startIndex, input length: ${input.length}")\n
}\n    return nativePattern.findNext(input.toString(), startIndex, nativePattern)\n }\n\n /**\n * Returns a
sequence of all occurrences of a regular expression within the [input] string, beginning at the specified
[startIndex].\n * \n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the
length of the [input] char sequence.\n * \n * @sample samples.text.Regexps.findAll\n */\n
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public actual fun findAll(input:
CharSequence, startIndex: Int = 0): Sequence<MatchResult> {\n    if (startIndex < 0 || startIndex > input.length)
{\n        throw IndexOutOfBoundsException("Start index out of bounds: $startIndex, input length:
${input.length}")\n    }\n    return generateSequence({ find(input, startIndex) }, { match -> match.next() })\n
}\n\n /**\n * Attempts to match the entire [input] CharSequence against the pattern.\n * \n * @return An
instance of [MatchResult] if the entire input matches or `null` otherwise.\n */\n public actual fun
matchEntire(input: CharSequence): MatchResult? =\n    initMatchesEntirePattern().findNext(input.toString(), 0,
nativePattern)\n\n @SinceKotlin("1.5")\n @ExperimentalStdlibApi\n public actual fun matchAt(input:
CharSequence, index: Int): MatchResult? {\n    if (index < 0 || index > input.length) {\n        throw
IndexOutOfBoundsException("index out of bounds: $index, input length: ${input.length}")\n    }\n    return
initStickyPattern().findNext(input.toString(), index, nativePattern)\n }\n\n\n /**\n * Replaces all occurrences
of this regular expression in the specified [input] string with specified [replacement] expression.\n * \n * The
replacement string may contain references to the captured groups during a match. Occurrences of `$index`\n * in
the replacement string will be substituted with the subsequences corresponding to the captured groups with the
specified index.\n * \n * The first digit after '$' is always treated as part of group reference. Subsequent digits
are incorporated\n * into `index` only if they would form a valid group reference. Only the digits '0'..'9' are considered
as potential components\n * of the group reference. Note that indexes of captured groups start from 1, and the
group with index 0 is the whole match.\n * \n * Backslash character '\\' can be used to include the succeeding
character as a literal in the replacement string, e.g. `\\$` or `\\\\`. \n * [Regex.escapeReplacement] can be used if
[replacement] have to be treated as a literal string.\n * \n * Note that referring named capturing groups by name
is currently not supported in Kotlin/JS.\n * \n * However, you can still refer them by index.\n * \n * @param input
the char sequence to find matches of this regular expression in\n * @param replacement the expression to replace
found matches with\n * @return the result of replacing each occurrence of this regular expression in [input] with
the result of evaluating the [replacement] expression\n * @throws RuntimeException if [replacement] expression
is malformed, or capturing group with specified `name` or `index` does not exist\n */\n public actual fun
replace(input: CharSequence, replacement: String): String {\n    if (!replacement.contains("\\\\") &&
!replacement.contains('$')) {\n        return input.toString().nativeReplace(nativePattern, replacement)\n    }\n
return replace(input) { substituteGroupRefs(it, replacement) }\n }\n\n /**\n * Replaces all occurrences of this
regular expression in the specified [input] string with the result of\n * the given function [transform] that takes
[MatchResult] and returns a string to be used as a\n * replacement for that match.\n */\n public actual fun
replace(input: CharSequence, transform: (MatchResult) -> CharSequence): String {\n    var match = find(input)\n
if (match == null) return input.toString()\n    var lastStart = 0\n    val length = input.length\n    val sb =
StringBuilder(length)\n    do {\n        val foundMatch = match!!\n        sb.append(input, lastStart,
foundMatch.range.start)\n        sb.append(transform(foundMatch))\n        lastStart =
foundMatch.range.endInclusive + 1\n        match = foundMatch.next()\n    } while (lastStart < length && match
!= null)\n    if (lastStart < length) {\n        sb.append(input, lastStart, length)\n    }\n    return
sb.toString()\n }\n\n /**\n * Replaces the first occurrence of this regular expression in the specified [input]

```



```

get(index: Int): Char\n\n override fun subSequence(startIndex: Int, endIndex: Int): CharSequence\n\n override
fun append(value: Char): StringBuilder\n\n override fun append(value: CharSequence?): StringBuilder\n\n override
fun append(value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder\n\n /**\n * Reverses the
contents of this string builder and returns this instance.\n *\n * Surrogate pairs included in this string builder
are treated as single characters.\n * Therefore, the order of the high-low surrogates is never reversed.\n *\n *
Note that the reverse operation may produce new surrogate pairs that were unpaired low-surrogates and high-
surrogates before the operation.\n * For example, reversing `"\uDC00\uD800"` produces `"\uD800\uDC00"`
which is a valid surrogate pair.\n */\n fun reverse(): StringBuilder\n\n /**\n * Appends the string
representation of the specified object [value] to this string builder and returns this instance.\n *\n * The overall
effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n * and then that
string was appended to this string builder.\n */\n fun append(value: Any?): StringBuilder\n\n /**\n *
Appends the string representation of the specified boolean [value] to this string builder and returns this instance.\n
*\n * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n
* and then that string was appended to this string builder.\n */\n @SinceKotlin("1.3")\n fun append(value:
Boolean): StringBuilder\n\n /**\n * Appends characters in the specified character array [value] to this string
builder and returns this instance.\n *\n * Characters are appended in order, starting at the index 0.\n */\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun append(value: CharArray):
StringBuilder\n\n /**\n * Appends the specified string [value] to this string builder and returns this instance.\n
*\n * If [value] is `null`, then the four characters `"\u0000\u0000\u0000\u0000"` are appended.\n */\n @SinceKotlin("1.3")\n fun
append(value: String?): StringBuilder\n\n /**\n * Returns the current capacity of this string builder.\n *\n *
The capacity is the maximum length this string builder can have before an allocation occurs.\n */\n
@SinceKotlin("1.3")\n // @ExperimentalStdlibApi\n @Deprecated("Obtaining StringBuilder capacity is not
supported in JS and common code.", level = DeprecationLevel.ERROR)\n fun capacity(): Int\n\n /**\n *
Ensures that the capacity of this string builder is at least equal to the specified [minimumCapacity].\n *\n * If
the current capacity is less than the [minimumCapacity], a new backing storage is allocated with greater capacity.\n
* Otherwise, this method takes no action and simply returns.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun ensureCapacity(minimumCapacity: Int)\n\n /**\n *
Returns the index within this string builder of the first occurrence of the specified [string].\n *\n * Returns `-1`
if the specified [string] does not occur in this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun indexOf(string: String): Int\n\n /**\n * Returns the
index within this string builder of the first occurrence of the specified [string],\n * starting at the specified
[startIndex].\n *\n * Returns `-1` if the specified [string] does not occur in this string builder starting at the
specified [startIndex].\n */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n
fun indexOf(string: String, startIndex: Int): Int\n\n /**\n * Returns the index within this string builder of the last
occurrence of the specified [string].\n * The last occurrence of empty string `""` is considered to be at the index
equal to `this.length`.\n *\n * Returns `-1` if the specified [string] does not occur in this string builder.\n */\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun lastIndexOf(string: String):
Int\n\n /**\n * Returns the index within this string builder of the last occurrence of the specified [string],\n *
starting from the specified [startIndex] toward the beginning.\n *\n * Returns `-1` if the specified [string] does
not occur in this string builder starting at the specified [startIndex].\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun lastIndexOf(string: String, startIndex: Int): Int\n\n /**\n
* Inserts the string representation of the specified boolean [value] into this string builder at the specified
[index] and returns this instance.\n *\n * The overall effect is exactly as if the [value] were converted to a string
by the `value.toString()` method,\n * and then that string was inserted into this string builder at the specified
[index].\n *\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of
this string builder.\n */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun
insert(index: Int, value: Boolean): StringBuilder\n\n /**\n * Inserts the specified character [value] into this
string builder at the specified [index] and returns this instance.\n *\n * @throws IndexOutOfBoundsException

```

```

if [index] is less than zero or greater than the length of this string builder.\n    *\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    fun insert(index: Int, value: Char): StringBuilder\n    /**\n     * Inserts characters in the specified character array [value] into this string builder at the specified [index] and\n     * returns this instance.\n     *\n     * The inserted characters go in same order as in the [value] character array, starting\n     * at [index].\n     *\n     * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length\n     * of this string builder.\n     *\n     @SinceKotlin("1.4")\n     @WasExperimental(ExperimentalStdlibApi::class)\n     fun insert(index: Int, value: CharArray): StringBuilder\n     /**\n      * Inserts characters in the specified character\n      * sequence [value] into this string builder at the specified [index] and returns this instance.\n      *\n      * The inserted\n      * characters go in the same order as in the [value] character sequence, starting at [index].\n      *\n      * @param index\n      * the position in this string builder to insert at.\n      * @param value the character sequence from which characters are\n      * inserted. If [value] is `null`, then the four characters `\\null` are inserted.\n      *\n      * @throws\n      * IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n      *\n     @SinceKotlin("1.4")\n     @WasExperimental(ExperimentalStdlibApi::class)\n     fun insert(index: Int, value:\n     CharSequence?): StringBuilder\n     /**\n      * Inserts the string representation of the specified object [value] into\n      * this string builder at the specified [index] and returns this instance.\n      *\n      * The overall effect is exactly as if the\n      * [value] were converted to a string by the `value.toString()` method,\n      * and then that string was inserted into this\n      * string builder at the specified [index].\n      *\n      * @throws IndexOutOfBoundsException if [index] is less than\n      * zero or greater than the length of this string builder.\n      *\n     @SinceKotlin("1.4")\n     @WasExperimental(ExperimentalStdlibApi::class)\n     fun insert(index: Int, value: Any?): StringBuilder\n     /**\n      * Inserts the string [value] into this string builder at the specified [index] and returns this instance.\n      *\n      * If\n      * [value] is `null`, then the four characters `\\null` are inserted.\n      *\n      * @throws IndexOutOfBoundsException\n      * if [index] is less than zero or greater than the length of this string builder.\n      *\n     @SinceKotlin("1.4")\n     @WasExperimental(ExperimentalStdlibApi::class)\n     fun insert(index: Int, value: String?): StringBuilder\n     /**\n      * Sets the length of this string builder to the specified [newLength].\n      *\n      * If the [newLength] is less\n      * than the current length, it is changed to the specified [newLength].\n      * Otherwise, null characters `\\u0000` are\n      * appended to this string builder until its length is less than the [newLength].\n      *\n      * Note that in Kotlin/JS [set]\n      * operator function has non-constant execution time complexity.\n      * Therefore, increasing length of this string\n      * builder and then updating each character by index may slow down your program.\n      *\n      * @throws\n      * IndexOutOfBoundsException or [IllegalArgumentException] if [newLength] is less than zero.\n      *\n     @SinceKotlin("1.4")\n     @WasExperimental(ExperimentalStdlibApi::class)\n     fun setLength(newLength:\n     Int)\n     /**\n      * Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive)\n      * and up to the [length] (exclusive).\n      *\n      * @throws IndexOutOfBoundsException if [startIndex] is less than\n      * zero or greater than the length of this string builder.\n      *\n     @SinceKotlin("1.4")\n     @WasExperimental(ExperimentalStdlibApi::class)\n     fun substring(startIndex: Int): String\n     /**\n      * Returns\n      * a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [endIndex]\n      * (exclusive).\n      *\n      * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex]\n      * or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n      *\n     @SinceKotlin("1.4")\n     @WasExperimental(ExperimentalStdlibApi::class)\n     fun substring(startIndex: Int,\n     endIndex: Int): String\n     /**\n      * Attempts to reduce storage used for this string builder.\n      *\n      * If the\n      * backing storage of this string builder is larger than necessary to hold its current contents,\n      * then it may be\n      * resized to become more space efficient.\n      * Calling this method may, but is not required to, affect the value of the\n      * [capacity] property.\n      *\n     @SinceKotlin("1.4")\n     @WasExperimental(ExperimentalStdlibApi::class)\n     fun trimToSize()\n     /**\n      * Clears the content of this string builder making it empty and returns this instance.\n      *\n     @sample samples.text.Strings.clearStringBuilder\n     @SinceKotlin("1.3")\n     public expect fun\n     StringBuilder.clear(): StringBuilder\n     /**\n      * Sets the character at the specified [index] to the specified [value].\n      *\n      * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n      *\n     @SinceKotlin("1.4")\n     @WasExperimental(ExperimentalStdlibApi::class)\n     public expect operator fun\n     StringBuilder.set(index: Int, value: Char)\n     /**\n      * Replaces characters in the specified range of this string builder

```

with characters in the specified string [value] and returns this instance.

`@param startIndex` the beginning (inclusive) of the range to replace.

`@param endIndex` the end (exclusive) of the range to replace.

`@param value` the string to replace with.

`@throws IndexOutOfBoundsException` or `[IllegalArgumentException]` if `[startIndex]` is less than zero, greater than the length of this string builder, or `startIndex > endIndex`.

```

*\/n@SinceKotlin("1.4")n@WasExperimental(ExperimentalStdlibApi::class)npublic expect fun
StringBuilder.setRange(startIndex: Int, endIndex: Int, value: String): StringBuilder\n\n/**n * Removes the
character at the specified [index] from this string builder and returns this instance.n *n * If the `Char` at the
specified [index] is part of a supplementary code point, this method does not remove the entire supplementary
character.n *n * @param index the index of `Char` to remove.n *n * @throws IndexOutOfBoundsException if
[index] is out of bounds of this string builder.n
*\/n@SinceKotlin("1.4")n@WasExperimental(ExperimentalStdlibApi::class)npublic expect fun
StringBuilder.deleteAt(index: Int): StringBuilder\n\n/**n * Removes characters in the specified range from this
string builder and returns this instance.n *n * @param startIndex the beginning (inclusive) of the range to
remove.n *n * @param endIndex the end (exclusive) of the range to remove.n *n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] is out of range of this string builder
indices or when `startIndex > endIndex`.n
*\/n@SinceKotlin("1.4")n@WasExperimental(ExperimentalStdlibApi::class)npublic expect fun
StringBuilder.deleteRange(startIndex: Int, endIndex: Int): StringBuilder\n\n/**n * Copies characters from this
string builder into the [destination] character array.n *n * @param destination the array to copy to.n *n * @param
destinationOffset the position in the array to copy to, 0 by default.n *n * @param startIndex the beginning (inclusive)
of the range to copy, 0 by default.n *n * @param endIndex the end (exclusive) of the range to copy, length of this
string builder by default.n *n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when
[startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.n *n * @throws
IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified
[destinationOffset],n *n * or when that index is out of the [destination] array indices range.n
*\/n@SinceKotlin("1.4")n@WasExperimental(ExperimentalStdlibApi::class)npublic expect fun
StringBuilder.toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int =
this.length)\n\n/**n * Appends characters in a subarray of the specified character array [value] to this string builder
and returns this instance.n *n * Characters are appended in order, starting at specified [startIndex].n *n * @param
value the array from which characters are appended.n *n * @param startIndex the beginning (inclusive) of the
subarray to append.n *n * @param endIndex the end (exclusive) of the subarray to append.n *n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] array indices or when `startIndex > endIndex`.n
*\/n@SinceKotlin("1.4")n@WasExperimental(ExperimentalStdlibApi::class)npublic expect fun
StringBuilder.appendRange(value: CharArray, startIndex: Int, endIndex: Int): StringBuilder\n\n/**n * Appends a
subsequence of the specified character sequence [value] to this string builder and returns this instance.n *n *
@param value the character sequence from which a subsequence is appended.n *n * @param startIndex the beginning
(inclusive) of the subsequence to append.n *n * @param endIndex the end (exclusive) of the subsequence to append.n
*n *n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out
of range of the [value] character sequence indices or when `startIndex > endIndex`.n
*\/n@SinceKotlin("1.4")n@WasExperimental(ExperimentalStdlibApi::class)npublic expect fun
StringBuilder.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder\n\n/**n * Inserts
characters in a subarray of the specified character array [value] into this string builder at the specified [index] and
returns this instance.n *n * The inserted characters go in same order as in the [value] array, starting at [index].n
*n *n * @param index the position in this string builder to insert at.n *n * @param value the array from which characters
are inserted.n *n * @param startIndex the beginning (inclusive) of the subarray to insert.n *n * @param endIndex the
end (exclusive) of the subarray to insert.n *n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when

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`startIndex > endIndex`.n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the
length of this string builder.n
*/n@SinceKotlin("1.4")n@WasExperimental(ExperimentalStdlibApi::class)npublic expect fun
StringBuilder.insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder\n/n/**n *
Inserts characters in a subsequence of the specified character sequence [value] into this string builder at the specified
[index] and returns this instance.n *n * The inserted characters go in the same order as in the [value] character
sequence, starting at [index].n *n * @param index the position in this string builder to insert at.n * @param value
the character sequence from which a subsequence is inserted.n * @param startIndex the beginning (inclusive) of the
subsequence to insert.n * @param endIndex the end (exclusive) of the subsequence to insert.n *n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] character sequence indices or when `startIndex > endIndex`.n * @throws IndexOutOfBoundsException if
[index] is less than zero or greater than the length of this string builder.n
*/n@SinceKotlin("1.4")n@WasExperimental(ExperimentalStdlibApi::class)npublic expect fun
StringBuilder.insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int):
StringBuilder\n/n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")n@Deprecated("Use
append(value: Any?) instead", ReplaceWith("append(value = obj)"),
DeprecationLevel.WARNING)n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.append(obj: Any?):
StringBuilder = this.append(obj)\n/n/**n * Builds new string by populating newly created [StringBuilder] using
provided [builderAction]\n * and then converting it to [String].n */n@kotlin.internal.InlineOnly\npublic inline fun
buildString(builderAction: String Builder.() -> Unit): String {\n    contract { callsInPlace(builderAction,
InvocationKind.EXACTLY_ONCE) }\n    return StringBuilder().apply(builderAction).toString()\n}\n/n/**n *
Builds new string by populating newly created [StringBuilder] initialized with the given [capacity]\n * using
provided [builderAction] and then converting it to [String].\n
*/n@SinceKotlin("1.1")n@kotlin.internal.InlineOnly\npublic inline fun buildString(capacity: Int, builderAction:
String Builder.() -> Unit): String {\n    contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE)
}\n    return StringBuilder(capacity).apply(builderAction).toString()\n}\n/n/**n * Appends all arguments to the
given String Builder.\n */n@kotlin.internal.InlineOnly\npublic fun StringBuilder.append(vararg value: String?): String Builder {\n    for (item in
value)\n        append(item)\n    return this\n}\n/n/**n * Appends all arguments to the given String Builder.\n
*/n@kotlin.internal.InlineOnly\npublic fun StringBuilder.append(vararg value: Any?): String Builder {\n    for (item in value)\n
append(item)\n    return this\n}\n/n/** Appends a line feed character (`\n`) to this String Builder.\n
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine():
String Builder = append("\n")\n/n/** Appends [value] to this [String Builder], followed by a line feed character
(`\n`).\n */n@SinceKotlin("1.4")n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value:
CharSequence?): String Builder = append(value).appendLine()\n/n/** Appends [value] to this [String Builder],
followed by a line feed character (`\n`).\n */n@SinceKotlin("1.4")n@kotlin.internal.InlineOnly\npublic inline fun
StringBuilder.appendLine(value: String?): String Builder = append(value).appendLine()\n/n/** Appends [value] to
this [String Builder], followed by a line feed character (`\n`).\n
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value: Any?):
String Builder = append(value).appendLine()\n/n/** Appends [value] to this [String Builder], followed by a line feed
character (`\n`).\n */n@SinceKotlin("1.4")n@kotlin.internal.InlineOnly\npublic inline fun
StringBuilder.appendLine(value: CharArray): String Builder = append(value).appendLine()\n/n/** Appends [value]
to this [String Builder], followed by a line feed character (`\n`).\n
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value: Char):
String Builder = append(value).appendLine()\n/n/** Appends [value] to this [String Builder], followed by a line feed
character (`\n`).\n */n@SinceKotlin("1.4")n@kotlin.internal.InlineOnly\npublic inline fun
StringBuilder.appendLine(value: Boolean): String Builder = append(value).appendLine()\n"/n/** Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.n */n\npackage kotlin.text\nimport

```

```

kotlin.js.RegExp\n\n@kotlin.internal.InlineOnly\n\ninternal actual inline fun String.nativeIndexOf(ch: Char,
fromIndex: Int): Int = nativeIndexOf(ch.toString(), fromIndex)\n\n@kotlin.internal.InlineOnly\n\ninternal actual
inline fun String.nativeLastIndexOf(ch: Char, fromIndex: Int): Int = nativeLastIndexOf(ch.toString(),
fromIndex)\n\n/**\n * Returns `true` if this string starts with the specified prefix.\n
*/\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
String.startsWith(prefix: String, ignoreCase: Boolean = false): Boolean {\n    if (!ignoreCase)\n        return
nativeStartsWith(prefix, 0)\n    else\n        return regionMatches(0, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n *
Returns `true` if a substring of this string starting at the specified offset [startIndex] starts with the specified prefix.\n
*/\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
String.startsWith(prefix: String, startIndex: Int, ignoreCase: Boolean = false): Boolean {\n    if (!ignoreCase)\n
return nativeStartsWith(prefix, startIndex)\n    else\n        return regionMatches(startIndex, prefix, 0, prefix.length,
ignoreCase)\n}\n\n/**\n * Returns `true` if this string ends with the specified suffix.\n
*/\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
String.endsWith(suffix: String, ignoreCase: Boolean = false): Boolean {\n    if (!ignoreCase)\n        return
nativeEndsWith(suffix)\n    else\n        return regionMatches(length - suffix.length, suffix, 0, suffix.length,
ignoreCase)\n}\n\n@Deprecated("Use Regex.matches() instead",
ReplaceWith("regex.toRegex().matches(this)"))\n\n@DeprecatedSinceKotlin(warningSince = "1.6")\n\npublic fun
String.matches(regex: String): Boolean {\n    @Suppress("DEPRECATION")\n    val result = this.match(regex)\n
return result != null && result.size != 0\n}\n\n/**\n * Returns `true` if this string is empty or consists solely of
whitespace characters.\n */\n\n * @sample samples.text.Strings.stringIsBlank\n */\n\npublic actual fun
CharSequence.isBlank(): Boolean = length == 0 || indices.all { this[it].isWhitespace() }\n\n/**\n * Returns `true` if
this string is equal to [other], optionally ignoring character case.\n */\n\n * Two strings are considered to be equal if
they have the same length and the same character at the same index.\n * If [ignoreCase] is true, the result of
`Char.uppercaseChar().lowercaseChar()` on each character is compared.\n */\n\n * @param ignoreCase `true` to ignore
character case when comparing strings. By default `false`.\n
*/\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
String?.equals(other: String?, ignoreCase: Boolean = false): Boolean {\n    if (this == null) return other == null\n    if
(other == null) return false\n    if (!ignoreCase) return this == other\n    if (this.length != other.length) return
false\n\n    for (index in 0 until this.length) {\n        val thisChar = this[index]\n        val otherChar = other[index]\n
if (!thisChar.equals(otherChar, ignoreCase)) {\n            return false\n        }\n    }\n\n    return
true\n}\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
CharSequence.regionMatches(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int, ignoreCase:
Boolean = false): Boolean =\n    regionMatchesImpl(thisOffset, other, otherOffset, length, ignoreCase)\n\n\n/**\n *
Returns a copy of this string having its first letter titlecased using the rules of the default locale,\n * or the original
string if it's empty or already starts with a title case letter.\n */\n\n * The title case of a character is usually the same as
its upper case with several exceptions.\n * The particular list of characters with the special title case form depends
on the underlying platform.\n */\n\n * @sample samples.text.Strings.capitalize\n */\n\n@Deprecated("Use
replaceFirstChar instead.", ReplaceWith("replaceFirstChar { if (it.isLowerCase()) it.titlecase() else it.toString()
}"))\n\n@DeprecatedSinceKotlin(warningSince = "1.5")\n\npublic actual fun String.capitalize(): String {\n    return if
(isNotEmpty()) substring(0, 1).uppercase() + substring(1) else this\n}\n\n\n/**\n * Returns a copy of this string having
its first letter lowercased using the rules of the default locale,\n * or the original string if it's empty or already starts
with a lower case letter.\n */\n\n * @sample samples.text.Strings.decapitalize\n */\n\n@Deprecated("Use
replaceFirstChar instead.", ReplaceWith("replaceFirstChar { it.lowercase()
}"))\n\n@DeprecatedSinceKotlin(warningSince = "1.5")\n\npublic actual fun String.decapitalize(): String {\n    return
if (isNotEmpty()) substring(0, 1).lowercase() + substring(1) else this\n}\n\n\n/**\n * Returns a string containing this
char sequence repeated [n] times.\n */\n\n * @throws [IllegalArgumentException] when n < 0.\n * @sample
samples.text.Strings.repeat\n */\n\npublic actual fun CharSequence.repeat(n: Int): String {\n    require(n >= 0) {\n
"Count 'n' must be non-negative, but was $n." }\n    return when (n) {\n        0 -> ""\n        1 -> this.toString()\n

```

```

else -> {
    var result = ""
    if (!isEmpty()) {
        var s = this.toString()
        var count =
        while (true) {
            if ((count and 1) == 1) {
                result += s
            }
            count = count ushr 1
            if (count == 0) {
                break
            }
            s +=
        }
        return result
    }
}

Returns a new string obtained by
replacing all occurrences of the [oldValue] substring in this string * with the specified [newValue] string.

@sample samples.text.Strings.replace

@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun
String.replace(oldValue: String, newValue: String, ignoreCase: Boolean = false): String =
nativeReplace(Regex(Regex.escape(oldValue)), if (ignoreCase) "gui" else "gu"),
Regex.nativeEscapeReplacement(newValue))

Returns a new string with all occurrences of [oldChar]
replaced with [newChar].

@sample samples.text.Strings.replace

@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun
String.replace(oldChar: Char, newChar: Char, ignoreCase: Boolean = false): String =
nativeReplace(Regex(Regex.escape(oldChar.toString()), if (ignoreCase) "gui" else "gu"),
newChar.toString())

@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun
String.replaceFirst(oldValue: String, newValue: String, ignoreCase: Boolean = false): String =
nativeReplace(Regex(Regex.escape(oldValue)), if (ignoreCase) "ui" else "u"),
Regex.nativeEscapeReplacement(newValue))

@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGU
MENTS")
public actual fun
String.replaceFirst(oldChar: Char, newChar: Char, ignoreCase: Boolean = false):
String =
nativeReplace(Regex(Regex.escape(oldChar.toString()), if (ignoreCase) "ui" else "u"),
newChar.toString())

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license/LICENSE.txt file.

package kotlin.text

Returns the negative [size] if [throwOnMalformed] is
false, throws [CharacterCodingException] otherwise.

private fun malformed(size: Int, index: Int,
throwOnMalformed: Boolean): Int {
    if (throwOnMalformed) throw CharacterCodingException("Malformed
sequence starting at ${index - 1}")
    return -size
}

Returns code point corresponding to UTF-16
surrogate pair,
where the first of the pair is the [high] and the second is in the [string] at the [index].
Returns
zero if the pair is malformed and [throwOnMalformed] is false.

@throws CharacterCodingException if the
pair is malformed and [throwOnMalformed] is true.

private fun codePointFromSurrogate(string: String, high:
Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {
    if (high !in 0xD800..0xDBFF || index >=
endIndex) {
        return malformed(0, index, throwOnMalformed)
    }
    val low = string[index].code
    if
(low !in 0xDC00..0xDFFF) {
        return malformed(0, index, throwOnMalformed)
    }
    return 0x10000 +
((high and 0x3FF) shl 10) or (low and 0x3FF)
}

Returns code point corresponding to UTF-8 sequence of
two bytes,
where the first byte of the sequence is the [byte1] and the second byte is in the [bytes] array at the
[index].
Returns zero if the sequence is malformed and [throwOnMalformed] is false.

@throws
CharacterCodingException if the sequence of two bytes is malformed and [throwOnMalformed] is true.

private fun codePointFrom2(bytes: ByteArray, byte1: Int, index: Int, endIndex: Int, throwOnMalformed:
Boolean): Int {
    if (byte1 and 0x1E == 0 || index >= endIndex) {
        return malformed(0, index,
throwOnMalformed)
    }
    val byte2 = bytes[index].toInt()
    if (byte2 and 0xC0 != 0x80) {
        return
malformed(0, index, throwOnMalformed)
    }
    return (byte1 shl 6) xor byte2 xor 0xF8
}

Returns
code point corresponding to UTF-8 sequence of three bytes,
where the first byte of the sequence is the [byte1]
and the others are in the [bytes] array starting from the [index].
Returns a non-positive value indicating number
of bytes from [bytes] included in malformed sequence
if the sequence is malformed and [throwOnMalformed] is
false.

@throws CharacterCodingException if the sequence of three bytes is malformed and
[throwOnMalformed] is true.

private fun codePointFrom3(bytes: ByteArray, byte1: Int, index: Int, endIndex:
Int, throwOnMalformed: Boolean): Int {
    if (index >= endIndex) {
        return malformed(0, index,
throwOnMalformed)
    }
    val byte2 = bytes[index].toInt()
    if (byte1 and 0xF == 0) {
        if (byte2 and
0xE0 != 0xA0) {
            // Non-shortest form
            return malformed(0, index, throwOnMalformed)
        }
    }
}

```



```

} else if (byte1 and 0xF == 0xD) {\n    if (byte2 and 0xE0 != 0x80) {\n        // Surrogate code point\n        return malformed(0, index, throwOnMalformed)\n    } else if (byte2 and 0xC0 != 0x80) {\n        return\n        malformed(0, index, throwOnMalformed)\n    }\n    if (index + 1 == endIndex) {\n        return malformed(1, index,\n        throwOnMalformed)\n    }\n    val byte3 = bytes[index + 1].toInt()\n    if (byte3 and 0xC0 != 0x80) {\n        return\n        malformed(1, index, throwOnMalformed)\n    }\n    return (byte1 shl 12) xor (byte2 shl 6) xor byte3 xor -\n    0x1E080\n}\n\n/**\n * Returns code point corresponding to UTF-8 sequence of four bytes,\n * where the first byte\n * of the sequence is the [byte1] and the others are in the [bytes] array starting from the [index].\n * Returns a non-\n * positive value indicating number of bytes from [bytes] included in malformed sequence\n * if the sequence is\n * malformed and [throwOnMalformed] is false.\n * @throws CharacterCodingException if the sequence of four\n * bytes is malformed and [throwOnMalformed] is true.\n */\nprivate fun codePointFrom4(bytes: ByteArray, byte1:\nInt, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n    if (index >= endIndex) {\n        malformed(0,\n        index, throwOnMalformed)\n    }\n    val byte2 = bytes[index].toInt()\n    if (byte1 and 0xF == 0x0) {\n        if\n        (byte2 and 0xF0 <= 0x80) {\n            // Non-shortest form\n            return malformed(0, index,\n            throwOnMalformed)\n        }\n    } else if (byte1 and 0xF == 0x4) {\n        if (byte2 and 0xF0 != 0x80) {\n            //\n            Out of Unicode code points domain (larger than U+10FFFF)\n            return malformed(0, index,\n            throwOnMalformed)\n        }\n    } else if (byte1 and 0xF > 0x4) {\n        return malformed(0, index,\n        throwOnMalformed)\n    } else if (byte2 and 0xC0 != 0x80) {\n        return malformed(0, index,\n        throwOnMalformed)\n    }\n    if (index + 1 == endIndex) {\n        return malformed(1, index,\n        throwOnMalformed)\n    }\n    val byte3 = bytes[index + 1].toInt()\n    if (byte3 and 0xC0 != 0x80) {\n        return\n        malformed(1, index, throwOnMalformed)\n    }\n    if (index + 2 == endIndex) {\n        return malformed(2, index,\n        throwOnMalformed)\n    }\n    val byte4 = bytes[index + 2].toInt()\n    if (byte4 and 0xC0 != 0x80) {\n        return\n        malformed(2, index, throwOnMalformed)\n    }\n    return (byte1 shl 18) xor (byte2 shl 12) xor (byte3 shl 6) xor\n    byte4 xor 0x381F80\n}\n\n/**\n * Maximum number of bytes needed to encode a single char.\n * Code points in\n * `0..0x7F` are encoded in a single byte.\n * Code points in `0x80..0x7FF` are encoded in two bytes.\n * Code points\n * in `0x800..0xD7FF` or in `0xE000..0xFFFF` are encoded in three bytes.\n * Surrogate code points in\n * `0xD800..0xDFFF` are not Unicode scalar values, therefore aren't encoded.\n * Code points in\n * `0x10000..0x10FFFF` are represented by a pair of surrogate `Char`s and are encoded in four bytes.\n */\nprivate\nconst val MAX_BYTES_PER_CHAR = 3\n\n/**\n * The byte sequence a malformed UTF-16 char sequence is\n * replaced by.\n */\nprivate val REPLACEMENT_BYTE_SEQUENCE: ByteArray = byteArrayOf(0xEF.toByte(),\n0xBF.toByte(), 0xBD.toByte())\n\n/**\n * Encodes the [string] using UTF-8 and returns the resulting [ByteArray].\n */\n* @param string the string to encode.\n * @param startIndex the start offset (inclusive) of the substring to\n * encode.\n * @param endIndex the end offset (exclusive) of the substring to encode.\n * @param\n * throwOnMalformed whether to throw on malformed char sequence or replace by the\n * [REPLACEMENT_BYTE_SEQUENCE].\n * @throws CharacterCodingException if the char sequence is\n * malformed and [throwOnMalformed] is true.\n */\ninternal fun encodeUtf8(string: String, startIndex: Int, endIndex:\nInt, throwOnMalformed: Boolean): ByteArray {\n    require(startIndex >= 0 && endIndex <= string.length &&\n    startIndex <= endIndex)\n    val bytes = ByteArray((endIndex - startIndex) * MAX_BYTES_PER_CHAR)\n    var\n    byteIndex = 0\n    var charIndex = startIndex\n    while (charIndex < endIndex) {\n        val code =\n        string[charIndex++].code\n        when {\n            code < 0x80 -> bytes[byteIndex++] = code.toByte()\n            code < 0x800 -> {\n                bytes[byteIndex++] = ((code shr 6) or 0xC0).toByte()\n                bytes[byteIndex++] = ((code and 0x3F) or 0x80).toByte()\n            }\n            code < 0xD800 || code >= 0xE000 ->\n            {\n                bytes[byteIndex++] = ((code shr 12) or 0xE0).toByte()\n                bytes[byteIndex++] = (((code shr 6)\n                and 0x3F) or 0x80).toByte()\n                bytes[byteIndex++] = ((code and 0x3F) or 0x80).toByte()\n            }\n            else -> { // Surrogate char value\n                val codePoint = codePointFromSurrogate(string, code, charIndex,\n                endIndex, throwOnMalformed)\n                if (codePoint <= 0) {\n                    bytes[byteIndex++] =\n                    REPLACEMENT_BYTE_SEQUENCE[0]\n                    bytes[byteIndex++] =\n                    REPLACEMENT_BYTE_SEQUENCE[1]\n                    bytes[byteIndex++] =\n                    REPLACEMENT_BYTE_SEQUENCE[2]\n                } else {\n                    bytes[byteIndex++] = ((codePoint shr

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18) or 0xF0).toByte()\n        bytes[byteIndex++] = (((codePoint shr 12) and 0x3F) or 0x80).toByte()\n
        bytes[byteIndex++] = (((codePoint shr 6) and 0x3F) or 0x80).toByte()\n        bytes[byteIndex++] =
(((codePoint and 0x3F) or 0x80).toByte()\n        charIndex++\n        }\n        }\n        }\n        }\n
return if (bytes.size == byteIndex) bytes else bytes.copyOf(byteIndex)\n}\n\n/**\n * The character a malformed
UTF-8 byte sequence is replaced by.\n *\nprivate const val REPLACEMENT_CHAR = "\uFFFF"\n\n/**\n *
Decodes the UTF-8 [bytes] array and returns the resulting [String].\n *\n * @param bytes the byte array to decode.\n
* @param startIndex the start offset (inclusive) of the array to be decoded.\n * @param endIndex the end offset
(exclusive) of the array to be encoded.\n * @param throwOnMalformed whether to throw on malformed byte
sequence or replace by the [REPLACEMENT_CHAR].\n *\n * @throws CharacterCodingException if the array is
malformed UTF-8 byte sequence and [throwOnMalformed] is true.\n *\ninternal fun decodeUtf8(bytes: ByteArray,
startIndex: Int, endIndex: Int, throwOnMalformed: Boolean): String {\n    require(startIndex >= 0 && endIndex <=
bytes.size && startIndex <= endIndex)\n    var byteIndex = startIndex\n    val stringBuilder = StringBuilder()\n
while (byteIndex < endIndex) {\n        val byte = bytes[byteIndex++].toInt()\n        when {\n            byte >= 0 ->\n
stringBuilder.append(byte.toChar())\n            byte shr 5 == -2 -> {\n                val code =
codePointFrom2(bytes, byte, byteIndex, endIndex, throwOnMalformed)\n                if (code <= 0) {\n
stringBuilder.append(REPLACEMENT_CHAR)\n                    byteIndex += -code\n                } else {\n
stringBuilder.append(code.toChar())\n                    byteIndex += 1\n                }\n            } else {\n
byte shr 4 == -2 -> {\n                val code = codePointFrom3(bytes, byte, byteIndex, endIndex, throwOnMalformed)\n                if
(code <= 0) {\n                    stringBuilder.append(REPLACEMENT_CHAR)\n                    byteIndex += -code\n
                } else {\n                    stringBuilder.append(code.toChar())\n                    byteIndex += 2\n                }\n
            }\n            byte shr 3 == -2 -> {\n                val code = codePointFrom4(bytes, byte, byteIndex, endIndex,
throwOnMalformed)\n                if (code <= 0) {\n                    stringBuilder.append(REPLACEMENT_CHAR)\n
                    byteIndex += -code\n                } else {\n                    val high = (code - 0x10000) shr 10 or 0xDC00\n
                    val low = (code and 0x3FF) or 0xDC00\n                    stringBuilder.append(high.toChar())\n
stringBuilder.append(low.toChar())\n                    byteIndex += 3\n                }\n            } else -> {\n
malformed(0, byteIndex, throwOnMalformed)\n                    stringBuilder.append(REPLACEMENT_CHAR)\n
                }\n            }\n        }\n        }\n        }\n        }\n        }\n        }\n        }\n        }\n        }\n
return stringBuilder.toString()\n}\n", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\npackage kotlin\n\n/**\n * Returns the detailed description of this
throwable with its stack trace.\n *\n * The detailed description includes:\n * - the short description (see
[Throwable.toString]) of this throwable;\n * - the complete stack trace;\n * - detailed descriptions of the exceptions
that were [suppressed][suppressedExceptions] in order to deliver this exception;\n * - the detailed description of
each throwable in the [Throwable.cause] chain.\n *\n@SinceKotlin("1.4")\npublic actual fun
Throwable.stackTraceToString(): String = ExceptionTraceBuilder().buildFor(this)\n\n/**\n * Prints the [detailed
description][Throwable.stackTraceToString] of this throwable to console error output.\n
*\n@SinceKotlin("1.4")\npublic actual fun Throwable.printStackTrace() {\n
console.error(this.stackTraceToString())\n}\n\n/**\n * Adds the specified exception to the list of exceptions that
were\n * suppressed in order to deliver this exception.\n *\n@SinceKotlin("1.4")\npublic actual fun
Throwable.addSuppressed(exception: Throwable) {\n    if (this !== exception) {\n        val suppressed =
this.asDynamic()._suppressed.unsafeCast<MutableList<Throwable>?>()\n        if (suppressed == null) {\n
this.asDynamic()._suppressed = mutableListOf(exception)\n        } else {\n            suppressed.add(exception)\n
        }\n    }\n}\n\n/**\n * Returns a list of all exceptions that were suppressed in order to deliver this exception.\n
*\n@SinceKotlin("1.4")\npublic actual val Throwable.suppressedExceptions: List<Throwable>\n    get() {\n
return this.asDynamic()._suppressed?.unsafeCast<List<Throwable>>() ?: emptyList()\n    }\n}\n\nprivate class
ExceptionTraceBuilder {\n    private val target = StringBuilder()\n    private val visited = arrayOf<Throwable>()\n
private var topStack: String = ""\n    private var topStackStart: Int = 0\n    fun buildFor(exception: Throwable):
String {\n        exception.dumpFullTrace("", "")\n        return target.toString()\n    }\n    private fun
hasSeen(exception: Throwable): Boolean = visited.any { it === exception }\n    private fun

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Throwable.dumpFullTrace(indent: String, qualifier: String) {\n    this.dumpSelfTrace(indent, qualifier) ||
return\n\n    var cause = this.cause\n    while (cause != null) {\n        cause.dumpSelfTrace(indent, "\"Caused
by: \") || return\n        cause = cause.cause\n    }\n\n    private fun Throwable.dumpSelfTrace(indent:
String, qualifier: String): Boolean {\n        target.append(indent).append(qualifier)\n        val shortInfo =
this.toString()\n        if (hasSeen(this)) {\n            target.append(\"[CIRCULAR REFERENCE, SEE ABOVE:
\").append(shortInfo).append(\"\\n\\n\")\n            return false\n        }\n        visited.asDynamic().push(this)\n        var
stack = this.asDynamic().stack as String?\n        if (stack != null) {\n            val stackStart =
stack.indexOf(shortInfo).let { if (it < 0) 0 else it + shortInfo.length }\n            if (stackStart == 0)
target.append(shortInfo).append(\"\\n\\n\")\n            if (topStack.isEmpty()) {\n                topStack = stack\n
topStackStart = stackStart\n            } else {\n                stack = dropCommonFrames(stack, stackStart)\n            }\n
            if (indent.isNotEmpty()) {\n                // indent stack, but avoid indenting exception message lines\n                val
messageLines = if (stackStart == 0) 0 else 1 + shortInfo.count { c -> c == '\\n' }\n                stack.lineSequence().forEachIndexed { index: Int, line: String ->\n                    if (index >= messageLines)
target.append(indent)\n                    target.append(line).append(\"\\n\\n\")\n                }\n            } else {\n                target.append(stack).append(\"\\n\\n\")\n            }\n        } else {\n            target.append(shortInfo).append(\"\\n\\n\")\n        }\n        val suppressed = suppressedExceptions\n        if (suppressed.isNotEmpty()) {\n            val
suppressedIndent = indent + \"  \"\n            for (s in suppressed) {\n                s.dumpFullTrace(suppressedIndent,
\"Suppressed: \")\n            }\n        }\n        return true\n    }\n\n    private fun dropCommonFrames(stack: String,
stackStart: Int): String {\n        var commonFrames: Int = 0\n        var lastBreak: Int = 0\n        var preLastBreak: Int
= 0\n        for (pos in 0 until minOf(topStack.length - topStackStart, stack.length - stackStart)) {\n            val c =
stack[stack.lastIndex - pos]\n            if (c != topStack[topStack.lastIndex - pos]) break\n            if (c == '\\n') {\n                commonFrames += 1\n                preLastBreak = lastBreak\n                lastBreak = pos\n            }\n        }\n        if (commonFrames <= 1) return stack\n        while (preLastBreak > 0 && stack[stack.lastIndex - (preLastBreak - 1)]
== '\\n')\n            preLastBreak -= 1\n        // leave 1 common frame to ease matching with the top exception stack\n        return stack.dropLast(preLastBreak) + \"... and ${commonFrames - 1} more common stack frames skipped\"\n    }\n}
\", \"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this
source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.time\nimport kotlin.js.json\nimport kotlin.math.*\n\ninternal actual inline val
durationAssertionsEnabled: Boolean get() = true\n\ninternal actual fun formatToExactDecimals(value: Double,
decimals: Int): String {\n    val rounded = if (decimals == 0) {\n        value\n    } else {\n        val pow =
10.0.pow(decimals)\n        JsMath.round(abs(value) * pow) / pow * sign(value)\n    }\n    return if (abs(rounded) <
1e21) {\n        // toFixed switches to scientific format after 1e21\n        rounded.asDynamic().toFixed(decimals).unsafeCast<String>()\n    } else {\n        // toPrecision outputs the specified
number of digits, but only for positive numbers\n        val positive = abs(rounded)\n        val positiveString =
positive.asDynamic().toPrecision(ceil(log10(positive)) + decimals).unsafeCast<String>()\n        if (rounded < 0) \"-
$positiveString\" else positiveString\n    }\n}\n\ninternal actual fun formatUpToDecimals(value: Double, decimals:
Int): String {\n    return value.asDynamic().toLocaleString(\"en-us\", json(\"maximumFractionDigits\" to
decimals)).unsafeCast<String>()\n}
\", \"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage
kotlin.time\n\n@SinceKotlin(\"1.6\")\n@WasExperimental(ExperimentalTime::class)\npublic actual enum class
DurationUnit(internal val scale: Double) {\n    /**\n     * Time unit representing one nanosecond, which is 1/1000
of a microsecond.\n     */\n    NANOSECONDS(1e0),\n    /**\n     * Time unit representing one microsecond, which is
1/1000 of a millisecond.\n     */\n    MICROSECONDS(1e3),\n    /**\n     * Time unit representing one millisecond,
which is 1/1000 of a second.\n     */\n    MILLISECONDS(1e6),\n    /**\n     * Time unit representing one second.\n     */\n    SECONDS(1e9),\n    /**\n     * Time unit representing one minute.\n     */\n    MINUTES(60e9),\n    /**\n     * Time unit representing one hour.\n     */\n    HOURS(3600e9),\n    /**\n     * Time unit representing one day,
which is always equal to 24 hours.\n     */\n    DAYS(86400e9);\n}\n\n@SinceKotlin(\"1.3\")\ninternal actual fun

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convertDurationUnit(value: Double, sourceUnit: DurationUnit, targetUnit: DurationUnit): Double {
    val sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)
    return when {
        sourceCompareTarget > 0 -> value * (sourceUnit.scale / targetUnit.scale)
        sourceCompareTarget < 0 -> value / (targetUnit.scale / sourceUnit.scale)
        else -> value
    }
}

@SinceKotlin("1.5")
internal actual fun convertDurationUnitOverflow(value: Long, sourceUnit: DurationUnit, targetUnit: DurationUnit): Long {
    val sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)
    return when {
        sourceCompareTarget > 0 -> value * (sourceUnit.scale / targetUnit.scale).toLong()
        sourceCompareTarget < 0 -> value / (targetUnit.scale / sourceUnit.scale).toLong()
        else -> value
    }
}

@SinceKotlin("1.5")
internal actual fun convertDurationUnit(value: Long, sourceUnit: DurationUnit, targetUnit: DurationUnit): Long {
    val sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)
    return when {
        sourceCompareTarget > 0 -> {
            val scale = (sourceUnit.scale / targetUnit.scale).toLong()
            val result = value * scale
            when {
                result / scale == value -> result
                value > 0 -> Long.MAX_VALUE
                else -> Long.MIN_VALUE
            }
        }
        sourceCompareTarget < 0 -> value / (targetUnit.scale / sourceUnit.scale).toLong()
        else -> value
    }
}

"/**
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 */
package kotlin.time
import org.w3c.performance.GlobalPerformance
import org.w3c.performance.Performance

@SinceKotlin("1.3")
@ExperimentalTime
internal actual object MonotonicTimeSource : TimeSource {
    private val actualSource: TimeSource = run {
        val isNode: Boolean = js("typeof process !== 'undefined' && process.versions && !!process.versions.node")
        if (isNode) HrTimeSource(js("process").unsafeCast<Process>())
        else js("self").unsafeCast<GlobalPerformance?>()?.performance?.let(::PerformanceTimeSource)
    }
}

DateNowTimeSource {
    override fun markNow(): TimeMark = actualSource.markNow()
}

internal external interface Process {
    fun hrtime(time: Array<Double> = definedExternally): Array<Double>
}

@SinceKotlin("1.3")
@ExperimentalTime
internal class HrTimeSource(val process: Process) : TimeSource {
    override fun markNow(): TimeMark = object : TimeMark() {
        val startedAt = process.hrtime()
    }
    override fun elapsedNow(): Duration = process.hrtime(startedAt).let { (seconds, nanos) -> seconds.toDuration(DurationUnit.SECONDS) + nanos.toDuration(DurationUnit.NANOSECONDS) }
}

override fun toString(): String = "\"TimeSource(process.hrtime())\""

@SinceKotlin("1.3")
@ExperimentalTime
internal class PerformanceTimeSource(val performance: Performance) : AbstractDoubleTimeSource(unit = DurationUnit.MILLISECONDS) {
    override fun read(): Double = performance.now()
    override fun toString(): String = "\"TimeSource(self.performance.now())\""
}

@SinceKotlin("1.3")
@ExperimentalTime
internal object DateNowTimeSource : AbstractDoubleTimeSource(unit = DurationUnit.MILLISECONDS) {
    override fun read(): Double = kotlin.js.Date.now()
    override fun toString(): String = "\"TimeSource(Date.now())\""
}

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 */
package kotlinx.dom
import org.w3c.dom.*
import kotlin.contracts.*

/**
 * Creates a new element with the specified [name].
 * The element is initialized with the specified [init] function.
 */
@SinceKotlin("1.4")
public fun Document.createElement(name: String, init: Element.() -> Unit): Element {
    contract { callsInPlace(init, InvocationKind.EXACTLY_ONCE) }
    return createElement(name).apply(init)
}

/**
 * Appends a newly created element with the specified [name] to this element.
 * The element is initialized with the specified [init] function.
 */
@SinceKotlin("1.4")
public fun Element.appendChild(name: String, init: Element.() -> Unit): Element {
    contract { callsInPlace(init, InvocationKind.EXACTLY_ONCE) }
    return ownerDocument!!.createElement(name, init).also {
        appendChild(it)
    }
}

/**
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 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package kotlinx.dom
import org.w3c.dom.*

/**
 * Returns true if the element

```

```

has the given CSS class style in its 'class' attribute
*^@SinceKotlin("1.4")\nfun Element.hasClass(cssClass:
String): Boolean = className.matches("\\\\(\\.)*\\$cssClass(\\|s+\\.)*\\\\".toRegex())\n/**\n * Adds CSS class
to element. Has no effect if all specified classes are already in class attribute of the element\n *^
*\n * @return true if at
least one class has been added\n *^@SinceKotlin("1.4")\nfun Element.addClass(vararg cssClasses: String):
Boolean {\n    val missingClasses = cssClasses.filterNot { hasClass(it) } \n    if (missingClasses.isNotEmpty()) {\n
    val presentClasses = className.trim()\n        className = buildString {\n            append(presentClasses)\n            if
(!presentClasses.isEmpty()) {\n                append("\\ ") \n            } \n            missingClasses.joinTo(this, "\\ ") \n
        } \n        return true \n    } \n    return false \n } \n /**\n * Removes all [cssClasses] from element. Has no effect if all
specified classes are missing in class attribute of the element\n *^*\n * @return true if at least one class has been
removed\n *^@SinceKotlin("1.4")\nfun Element.removeClass(vararg cssClasses: String): Boolean {\n    if
(cssClasses.any { hasClass(it) } ) {\n        val toBeRemoved = cssClasses.toSet()\n        className =
className.trim().split("\\\\|s+\\.").toRegex().filter { it !in toBeRemoved }.joinToString("\\ ") \n        return true \n
    } \n    return false \n } \n /**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*^@file:kotlin.jvm.JvmMultifileClass\n *^@file:kotlin.jvm.JvmName("\\StringsKt")\n\npackage
kotlin.text\n/**\n * Converts the string into a regular expression [Regex] with the default options.\n
*^@kotlin.internal.InlineOnly\npublic inline fun String.toRegex(): Regex = Regex(this)\n/**\n * Converts the
string into a regular expression [Regex] with the specified single [option].\n *^@kotlin.internal.InlineOnly\npublic
inline fun String.toRegex(option: RegexOption): Regex = Regex(this, option)\n/**\n * Converts the string into a
regular expression [Regex] with the specified set of [options].\n *^@kotlin.internal.InlineOnly\npublic inline fun
String.toRegex(options: Set<RegexOption>): Regex = Regex(this, options)\n"/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *^@package kotlinx.dom\n\nimport
org.w3c.dom.*\n/**\n * Gets a value indicating whether this node is a TEXT_NODE or a
CDATA_SECTION_NODE.\n *^@SinceKotlin("1.4")\npublic val Node.isText: Boolean\n    get() = nodeType
== Node.TEXT_NODE || nodeType == Node.CDATA_SECTION_NODE\n/**\n * Gets a value indicating
whether this node is an [Element].\n *^@SinceKotlin("1.4")\npublic val Node.isElement: Boolean\n    get() =
nodeType == Node.ELEMENT_NODE\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *^@package kotlinx.dom\n\nimport org.w3c.dom.*\n/**\n * Removes all the children
from this node.\n *^@SinceKotlin("1.4")\npublic fun Node.clear() {\n    while (hasChildNodes()) {\n
        removeChild(firstChild!!)\n    } \n } \n /**\n * Creates text node and append it to the element.\n *^*\n * @return this
element\n *^@SinceKotlin("1.4")\nfun Element.appendText(text: String): Element {\n
    appendChild(ownerDocument!!.createTextNode(text)) \n    return this \n } \n /**\n * Copyright 2010-2019 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n *^@package org.w3c.dom\n\n@Deprecated("Use
UnionMessagePortOrWindowProxy instead.")\n ReplaceWith("UnionMessagePortOrWindowProxy")\n typealias
UnionMessagePortOrWindow = UnionMessagePortOrWindowProxy\n\n@Deprecated("Use `as` instead.")\n
ReplaceWith("`as`")\n var HTMLLinkElement.as_ \n    get() = `as` \n    set(value) {\n        `as` = value \n
    } \n\n@Deprecated("Use `is` instead.")\n ReplaceWith("`is`")\n var ElementCreationOptions.is_ \n    get() = `is` \n
    set(value) {\n        `is` = value \n    } \n /**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *^@n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See
github.com/kotlin/dukat for details\n\npackage org.khronos.webgl\n\nimport kotlin.js.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.events.*\n\npublic external interface WebGLContextAttributes {\n    var
alpha: Boolean? /* = true */ \n    get() = definedExternally \n    set(value) = definedExternally \n    var depth:
Boolean? /* = true */ \n    get() = definedExternally \n    set(value) = definedExternally \n    var stencil: Boolean?

```

```

/* = false */\n    get() = definedExternally\n    set(value) = definedExternally\n    var antialias: Boolean? /* =
true */\n    get() = definedExternally\n    set(value) = definedExternally\n    var premultipliedAlpha: Boolean?
/* = true */\n    get() = definedExternally\n    set(value) = definedExternally\n    var preserveDrawingBuffer:
Boolean? /* = false */\n    get() = definedExternally\n    set(value) = definedExternally\n    var
preferLowPowerToHighPerformance: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n    var failIfMajorPerformanceCaveat: Boolean? /* = false */\n    get() = definedExternally\n
    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun WebGLContextAttributes(alpha:
Boolean? = true, depth: Boolean? = true, stencil: Boolean? = false, antialias: Boolean? = true, premultipliedAlpha:
Boolean? = true, preserveDrawingBuffer: Boolean? = false, preferLowPowerToHighPerformance: Boolean? = false,
failIfMajorPerformanceCaveat: Boolean? = false): WebGLContextAttributes {\n    val o = js(\"({})\")\n
o[\"alpha\"] = alpha\n    o[\"depth\"] = depth\n    o[\"stencil\"] = stencil\n    o[\"antialias\"] = antialias\n
o[\"premultipliedAlpha\"] = premultipliedAlpha\n    o[\"preserveDrawingBuffer\"] = preserveDrawingBuffer\n
o[\"preferLowPowerToHighPerformance\"] = preferLowPowerToHighPerformance\n
o[\"failIfMajorPerformanceCaveat\"] = failIfMajorPerformanceCaveat\n    return o\n}\n\npublic external abstract
class WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLBuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLBuffer) to Kotlin\n */\n\npublic external
abstract class WebGLBuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLFramebuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLFramebuffer) to Kotlin\n */\n\npublic
external abstract class WebGLFramebuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLProgram](https://developer.mozilla.org/en/docs/Web/API/WebGLProgram) to Kotlin\n */\n\npublic external
abstract class WebGLProgram : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLRenderbuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLRenderbuffer) to Kotlin\n */\n\npublic
external abstract class WebGLRenderbuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLShader](https://developer.mozilla.org/en/docs/Web/API/WebGLShader) to Kotlin\n */\n\npublic external
abstract class WebGLShader : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLTexture](https://developer.mozilla.org/en/docs/Web/API/WebGLTexture) to Kotlin\n */\n\npublic external
abstract class WebGLTexture : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLUniformLocation](https://developer.mozilla.org/en/docs/Web/API/WebGLUniformLocation) to Kotlin\n
*/\n\npublic external abstract class WebGLUniformLocation\n\n/**\n * Exposes the JavaScript
[WebGLActiveInfo](https://developer.mozilla.org/en/docs/Web/API/WebGLActiveInfo) to Kotlin\n */\n\npublic
external abstract class WebGLActiveInfo {\n    open val size: Int\n    open val type: Int\n    open val name:
String\n}\n\n/**\n * Exposes the JavaScript
[WebGLShaderPrecisionFormat](https://developer.mozilla.org/en/docs/Web/API/WebGLShaderPrecisionFormat) to
Kotlin\n */\n\npublic external abstract class WebGLShaderPrecisionFormat {\n    open val rangeMin: Int\n    open val
rangeMax: Int\n    open val precision:
Int\n}\n\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external interface
WebGLRenderingContextBase {\n    val canvas: HTMLCanvasElement\n    val drawingBufferWidth: Int\n    val
drawingBufferHeight: Int\n    fun getContextAttributes(): WebGLContextAttributes?\n    fun isContextLost():
Boolean\n    fun getSupportedExtensions(): Array<String>?\n    fun getExtension(name: String): dynamic\n    fun
activeTexture(texture: Int)\n    fun attachShader(program: WebGLProgram?, shader: WebGLShader?)\n    fun
bindAttribLocation(program: WebGLProgram?, index: Int, name: String)\n    fun bindBuffer(target: Int, buffer:
WebGLBuffer?)\n    fun bindFramebuffer(target: Int, framebuffer: WebGLFramebuffer?)\n    fun
bindRenderbuffer(target: Int, renderbuffer: WebGLRenderbuffer?)\n    fun bindTexture(target: Int, texture:
WebGLTexture?)\n    fun blendColor(red: Float, green: Float, blue: Float, alpha: Float)\n    fun
blendEquation(mode: Int)\n    fun blendEquationSeparate(modeRGB: Int, modeAlpha: Int)\n    fun
blendFunc(sfactor: Int, dfactor: Int)\n    fun blendFuncSeparate(srcRGB: Int, dstRGB: Int, srcAlpha: Int, dstAlpha:
Int)\n    fun bufferData(target: Int, size: Int, usage: Int)\n    fun bufferData(target: Int, data: BufferDataSource?,

```

usage: Int)\n fun bufferSubData(target: Int, offset: Int, data: BufferDataSource?)\n fun
checkFramebufferStatus(target: Int): Int\n fun clear(mask: Int)\n fun clearColor(red: Float, green: Float, blue:
Float, alpha: Float)\n fun clearDepth(depth: Float)\n fun clearStencil(s: Int)\n fun colorMask(red: Boolean,
green: Boolean, blue: Boolean, alpha: Boolean)\n fun compileShader(shader: WebGLShader?)\n fun
compressedTexImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, data:
ArrayBufferView)\n fun compressedTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int,
height: Int, format: Int, data: ArrayBufferView)\n fun copyTexImage2D(target: Int, level: Int, internalformat: Int,
x: Int, y: Int, width: Int, height: Int, border: Int)\n fun copyTexSubImage2D(target: Int, level: Int, xoffset: Int,
yoffset: Int, x: Int, y: Int, width: Int, height: Int)\n fun createBuffer(): WebGLBuffer?\n fun createFramebuffer():
WebGLFramebuffer?\n fun createProgram(): WebGLProgram?\n fun createRenderbuffer():
WebGLRenderbuffer?\n fun createShader(type: Int): WebGLShader?\n fun createTexture(): WebGLTexture?\n
fun cullFace(mode: Int)\n fun deleteBuffer(buffer: WebGLBuffer?)\n fun deleteFramebuffer(framebuffer:
WebGLFramebuffer?)\n fun deleteProgram(program: WebGLProgram?)\n fun deleteRenderbuffer(renderbuffer:
WebGLRenderbuffer?)\n fun deleteShader(shader: WebGLShader?)\n fun deleteTexture(texture:
WebGLTexture?)\n fun depthFunc(func: Int)\n fun depthMask(flag: Boolean)\n fun depthRange(zNear: Float,
zFar: Float)\n fun detachShader(program: WebGLProgram?, shader: WebGLShader?)\n fun disable(cap: Int)\n
fun disableVertexAttribArray(index: Int)\n fun drawArrays(mode: Int, first: Int, count: Int)\n fun
drawElements(mode: Int, count: Int, type: Int, offset: Int)\n fun enable(cap: Int)\n fun
enableVertexAttribArray(index: Int)\n fun finish()\n fun flush()\n fun framebufferRenderbuffer(target: Int,
attachment: Int, renderbuffertarget: Int, renderbuffer: WebGLRenderbuffer?)\n fun framebufferTexture2D(target:
Int, attachment: Int, textarget: Int, texture: WebGLTexture?, level: Int)\n fun frontFace(mode: Int)\n fun
generateMipmap(target: Int)\n fun getActiveAttrib(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n
fun getActiveUniform(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n fun
getAttachedShaders(program: WebGLProgram?): Array<WebGLShader>?\n fun getAttribLocation(program:
WebGLProgram?, name: String): Int\n fun getBufferParameter(target: Int, pname: Int): Any?\n fun
getParameter(pname: Int): Any?\n fun getError(): Int\n fun getFramebufferAttachmentParameter(target: Int,
attachment: Int, pname: Int): Any?\n fun getProgramParameter(program: WebGLProgram?, pname: Int): Any?\n
fun getProgramInfoLog(program: WebGLProgram?): String?\n fun getRenderbufferParameter(target: Int, pname:
Int): Any?\n fun getShaderParameter(shader: WebGLShader?, pname: Int): Any?\n fun
getShaderPrecisionFormat(shadertype: Int, precisiontype: Int): WebGLShaderPrecisionFormat?\n fun
getShaderInfoLog(shader: WebGLShader?): String?\n fun getShaderSource(shader: WebGLShader?): String?\n
fun getTexParameter(target: Int, pname: Int): Any?\n fun getUniform(program: WebGLProgram?, location:
WebGLUniformLocation?): Any?\n fun getUniformLocation(program: WebGLProgram?, name: String):
WebGLUniformLocation?\n fun getVertexAttrib(index: Int, pname: Int): Any?\n fun
getVertexAttribOffset(index: Int, pname: Int): Int\n fun hint(target: Int, mode: Int)\n fun isBuffer(buffer:
WebGLBuffer?): Boolean\n fun isEnabled(cap: Int): Boolean\n fun isFramebuffer(framebuffer:
WebGLFramebuffer?): Boolean\n fun isProgram(program: WebGLProgram?): Boolean\n fun
isRenderbuffer(renderbuffer: WebGLRenderbuffer?): Boolean\n fun isShader(shader: WebGLShader?): Boolean\n
fun isTexture(texture: WebGLTexture?): Boolean\n fun lineWidth(width: Float)\n fun linkProgram(program:
WebGLProgram?)\n fun pixelStorei(pname: Int, param: Int)\n fun polygonOffset(factor: Float, units: Float)\n
fun readPixels(x: Int, y: Int, width: Int, height: Int, format: Int, type: Int, pixels: ArrayBufferView?)\n fun
renderbufferStorage(target: Int, internalformat: Int, width: Int, height: Int)\n fun sampleCoverage(value: Float,
invert: Boolean)\n fun scissor(x: Int, y: Int, width: Int, height: Int)\n fun shaderSource(shader: WebGLShader?,
source: String)\n fun stencilFunc(func: Int, ref: Int, mask: Int)\n fun stencilFuncSeparate(face: Int, func: Int, ref:
Int, mask: Int)\n fun stencilMask(mask: Int)\n fun stencilMaskSeparate(face: Int, mask: Int)\n fun
stencilOp(fail: Int, zfail: Int, zpass: Int)\n fun stencilOpSeparate(face: Int, fail: Int, zfail: Int, zpass: Int)\n fun
texImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, format: Int, type: Int, pixels:
ArrayBufferView?)\n fun texImage2D(target: Int, level: Int, internalformat: Int, format: Int, type: Int, source:

```

TexImageSource?)\n fun texParameterf(target: Int, pname: Int, param: Float)\n fun texParameteri(target: Int,
pname: Int, param: Int)\n fun texSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int, height: Int,
format: Int, type: Int, pixels: ArrayBufferView?)\n fun texSubImage2D(target: Int, level: Int, xoffset: Int, yoffset:
Int, format: Int, type: Int, source: TexImageSource?)\n fun uniform1f(location: WebGLUniformLocation?, x:
Float)\n fun uniform1fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform1fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform1i(location: WebGLUniformLocation?, x: Int)\n fun
uniform1iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform1iv(location:
WebGLUniformLocation?, v: Array<Int>)\n fun uniform2f(location: WebGLUniformLocation?, x: Float, y:
Float)\n fun uniform2fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform2fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform2i(location: WebGLUniformLocation?, x: Int, y: Int)\n
fun uniform2iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform2iv(location:
WebGLUniformLocation?, v: Array<Int>)\n fun uniform3f(location: WebGLUniformLocation?, x: Float, y: Float,
z: Float)\n fun uniform3fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform3fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform3i(location: WebGLUniformLocation?, x: Int, y: Int, z:
Int)\n fun uniform3iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform3iv(location:
WebGLUniformLocation?, v: Array<Int>)\n fun uniform4f(location: WebGLUniformLocation?, x: Float, y: Float,
z: Float, w: Float)\n fun uniform4fv(location: WebGLUniformLocation?, v: Float32Array)\n fun
uniform4fv(location: WebGLUniformLocation?, v: Array<Float>)\n fun uniform4i(location:
WebGLUniformLocation?, x: Int, y: Int, z: Int, w: Int)\n fun uniform4iv(location: WebGLUniformLocation?, v:
Int32Array)\n fun uniform4iv(location: WebGLUniformLocation?, v: Array<Int>)\n fun
uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun
uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun
uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun
uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
useProgram(program: WebGLProgram?)\n fun validateProgram(program: WebGLProgram?)\n fun
vertexAttrib1f(index: Int, x: Float)\n fun vertexAttrib1fv(index: Int, values: dynamic)\n fun
vertexAttrib2f(index: Int, x: Float, y: Float)\n fun vertexAttrib2fv(index: Int, values: dynamic)\n fun
vertexAttrib3f(index: Int, x: Float, y: Float, z: Float)\n fun vertexAttrib3fv(index: Int, values: dynamic)\n fun
vertexAttrib4f(index: Int, x: Float, y: Float, z: Float, w: Float)\n fun vertexAttrib4fv(index: Int, values: dynamic)\n
fun vertexAttribPointer(index: Int, size: Int, type: Int, normalized: Boolean, stride: Int, offset: Int)\n fun
viewport(x: Int, y: Int, width: Int, height: Int)\n\n companion object {\n val DEPTH_BUFFER_BIT: Int\n
val STENCIL_BUFFER_BIT: Int\n val COLOR_BUFFER_BIT: Int\n val POINTS: Int\n val LINES:
Int\n val LINE_LOOP: Int\n val LINE_STRIP: Int\n val TRIANGLES: Int\n val
TRIANGLE_STRIP: Int\n val TRIANGLE_FAN: Int\n val ZERO: Int\n val ONE: Int\n val
SRC_COLOR: Int\n val ONE_MINUS_SRC_COLOR: Int\n val SRC_ALPHA: Int\n val
ONE_MINUS_SRC_ALPHA: Int\n val DST_ALPHA: Int\n val ONE_MINUS_DST_ALPHA: Int\n
val DST_COLOR: Int\n val ONE_MINUS_DST_COLOR: Int\n val SRC_ALPHA_SATURATE: Int\n
val FUNC_ADD: Int\n val BLEND_EQUATION: Int\n val BLEND_EQUATION_RGB: Int\n val
BLEND_EQUATION_ALPHA: Int\n val FUNC_SUBTRACT: Int\n val FUNC_REVERSE_SUBTRACT:
Int\n val BLEND_DST_RGB: Int\n val BLEND_SRC_RGB: Int\n val BLEND_DST_ALPHA: Int\n
val BLEND_SRC_ALPHA: Int\n val CONSTANT_COLOR: Int\n val
ONE_MINUS_CONSTANT_COLOR: Int\n val CONSTANT_ALPHA: Int\n val
ONE_MINUS_CONSTANT_ALPHA: Int\n val BLEND_COLOR: Int\n val ARRAY_BUFFER: Int\n
val ELEMENT_ARRAY_BUFFER: Int\n val ARRAY_BUFFER_BINDING: Int\n val
ELEMENT_ARRAY_BUFFER_BINDING: Int\n val STREAM_DRAW: Int\n val STATIC_DRAW: Int\n
val DYNAMIC_DRAW: Int\n val BUFFER_SIZE: Int\n val BUFFER_USAGE: Int\n val

```


CURRENT_VERTEX_ATTRIB: Int\n val FRONT: Int\n val BACK: Int\n val FRONT_AND_BACK:
Int\n val CULL_FACE: Int\n val BLEND: Int\n val DITHER: Int\n val STENCIL_TEST: Int\n
val DEPTH_TEST: Int\n val SCISSOR_TEST: Int\n val POLYGON_OFFSET_FILL: Int\n val
SAMPLE_ALPHA_TO_COVERAGE: Int\n val SAMPLE_COVERAGE: Int\n val NO_ERROR: Int\n
val INVALID_ENUM: Int\n val INVALID_VALUE: Int\n val INVALID_OPERATION: Int\n val
OUT_OF_MEMORY: Int\n val CW: Int\n val CCW: Int\n val LINE_WIDTH: Int\n val
ALIASED_POINT_SIZE_RANGE: Int\n val ALIASED_LINE_WIDTH_RANGE: Int\n val
CULL_FACE_MODE: Int\n val FRONT_FACE: Int\n val DEPTH_RANGE: Int\n val
DEPTH_WRITEMASK: Int\n val DEPTH_CLEAR_VALUE: Int\n val DEPTH_FUNC: Int\n val
STENCIL_CLEAR_VALUE: Int\n val STENCIL_FUNC: Int\n val STENCIL_FAIL: Int\n val
STENCIL_PASS_DEPTH_FAIL: Int\n val STENCIL_PASS_DEPTH_PASS: Int\n val STENCIL_REF:
Int\n val STENCIL_VALUE_MASK: Int\n val STENCIL_WRITEMASK: Int\n val
STENCIL_BACK_FUNC: Int\n val STENCIL_BACK_FAIL: Int\n val
STENCIL_BACK_PASS_DEPTH_FAIL: Int\n val STENCIL_BACK_PASS_DEPTH_PASS: Int\n val
STENCIL_BACK_REF: Int\n val STENCIL_BACK_VALUE_MASK: Int\n val
STENCIL_BACK_WRITEMASK: Int\n val VIEWPORT: Int\n val SCISSOR_BOX: Int\n val
COLOR_CLEAR_VALUE: Int\n val COLOR_WRITEMASK: Int\n val UNPACK_ALIGNMENT: Int\n
val PACK_ALIGNMENT: Int\n val MAX_TEXTURE_SIZE: Int\n val MAX_VIEWPORT_DIMS: Int\n
val SUBPIXEL_BITS: Int\n val RED_BITS: Int\n val GREEN_BITS: Int\n val BLUE_BITS: Int\n
val ALPHA_BITS: Int\n val DEPTH_BITS: Int\n val STENCIL_BITS: Int\n val
POLYGON_OFFSET_UNITS: Int\n val POLYGON_OFFSET_FACTOR: Int\n val
TEXTURE_BINDING_2D: Int\n val SAMPLE_BUFFERS: Int\n val SAMPLES: Int\n val
SAMPLE_COVERAGE_VALUE: Int\n val SAMPLE_COVERAGE_INVERT: Int\n val
COMPRESSED_TEXTURE_FORMATS: Int\n val DONT_CARE: Int\n val FASTEST: Int\n val
NICEST: Int\n val GENERATE_MIPMAP_HINT: Int\n val BYTE: Int\n val UNSIGNED_BYTE:
Int\n val SHORT: Int\n val UNSIGNED_SHORT: Int\n val INT: Int\n val UNSIGNED_INT: Int\n
val FLOAT: Int\n val DEPTH_COMPONENT: Int\n val ALPHA: Int\n val RGB: Int\n val
RGBA: Int\n val LUMINANCE: Int\n val LUMINANCE_ALPHA: Int\n val
UNSIGNED_SHORT_4_4_4_4: Int\n val UNSIGNED_SHORT_5_5_5_1: Int\n val
UNSIGNED_SHORT_5_6_5: Int\n val FRAGMENT_SHADER: Int\n val VERTEX_SHADER: Int\n
val MAX_VERTEX_ATTRIBS: Int\n val MAX_VERTEX_UNIFORM_VECTORS: Int\n val
MAX_VARYING_VECTORS: Int\n val MAX_COMBINED_TEXTURE_IMAGE_UNITS: Int\n val
MAX_VERTEX_TEXTURE_IMAGE_UNITS: Int\n val MAX_TEXTURE_IMAGE_UNITS: Int\n val
MAX_FRAGMENT_UNIFORM_VECTORS: Int\n val SHADER_TYPE: Int\n val DELETE_STATUS:
Int\n val LINK_STATUS: Int\n val VALIDATE_STATUS: Int\n val ATTACHED_SHADERS: Int\n
val ACTIVE_UNIFORMS: Int\n val ACTIVE_ATTRIBUTES: Int\n val
SHADING_LANGUAGE_VERSION: Int\n val CURRENT_PROGRAM: Int\n val NEVER: Int\n val
LESS: Int\n val EQUAL: Int\n val LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n
val GEQUAL: Int\n val ALWAYS: Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n
val DECR: Int\n val INVERT: Int\n val INCR_WRAP: Int\n val DECR_WRAP: Int\n val
VENDOR: Int\n val RENDERER: Int\n val VERSION: Int\n val NEAREST: Int\n val LINEAR:
Int\n val NEAREST_MIPMAP_NEAREST: Int\n val LINEAR_MIPMAP_NEAREST: Int\n val
NEAREST_MIPMAP_LINEAR: Int\n val LINEAR_MIPMAP_LINEAR: Int\n val
TEXTURE_MAG_FILTER: Int\n val TEXTURE_MIN_FILTER: Int\n val TEXTURE_WRAP_S: Int\n
val TEXTURE_WRAP_T: Int\n val TEXTURE_2D: Int\n val TEXTURE: Int\n val
TEXTURE_CUBE_MAP: Int\n val TEXTURE_BINDING_CUBE_MAP: Int\n val
TEXTURE_CUBE_MAP_POSITIVE_X: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_X: Int\n val
TEXTURE_CUBE_MAP_POSITIVE_Y: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Y: Int\n val

Int\n val SRC_ALPHA: Int\n val ONE_MINUS_SRC_ALPHA: Int\n val DST_ALPHA: Int\n val
 ONE_MINUS_DST_ALPHA: Int\n val DST_COLOR: Int\n val ONE_MINUS_DST_COLOR: Int\n
 val SRC_ALPHA_SATURATE: Int\n val FUNC_ADD: Int\n val BLEND_EQUATION: Int\n val
 BLEND_EQUATION_RGB: Int\n val BLEND_EQUATION_ALPHA: Int\n val FUNC_SUBTRACT:
 Int\n val FUNC_REVERSE_SUBTRACT: Int\n val BLEND_DST_RGB: Int\n val
 BLEND_SRC_RGB: Int\n val BLEND_DST_ALPHA: Int\n val BLEND_SRC_ALPHA: Int\n val
 CONSTANT_COLOR: Int\n val ONE_MINUS_CONSTANT_COLOR: Int\n val CONSTANT_ALPHA:
 Int\n val ONE_MINUS_CONSTANT_ALPHA: Int\n val BLEND_COLOR: Int\n val
 ARRAY_BUFFER: Int\n val ELEMENT_ARRAY_BUFFER: Int\n val ARRAY_BUFFER_BINDING:
 Int\n val ELEMENT_ARRAY_BUFFER_BINDING: Int\n val STREAM_DRAW: Int\n val
 STATIC_DRAW: Int\n val DYNAMIC_DRAW: Int\n val BUFFER_SIZE: Int\n val
 BUFFER_USAGE: Int\n val CURRENT_VERTEX_ATTRIB: Int\n val FRONT: Int\n val BACK:
 Int\n val FRONT_AND_BACK: Int\n val CULL_FACE: Int\n val BLEND: Int\n val DITHER:
 Int\n val STENCIL_TEST: Int\n val DEPTH_TEST: Int\n val SCISSOR_TEST: Int\n val
 POLYGON_OFFSET_FILL: Int\n val SAMPLE_ALPHA_TO_COVERAGE: Int\n val
 SAMPLE_COVERAGE: Int\n val NO_ERROR: Int\n val INVALID_ENUM: Int\n val
 INVALID_VALUE: Int\n val INVALID_OPERATION: Int\n val OUT_OF_MEMORY: Int\n val CW:
 Int\n val CCW: Int\n val LINE_WIDTH: Int\n val ALIASED_POINT_SIZE_RANGE: Int\n val
 ALIASED_LINE_WIDTH_RANGE: Int\n val CULL_FACE_MODE: Int\n val FRONT_FACE: Int\n
 val DEPTH_RANGE: Int\n val DEPTH_WRITEMASK: Int\n val DEPTH_CLEAR_VALUE: Int\n val
 DEPTH_FUNC: Int\n val STENCIL_CLEAR_VALUE: Int\n val STENCIL_FUNC: Int\n val
 STENCIL_FAIL: Int\n val STENCIL_PASS_DEPTH_FAIL: Int\n val STENCIL_PASS_DEPTH_PASS:
 Int\n val STENCIL_REF: Int\n val STENCIL_VALUE_MASK: Int\n val STENCIL_WRITEMASK:
 Int\n val STENCIL_BACK_FUNC: Int\n val STENCIL_BACK_FAIL: Int\n val
 STENCIL_BACK_PASS_DEPTH_FAIL: Int\n val STENCIL_BACK_PASS_DEPTH_PASS: Int\n val
 STENCIL_BACK_REF: Int\n val STENCIL_BACK_VALUE_MASK: Int\n val
 STENCIL_BACK_WRITEMASK: Int\n val VIEWPORT: Int\n val SCISSOR_BOX: Int\n val
 COLOR_CLEAR_VALUE: Int\n val COLOR_WRITEMASK: Int\n val UNPACK_ALIGNMENT: Int\n
 val PACK_ALIGNMENT: Int\n val MAX_TEXTURE_SIZE: Int\n val MAX_VIEWPORT_DIMS: Int\n
 val SUBPIXEL_BITS: Int\n val RED_BITS: Int\n val GREEN_BITS: Int\n val BLUE_BITS: Int\n
 val ALPHA_BITS: Int\n val DEPTH_BITS: Int\n val STENCIL_BITS: Int\n val
 POLYGON_OFFSET_UNITS: Int\n val POLYGON_OFFSET_FACTOR: Int\n val
 TEXTURE_BINDING_2D: Int\n val SAMPLE_BUFFERS: Int\n val SAMPLES: Int\n val
 SAMPLE_COVERAGE_VALUE: Int\n val SAMPLE_COVERAGE_INVERT: Int\n val
 COMPRESSED_TEXTURE_FORMATS: Int\n val DONT_CARE: Int\n val FASTEST: Int\n val
 NICEST: Int\n val GENERATE_MIPMAP_HINT: Int\n val BYTE: Int\n val UNSIGNED_BYTE:
 Int\n val SHORT: Int\n val UNSIGNED_SHORT: Int\n val INT: Int\n val UNSIGNED_INT: Int\n
 val FLOAT: Int\n val DEPTH_COMPONENT: Int\n val ALPHA: Int\n val RGB: Int\n val
 RGBA: Int\n val LUMINANCE: Int\n val LUMINANCE_ALPHA: Int\n val
 UNSIGNED_SHORT_4_4_4_4: Int\n val UNSIGNED_SHORT_5_5_5_1: Int\n val
 UNSIGNED_SHORT_5_6_5: Int\n val FRAGMENT_SHADER: Int\n val VERTEX_SHADER: Int\n
 val MAX_VERTEX_ATTRIBS: Int\n val MAX_VERTEX_UNIFORM_VECTORS: Int\n val
 MAX_VARYING_VECTORS: Int\n val MAX_COMBINED_TEXTURE_IMAGE_UNITS: Int\n val
 MAX_VERTEX_TEXTURE_IMAGE_UNITS: Int\n val MAX_TEXTURE_IMAGE_UNITS: Int\n val
 MAX_FRAGMENT_UNIFORM_VECTORS: Int\n val SHADER_TYPE: Int\n val DELETE_STATUS:
 Int\n val LINK_STATUS: Int\n val VALIDATE_STATUS: Int\n val ATTACHED_SHADERS: Int\n
 val ACTIVE_UNIFORMS: Int\n val ACTIVE_ATTRIBUTES: Int\n val
 SHADING_LANGUAGE_VERSION: Int\n val CURRENT_PROGRAM: Int\n val NEVER: Int\n val

LESS: Int\n val EQUAL: Int\n val LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n
 val GEQUAL: Int\n val ALWAYS: Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n
 val DECR: Int\n val INVERT: Int\n val INCR_WRAP: Int\n val DECR_WRAP: Int\n val
 VENDOR: Int\n val RENDERER: Int\n val VERSION: Int\n val NEAREST: Int\n val LINEAR:
 Int\n val NEAREST_MIPMAP_NEAREST: Int\n val LINEAR_MIPMAP_NEAREST: Int\n val
 NEAREST_MIPMAP_LINEAR: Int\n val LINEAR_MIPMAP_LINEAR: Int\n val
 TEXTURE_MAG_FILTER: Int\n val TEXTURE_MIN_FILTER: Int\n val TEXTURE_WRAP_S: Int\n
 val TEXTURE_WRAP_T: Int\n val TEXTURE_2D: Int\n val TEXTURE: Int\n val
 TEXTURE_CUBE_MAP: Int\n val TEXTURE_BINDING_CUBE_MAP: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_X: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_X: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_Y: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Y: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_Z: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Z: Int\n val
 MAX_CUBE_MAP_TEXTURE_SIZE: Int\n val TEXTURE0: Int\n val TEXTURE1: Int\n val
 TEXTURE2: Int\n val TEXTURE3: Int\n val TEXTURE4: Int\n val TEXTURE5: Int\n val
 TEXTURE6: Int\n val TEXTURE7: Int\n val TEXTURE8: Int\n val TEXTURE9: Int\n val
 TEXTURE10: Int\n val TEXTURE11: Int\n val TEXTURE12: Int\n val TEXTURE13: Int\n val
 TEXTURE14: Int\n val TEXTURE15: Int\n val TEXTURE16: Int\n val TEXTURE17: Int\n val
 TEXTURE18: Int\n val TEXTURE19: Int\n val TEXTURE20: Int\n val TEXTURE21: Int\n val
 TEXTURE22: Int\n val TEXTURE23: Int\n val TEXTURE24: Int\n val TEXTURE25: Int\n val
 TEXTURE26: Int\n val TEXTURE27: Int\n val TEXTURE28: Int\n val TEXTURE29: Int\n val
 TEXTURE30: Int\n val TEXTURE31: Int\n val ACTIVE_TEXTURE: Int\n val REPEAT: Int\n
 val CLAMP_TO_EDGE: Int\n val MIRRORED_REPEAT: Int\n val FLOAT_VEC2: Int\n val
 FLOAT_VEC3: Int\n val FLOAT_VEC4: Int\n val INT_VEC2: Int\n val INT_VEC3: Int\n val
 INT_VEC4: Int\n val BOOL: Int\n val BOOL_VEC2: Int\n val BOOL_VEC3: Int\n val
 BOOL_VEC4: Int\n val FLOAT_MAT2: Int\n val FLOAT_MAT3: Int\n val FLOAT_MAT4: Int\n
 val SAMPLER_2D: Int\n val SAMPLER_CUBE: Int\n val VERTEX_ATTRIB_ARRAY_ENABLED:
 Int\n val VERTEX_ATTRIB_ARRAY_SIZE: Int\n val VERTEX_ATTRIB_ARRAY_STRIDE: Int\n
 val VERTEX_ATTRIB_ARRAY_TYPE: Int\n val VERTEX_ATTRIB_ARRAY_NORMALIZED: Int\n
 val VERTEX_ATTRIB_ARRAY_POINTER: Int\n val VERTEX_ATTRIB_ARRAY_BUFFER_BINDING:
 Int\n val IMPLEMENTATION_COLOR_READ_TYPE: Int\n val
 IMPLEMENTATION_COLOR_READ_FORMAT: Int\n val COMPILE_STATUS: Int\n val
 LOW_FLOAT: Int\n val MEDIUM_FLOAT: Int\n val HIGH_FLOAT: Int\n val LOW_INT: Int\n
 val MEDIUM_INT: Int\n val HIGH_INT: Int\n val FRAMEBUFFER: Int\n val RENDERBUFFER:
 Int\n val RGBA4: Int\n val RGB5_A1: Int\n val RGB565: Int\n val DEPTH_COMPONENT16:
 Int\n val STENCIL_INDEX: Int\n val STENCIL_INDEX8: Int\n val DEPTH_STENCIL: Int\n val
 RENDERBUFFER_WIDTH: Int\n val RENDERBUFFER_HEIGHT: Int\n val
 RENDERBUFFER_INTERNAL_FORMAT: Int\n val RENDERBUFFER_RED_SIZE: Int\n val
 RENDERBUFFER_GREEN_SIZE: Int\n val RENDERBUFFER_BLUE_SIZE: Int\n val
 RENDERBUFFER_ALPHA_SIZE: Int\n val RENDERBUFFER_DEPTH_SIZE: Int\n val
 RENDERBUFFER_STENCIL_SIZE: Int\n val FRAMEBUFFER_ATTACHMENT_OBJECT_TYPE: Int\n
 val FRAMEBUFFER_ATTACHMENT_OBJECT_NAME: Int\n val
 FRAMEBUFFER_ATTACHMENT_TEXTURE_LEVEL: Int\n val
 FRAMEBUFFER_ATTACHMENT_TEXTURE_CUBE_MAP_FACE: Int\n val COLOR_ATTACHMENT0:
 Int\n val DEPTH_ATTACHMENT: Int\n val STENCIL_ATTACHMENT: Int\n val
 DEPTH_STENCIL_ATTACHMENT: Int\n val NONE: Int\n val FRAMEBUFFER_COMPLETE: Int\n
 val FRAMEBUFFER_INCOMPLETE_ATTACHMENT: Int\n val
 FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT: Int\n val
 FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n val FRAMEBUFFER_UNSUPPORTED: Int\n

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val FRAMEBUFFER_BINDING: Int\n    val RENDERBUFFER_BINDING: Int\n    val
MAX_RENDERBUFFER_SIZE: Int\n    val INVALID_FRAMEBUFFER_OPERATION: Int\n    val
UNPACK_FLIP_Y_WEBGL: Int\n    val UNPACK_PREMULTIPLY_ALPHA_WEBGL: Int\n    val
CONTEXT_LOST_WEBGL: Int\n    val UNPACK_COLORSPACE_CONVERSION_WEBGL: Int\n    val
BROWSER_DEFAULT_WEBGL: Int\n    }\n}\n\n**\n * Exposes the JavaScript
[WebGLContextEvent](https://developer.mozilla.org/en/docs/Web/API/WebGLContextEvent) to Kotlin\n
*\npublic external open class WebGLContextEvent(type: String, eventInit: WebGLContextEventInit =
definedExternally) : Event {\n    open val statusMessage: String\n\n    companion object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface WebGLContextEventInit : EventInit {\n    var statusMessage: String? /* = \"\" */\n    get() = definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun
WebGLContextEventInit(statusMessage: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): WebGLContextEventInit {\n    val o = js(\"({})\")\n    o[\"statusMessage\"] =
statusMessage\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\n**\n * Exposes the JavaScript
[ArrayBuffer](https://developer.mozilla.org/en/docs/Web/API/ArrayBuffer) to Kotlin\n
*\npublic external open
class ArrayBuffer(length: Int) : BufferDataSource {\n    open val byteLength: Int\n    fun slice(begin: Int, end: Int =
definedExternally): ArrayBuffer\n\n    companion object {\n        fun isView(value: Any?): Boolean\n    }\n}\n\n**\n * Exposes the JavaScript
[ArrayBufferView](https://developer.mozilla.org/en/docs/Web/API/ArrayBufferView) to Kotlin\n
*\npublic
external interface ArrayBufferView : BufferDataSource {\n    val buffer: ArrayBuffer\n    val byteOffset: Int\n    val
byteLength: Int\n}\n\n**\n * Exposes the JavaScript
[Int8Array](https://developer.mozilla.org/en/docs/Web/API/Int8Array) to Kotlin\n
*\npublic external open class
Int8Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Int8Array)\n    constructor(array:
Array<Byte>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int =
definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset: Int\n    override val byteLength: Int\n    fun set(array: Int8Array, offset: Int = definedExternally)\n    fun set(array:
Array<Byte>, offset: Int = definedExternally)\n    fun subarray(start: Int, end: Int): Int8Array\n\n    companion
object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int8Array.get(index: Int):
Byte = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int8Array.set(index: Int,
value: Byte) { asDynamic()[index] = value }\n\n**\n * Exposes the JavaScript
[Uint8Array](https://developer.mozilla.org/en/docs/Web/API/Uint8Array) to Kotlin\n
*\npublic external open class
Uint8Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Uint8Array)\n    constructor(array: Array<Byte>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset:
Int\n    override val byteLength: Int\n    fun set(array: Uint8Array, offset: Int = definedExternally)\n    fun set(array:
Array<Byte>, offset: Int = definedExternally)\n    fun subarray(start: Int, end: Int): Uint8Array\n\n    companion
object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8Array.get(index: Int):
Byte = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8Array.set(index: Int,
value: Byte) { asDynamic()[index] = value }\n\n**\n * Exposes the JavaScript
[Uint8ClampedArray](https://developer.mozilla.org/en/docs/Web/API/Uint8ClampedArray) to Kotlin\n
*\npublic
external open class Uint8ClampedArray : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array:
Uint8ClampedArray)\n    constructor(array: Array<Byte>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int =

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definedExternally, length: Int = definedExternally)\n  open val length: Int\n  override val buffer: ArrayBuffer\n  override val byteOffset: Int\n  override val byteLength: Int\n  fun set(array: Uint8ClampedArray, offset: Int =
definedExternally)\n  fun set(array: Array<Byte>, offset: Int = definedExternally)\n  fun subarray(start: Int, end:
Int): Uint8ClampedArray\n\n  companion object {\n    val BYTES_PER_ELEMENT: Int\n  }\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun
Uint8ClampedArray.get(index: Int): Byte = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun
Uint8ClampedArray.set(index: Int, value: Byte) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Int16Array](https://developer.mozilla.org/en/docs/Web/API/Int16Array) to Kotlin\n */\npublic external open class
Int16Array : ArrayBufferView {\n  constructor(length: Int)\n  constructor(array: Int16Array)\n  constructor(array: Array<Short>)\n  constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n  open val length: Int\n  override val buffer: ArrayBuffer\n  override val byteOffset:
Int\n  override val byteLength: Int\n  fun set(array: Int16Array, offset: Int = definedExternally)\n  fun set(array:
Array<Short>, offset: Int = definedExternally)\n  fun subarray(start: Int, end: Int): Int16Array\n\n  companion
object {\n    val BYTES_PER_ELEMENT: Int\n  }\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int16Array.get(index: Int):
Short = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int16Array.set(index: Int,
value: Short) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Uint16Array](https://developer.mozilla.org/en/docs/Web/API/Uint16Array) to Kotlin\n */\npublic external open
class Uint16Array : ArrayBufferView {\n  constructor(length: Int)\n  constructor(array: Uint16Array)\n  constructor(array: Array<Short>)\n  constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n  open val length: Int\n  override val buffer: ArrayBuffer\n  override val byteOffset:
Int\n  override val byteLength: Int\n  fun set(array: Uint16Array, offset: Int = definedExternally)\n  fun set(array:
Array<Short>, offset: Int = definedExternally)\n  fun subarray(start: Int, end: Int): Uint16Array\n\n  companion
object {\n    val BYTES_PER_ELEMENT: Int\n  }\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint16Array.get(index: Int):
Short = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint16Array.set(index: Int,
value: Short) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Int32Array](https://developer.mozilla.org/en/docs/Web/API/Int32Array) to Kotlin\n */\npublic external open class
Int32Array : ArrayBufferView {\n  constructor(length: Int)\n  constructor(array: Int32Array)\n  constructor(array: Array<Int>)\n  constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int
= definedExternally)\n  open val length: Int\n  override val buffer: ArrayBuffer\n  override val byteOffset: Int\n
override val byteLength: Int\n  fun set(array: Int32Array, offset: Int = definedExternally)\n  fun set(array:
Array<Int>, offset: Int = definedExternally)\n  fun subarray(start: Int, end: Int): Int32Array\n\n  companion object
{\n    val BYTES_PER_ELEMENT: Int\n  }\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int32Array.get(index: Int): Int
= asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int32Array.set(index: Int,
value: Int) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Uint32Array](https://developer.mozilla.org/en/docs/Web/API/Uint32Array) to Kotlin\n */\npublic external open
class Uint32Array : ArrayBufferView {\n  constructor(length: Int)\n  constructor(array: Uint32Array)\n  constructor(array: Array<Int>)\n  constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int
= definedExternally)\n  open val length: Int\n  override val buffer: ArrayBuffer\n  override val byteOffset: Int\n
override val byteLength: Int\n  fun set(array: Uint32Array, offset: Int = definedExternally)\n  fun set(array:
Array<Int>, offset: Int = definedExternally)\n  fun subarray(start: Int, end: Int): Uint32Array\n\n  companion

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object {
    val BYTES_PER_ELEMENT: Int
}
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun Uint32Array.get(index: Int):
Int = asDynamic()[index]
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun Uint32Array.set(index: Int,
value: Int) { asDynamic()[index] = value }
Exposes the JavaScript
[Float32Array](https://developer.mozilla.org/en/docs/Web/API/Float32Array) to Kotlin
public external open
class Float32Array : ArrayBufferView {
    constructor(length: Int)
    constructor(array: Float32Array)
    constructor(array: Array<Float>)
    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)
    open val length: Int
    override val buffer: ArrayBuffer
    override val byteOffset:
Int
    override val byteLength: Int
    fun set(array: Float32Array, offset: Int = definedExternally)
    fun
set(array: Array<Float>, offset: Int = definedExternally)
    fun subarray(start: Int, end: Int): Float32Array
}
companion object {
    val BYTES_PER_ELEMENT: Int
}
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun Float32Array.get(index: Int):
Float = asDynamic()[index]
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun Float32Array.set(index: Int,
value: Float) { asDynamic()[index] = value }
Exposes the JavaScript
[Float64Array](https://developer.mozilla.org/en/docs/Web/API/Float64Array) to Kotlin
public external open
class Float64Array : ArrayBufferView {
    constructor(length: Int)
    constructor(array: Float64Array)
    constructor(array: Array<Double>)
    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)
    open val length: Int
    override val buffer: ArrayBuffer
    override val byteOffset:
Int
    override val byteLength: Int
    fun set(array: Float64Array, offset: Int = definedExternally)
    fun
set(array: Array<Double>, offset: Int = definedExternally)
    fun subarray(start: Int, end: Int): Float64Array
}
companion object {
    val BYTES_PER_ELEMENT: Int
}
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun Float64Array.get(index: Int):
Double = asDynamic()[index]
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun Float64Array.set(index: Int,
value: Double) { asDynamic()[index] = value }
Exposes the JavaScript
[DataView](https://developer.mozilla.org/en/docs/Web/API/DataView) to Kotlin
public external open class
DataView(buffer: ArrayBuffer, byteOffset: Int = definedExternally, byteLength: Int = definedExternally) :
ArrayBufferView {
    override val buffer: ArrayBuffer
    override val byteOffset: Int
    override val
byteLength: Int
    fun getInt8(byteOffset: Int): Byte
    fun getUint8(byteOffset: Int): Byte
    fun
getInt16(byteOffset: Int, littleEndian: Boolean = definedExternally): Short
    fun getUint16(byteOffset: Int,
littleEndian: Boolean = definedExternally): Short
    fun getInt32(byteOffset: Int, littleEndian: Boolean =
definedExternally): Int
    fun getUint32(byteOffset: Int, littleEndian: Boolean = definedExternally): Int
    fun
getFloat32(byteOffset: Int, littleEndian: Boolean = definedExternally): Float
    fun getFloat64(byteOffset: Int,
littleEndian: Boolean = definedExternally): Double
    fun setInt8(byteOffset: Int, value: Byte)
    fun
setUint8(byteOffset: Int, value: Byte)
    fun setInt16(byteOffset: Int, value: Short, littleEndian: Boolean =
definedExternally)
    fun setUint16(byteOffset: Int, value: Short, littleEndian: Boolean = definedExternally)
    fun
setInt32(byteOffset: Int, value: Int, littleEndian: Boolean = definedExternally)
    fun setUint32(byteOffset: Int,
value: Int, littleEndian: Boolean = definedExternally)
    fun setFloat32(byteOffset: Int, value: Float, littleEndian:
Boolean = definedExternally)
    fun setFloat64(byteOffset: Int, value: Double, littleEndian: Boolean =
definedExternally)
}
public external interface BufferDataSource
public external interface
TexImageSource
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See github.com/kotlin/dukat for
details
package org.w3c.dom.clipboard
import kotlin.js.*
import org.khronos.webgl.*
import

```

```

org.w3c.dom.*\nimport org.w3c.dom.events.*\n\npublic external interface ClipboardEventInit : EventInit {\n    var
clipboardData: DataTransfer? /* = null */\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun ClipboardEventInit(clipboardData:
DataTransfer? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
ClipboardEventInit {\n    val o = js("{}")\n    o["clipboardData"] = clipboardData\n    o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n    o["composed"] = composed\n    return o\n}\n\n/**\n * Exposes the JavaScript
[ClipboardEvent](https://developer.mozilla.org/en/docs/Web/API/ClipboardEvent) to Kotlin\n */\n\npublic external
open class ClipboardEvent(type: String, eventInitDict: ClipboardEventInit = definedExternally) : Event {\n    open
val clipboardData: DataTransfer?\n\n    companion object {\n        val NONE: Short\n        val
CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n
}\n}\n\n/**\n * Exposes the JavaScript [Clipboard](https://developer.mozilla.org/en/docs/Web/API/Clipboard) to
Kotlin\n */\n\npublic external abstract class Clipboard : EventTarget {\n    fun read(): Promise<DataTransfer>\n    fun
readText(): Promise<String>\n    fun write(data: DataTransfer): Promise<Unit>\n    fun writeText(data: String):
Promise<Unit>\n}\n\npublic external interface ClipboardPermissionDescriptor {\n    var allowWithoutGesture:
Boolean? /* = false */\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
ClipboardPermissionDescriptor(allowWithoutGesture: Boolean? = false): ClipboardPermissionDescriptor {\n    val
o = js("{}")\n    o["allowWithoutGesture"] = allowWithoutGesture\n    return o\n}"/*\n * Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-
GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.css\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\n\npublic external abstract class MediaList :
ItemArrayLike<String> {\n    open var mediaText: String\n    fun appendMedium(medium: String)\n    fun
deleteMedium(medium: String)\n    override fun item(index: Int):
String?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun MediaList.get(index: Int):
String? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[StyleSheet](https://developer.mozilla.org/en/docs/Web/API/StyleSheet) to Kotlin\n */\n\npublic external abstract
class StyleSheet {\n    open val type: String\n    open val href: String?\n    open val ownerNode:
UnionElementOrProcessingInstruction?\n    open val parentStyleSheet: StyleSheet?\n    open val title: String?\n
open val media: MediaList\n    open var disabled: Boolean\n}\n\n/**\n * Exposes the JavaScript
[CSSStyleSheet](https://developer.mozilla.org/en/docs/Web/API/CSSStyleSheet) to Kotlin\n */\n\npublic external
abstract class CSSStyleSheet : StyleSheet {\n    open val ownerRule: CSSRule?\n    open val cssRules:
CSSRuleList\n    fun insertRule(rule: String, index: Int): Int\n    fun deleteRule(index: Int)\n}\n\n/**\n * Exposes the
JavaScript [StyleSheetList](https://developer.mozilla.org/en/docs/Web/API/StyleSheetList) to Kotlin\n */\n\npublic
external abstract class StyleSheetList : ItemArrayLike<StyleSheet> {\n    override fun item(index: Int):
StyleSheet?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun StyleSheetList.get(index: Int):
StyleSheet? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[LinkStyle](https://developer.mozilla.org/en/docs/Web/API/LinkStyle) to Kotlin\n */\n\npublic external interface
LinkStyle {\n    val sheet: StyleSheet?\n    get() = definedExternally\n}\n\n/**\n * Exposes the JavaScript
[CSSRuleList](https://developer.mozilla.org/en/docs/Web/API/CSSRuleList) to Kotlin\n */\n\npublic external abstract
class CSSRuleList : ItemArrayLike<CSSRule> {\n    override fun item(index: Int):
CSSRule?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun CSSRuleList.get(index: Int):
CSSRule? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript

```


[CSSRule](https://developer.mozilla.org/en/docs/Web/API/CSSRule) to Kotlin\n *\npublic external abstract class CSSRule {\n open val type: Short\n open var cssText: String\n open val parentRule: CSSRule?\n open val parentStyleSheet: CSSStyleSheet?\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript

[CSSStyleRule](https://developer.mozilla.org/en/docs/Web/API/CSSStyleRule) to Kotlin\n *\npublic external abstract class CSSStyleRule : CSSRule {\n open var selectorText: String\n open val style: CSSStyleDeclaration\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\npublic external abstract class CSSImportRule : CSSRule {\n open val href: String\n open val media: MediaList\n open val styleSheet: CSSStyleSheet\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript

[CSSGroupingRule](https://developer.mozilla.org/en/docs/Web/API/CSSGroupingRule) to Kotlin\n *\npublic external abstract class CSSGroupingRule : CSSRule {\n open val cssRules: CSSRuleList\n fun insertRule(rule: String, index: Int): Int\n fun deleteRule(index: Int)\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript

[CSSMediaRule](https://developer.mozilla.org/en/docs/Web/API/CSSMediaRule) to Kotlin\n *\npublic external abstract class CSSMediaRule : CSSGroupingRule {\n open val media: MediaList\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript

[CSSPageRule](https://developer.mozilla.org/en/docs/Web/API/CSSPageRule) to Kotlin\n *\npublic external abstract class CSSPageRule : CSSGroupingRule {\n open var selectorText: String\n open val style: CSSStyleDeclaration\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\npublic external abstract class CSSMarginRule : CSSRule {\n open val name: String\n open val style: CSSStyleDeclaration\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript

[CSSNamespaceRule](https://developer.mozilla.org/en/docs/Web/API/CSSNamespaceRule) to Kotlin\n *\npublic external abstract class CSSNamespaceRule : CSSRule {\n open val namespaceURI: String\n open val prefix: String\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript

[CSSStyleDeclaration](https://developer.mozilla.org/en/docs/Web/API/CSSStyleDeclaration) to Kotlin\n *\npublic external abstract class CSSStyleDeclaration : ItemArrayLike<String> {\n open var cssText: String\n open val parentRule: CSSRule?\n open var cssFloat: String\n open var alignContent: String\n open var alignItems: String\n open var alignSelf: String\n open var animation: String\n open var animationDelay: String\n open var animationDirection: String\n open var animationDuration: String\n open var animationFillMode: String\n

open var animationIterationCount: String\n open var animationName: String\n open var animationPlayState: String\n open var animationTimingFunction: String\n open var backfaceVisibility: String\n open var background: String\n open var backgroundAttachment: String\n open var backgroundClip: String\n open var backgroundColor: String\n open var backgroundImage: String\n open var backgroundOrigin: String\n open var backgroundPosition: String\n open var backgroundRepeat: String\n open var backgroundSize: String\n open var border: String\n open var borderBottom: String\n open var borderBottomColor: String\n open var borderBottomLeftRadius: String\n open var borderBottomRightRadius: String\n open var borderBottomStyle: String\n open var borderBottomWidth: String\n open var borderCollapse: String\n open var borderColor: String\n open var borderImage: String\n open var borderImageOutset: String\n open var borderImageRepeat: String\n open var borderImageSlice: String\n open var borderImageSource: String\n open var borderImageWidth: String\n open var borderLeft: String\n open var borderLeftColor: String\n open var borderLeftStyle: String\n open var borderLeftWidth: String\n open var borderRadius: String\n open var borderRight: String\n open var borderRightColor: String\n open var borderRightStyle: String\n open var borderRightWidth: String\n open var borderSpacing: String\n open var borderStyle: String\n open var borderTop: String\n open var borderTopColor: String\n open var borderTopLeftRadius: String\n open var borderTopRightRadius: String\n open var borderTopStyle: String\n open var borderTopWidth: String\n open var borderWidth: String\n open var bottom: String\n open var boxDecorationBreak: String\n open var boxShadow: String\n open var boxSizing: String\n open var breakAfter: String\n open var breakBefore: String\n open var breakInside: String\n open var captionSide: String\n open var clear: String\n open var clip: String\n open var color: String\n open var columnCount: String\n open var columnFill: String\n open var columnGap: String\n open var columnRule: String\n open var columnRuleColor: String\n open var columnRuleStyle: String\n open var columnRuleWidth: String\n open var columnSpan: String\n open var columnWidth: String\n open var columns: String\n open var content: String\n open var counterIncrement: String\n open var counterReset: String\n open var cursor: String\n open var direction: String\n open var display: String\n open var emptyCells: String\n open var filter: String\n open var flex: String\n open var flexBasis: String\n open var flexDirection: String\n open var flexFlow: String\n open var flexGrow: String\n open var flexShrink: String\n open var flexWrap: String\n open var font: String\n open var fontFamily: String\n open var fontFeatureSettings: String\n open var fontKerning: String\n open var fontLanguageOverride: String\n open var fontSize: String\n open var fontSizeAdjust: String\n open var fontStretch: String\n open var fontStyle: String\n open var fontSynthesis: String\n open var fontVariant: String\n open var fontVariantAlternates: String\n open var fontVariantCaps: String\n open var fontVariantEastAsian: String\n open var fontVariantLigatures: String\n open var fontVariantNumeric: String\n open var fontVariantPosition: String\n open var fontWeight: String\n open var hangingPunctuation: String\n open var height: String\n open var hyphens: String\n open var imageOrientation: String\n open var imageRendering: String\n open var imageResolution: String\n open var imeMode: String\n open var justifyContent: String\n open var left: String\n open var letterSpacing: String\n open var lineBreak: String\n open var lineHeight: String\n open var listStyle: String\n open var listStyleImage: String\n open var listStylePosition: String\n open var listStyleType: String\n open var margin: String\n open var marginBottom: String\n open var marginLeft: String\n open var marginRight: String\n open var marginTop: String\n open var mark: String\n open var markAfter: String\n open var markBefore: String\n open var marks: String\n open var marqueeDirection: String\n open var marqueePlayCount: String\n open var marqueeSpeed: String\n open var marqueeStyle: String\n open var mask: String\n open var maskType: String\n open var maxHeight: String\n open var maxWidth: String\n open var minHeight: String\n open var minWidth: String\n open var navDown: String\n open var navIndex: String\n open var navLeft: String\n open var navRight: String\n open var navUp: String\n open var objectFit: String\n open var objectPosition: String\n open var opacity: String\n open var order: String\n open var orphans: String\n open var outline: String\n open var outlineColor: String\n open var outlineOffset: String\n open var outlineStyle: String\n open var outlineWidth: String\n open var overflowWrap: String\n open var overflowX: String\n open var overflowY: String\n open var padding:

```

String\n open var paddingBottom: String\n open var paddingLeft: String\n open var paddingRight: String\n
open var paddingTop: String\n open var pageBreakAfter: String\n open var pageBreakBefore: String\n open
var pageBreakInside: String\n open var perspective: String\n open var perspectiveOrigin: String\n open var
phonemes: String\n open var position: String\n open var quotes: String\n open var resize: String\n open var
rest: String\n open var restAfter: String\n open var restBefore: String\n open var right: String\n open var
tabSize: String\n open var tableLayout: String\n open var textAlign: String\n open var textAlignLast: String\n
open var textCombineUpright: String\n open var textDecoration: String\n open var textDecorationColor:
String\n open var textDecorationLine: String\n open var textDecorationStyle: String\n open var textIndent:
String\n open var textJustify: String\n open var textOrientation: String\n open var textOverflow: String\n
open var textShadow: String\n open var textTransform: String\n open var textUnderlinePosition: String\n open
var top: String\n open var transform: String\n open var transformOrigin: String\n open var transformStyle:
String\n open var transition: String\n open var transitionDelay: String\n open var transitionDuration: String\n
open var transitionProperty: String\n open var transitionTimingFunction: String\n open var unicodeBidi:
String\n open var verticalAlign: String\n open var visibility: String\n open var voiceBalance: String\n open
var voiceDuration: String\n open var voicePitch: String\n open var voicePitchRange: String\n open var
voiceRate: String\n open var voiceStress: String\n open var voiceVolume: String\n open var whiteSpace:
String\n open var widows: String\n open var width: String\n open var wordBreak: String\n open var
wordSpacing: String\n open var wordWrap: String\n open var writingMode: String\n open var zIndex: String\n
open var _dashed_attribute: String\n open var _camel_cased_attribute: String\n open var
_webkit_cased_attribute: String\n fun getProperty(property: String): String\n fun
getPropertyPriority(property: String): String\n fun setProperty(property: String, value: String, priority: String =
definedExternally)\n fun setPropertyValue(property: String, value: String)\n fun setPropertyPriority(property:
String, priority: String)\n fun removeProperty(property: String): String\n override fun item(index: Int):
String\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
CSSStyleDeclaration.get(index: Int): String? = asDynamic()[index]\n\npublic external interface
ElementCSSInlineStyle {\n val style: CSSStyleDeclaration\n}\n\n/**\n * Exposes the JavaScript
[CSS](https://developer.mozilla.org/en/docs/Web/API/CSS) to Kotlin\n */\n\npublic external abstract class CSS {\n
companion object {\n fun escape(ident: String): String\n }\n}\n\npublic external interface
UnionElementOrProcessingInstruction, "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See
github.com/kotlin/dukat for details\n\npackage org.w3c.dom.encryptedmedia\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\n/**\n * Exposes the JavaScript
[MediaKeySystemConfiguration](https://developer.mozilla.org/en/docs/Web/API/MediaKeySystemConfiguration)
to Kotlin\n */\n\npublic external interface MediaKeySystemConfiguration {\n var label: String? /* = "" */\n
get() = definedExternally\n set(value) = definedExternally\n var initDataTypes: Array<String>? /* = arrayOf()
*/\n get() = definedExternally\n set(value) = definedExternally\n var audioCapabilities:
Array<MediaKeySystemMediaCapability>? /* = arrayOf() */\n get() = definedExternally\n set(value) =
definedExternally\n var videoCapabilities: Array<MediaKeySystemMediaCapability>? /* = arrayOf() */\n
get() = definedExternally\n set(value) = definedExternally\n var distinctiveIdentifier:
MediaKeysRequirement? /* = MediaKeysRequirement.OPTIONAL */\n get() = definedExternally\n
set(value) = definedExternally\n var persistentState: MediaKeysRequirement? /* =
MediaKeysRequirement.OPTIONAL */\n get() = definedExternally\n set(value) = definedExternally\n
var sessionTypes: Array<String>?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun MediaKeySystemConfiguration(label:
String? = "", initDataTypes: Array<String>? = arrayOf(), audioCapabilities:

```

```

Array<MediaKeySystemMediaCapability>? = arrayOf(), videoCapabilities:
Array<MediaKeySystemMediaCapability>? = arrayOf(), distinctiveIdentifier: MediaKeysRequirement? =
MediaKeysRequirement.OPTIONAL, persistentState: MediaKeysRequirement? =
MediaKeysRequirement.OPTIONAL, sessionTypes: Array<String>? = undefined): MediaKeySystemConfiguration
{
    val o = js("{}")
    o["label"] = label
    o["initDataTypes"] = initDataTypes
    o["audioCapabilities"] = audioCapabilities
    o["videoCapabilities"] = videoCapabilities
    o["distinctiveIdentifier"] = distinctiveIdentifier
    o["persistentState"] = persistentState
    o["sessionTypes"] = sessionTypes
    return o
}

public external interface MediaKeySystemMediaCapability {
    var contentType: String? /* = "" */
    get() = definedExternally
    set(value) = definedExternally
    var robustness: String? /* = "" */
    get() = definedExternally
    set(value) = definedExternally
}

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun
MediaKeySystemMediaCapability(contentType: String? = "", robustness: String? = ""):
MediaKeySystemMediaCapability {
    val o = js("{}")
    o["contentType"] = contentType
    o["robustness"] = robustness
    return o
}

/**
 * Exposes the JavaScript [MediaKeySystemAccess](https://developer.mozilla.org/en/docs/Web/API/MediaKeySystemAccess) to Kotlin
 */
public external abstract class MediaKeySystemAccess {
    open val keySystem: String
    fun
    getConfiguration(): MediaKeySystemConfiguration
    fun createMediaKeys(): Promise<MediaKeys>
}

/**
 * Exposes the JavaScript [MediaKeys](https://developer.mozilla.org/en/docs/Web/API/MediaKeys) to Kotlin
 */
public external abstract class MediaKeys {
    fun createSession(sessionType: MediaKeySessionType = definedExternally): MediaKeySession
    fun setServerCertificate(serverCertificate: dynamic):
    Promise<Boolean>
}

/**
 * Exposes the JavaScript [MediaKeySession](https://developer.mozilla.org/en/docs/Web/API/MediaKeySession) to Kotlin
 */
public external abstract class MediaKeySession : EventTarget {
    open val sessionId: String
    open val expiration: Double
    open val closed: Promise<Unit>
    open val keyStatuses: MediaKeyStatusMap
    open var onkeystatuschange: ((Event) -> dynamic)?
    open var onmessage: ((MessageEvent) -> dynamic)?
    fun
    generateRequest(initDataType: String, initData: dynamic): Promise<Unit>
    fun load(sessionId: String):
    Promise<Boolean>
    fun update(response: dynamic): Promise<Unit>
    fun close(): Promise<Unit>
    fun
    remove(): Promise<Unit>
}

/**
 * Exposes the JavaScript [MediaKeyStatusMap](https://developer.mozilla.org/en/docs/Web/API/MediaKeyStatusMap) to Kotlin
 */
public external abstract class MediaKeyStatusMap {
    open val size: Int
    fun has(keyId: dynamic): Boolean
    fun
    get(keyId: dynamic): Any?
}

/**
 * Exposes the JavaScript [MediaKeyMessageEvent](https://developer.mozilla.org/en/docs/Web/API/MediaKeyMessageEvent) to Kotlin
 */
public external open class MediaKeyMessageEvent(type: String, eventInitDict: MediaKeyMessageEventInit) :
    Event {
    open val messageType: MediaKeyMessageType
    open val message: ArrayBuffer

    companion
    object {
        val NONE: Short
        val CAPTURING_PHASE: Short
        val AT_TARGET: Short
        val BUBBLING_PHASE: Short
    }

    public external interface MediaKeyMessageEventInit : EventInit {
        var messageType: MediaKeyMessageType?
        var message:
        ArrayBuffer?
    }

    @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
    @kotlin.internal.InlineOnly
    public inline fun
    MediaKeyMessageEventInit(messageType: MediaKeyMessageType?, message: ArrayBuffer?, bubbles: Boolean? =
    false, cancelable: Boolean? = false, composed: Boolean? = false): MediaKeyMessageEventInit {
        val o =
        js("{}")
        o["messageType"] = messageType
        o["message"] = message
        o["bubbles"] = bubbles
        o["cancelable"] = cancelable
        o["composed"] = composed
        return o
    }

    public external open class
    MediaEncryptedEvent(type: String, eventInitDict: MediaEncryptedEventInit = definedExternally) : Event {
        open val initDataType: String
        open val initData: ArrayBuffer?

        companion
        object {
            val NONE: Short
            val CAPTURING_PHASE: Short
            val AT_TARGET: Short
            val BUBBLING_PHASE: Short
        }

        public external interface MediaEncryptedEventInit : EventInit {
            var initDataType: String? /* =

```

```

\ " * \ n   get() = definedExternally \ n   set(value) = definedExternally \ n   var initData: ArrayBuffer? /* = null
* \ n   get() = definedExternally \ n   set(value) =
definedExternally \ n } \ n \ n @ Suppress ( \ " INVISIBLE_REFERENCE \ " ,
\ " INVISIBLE_MEMBER \ " ) \ n @ kotlin . internal . InlineOnly \ n public inline fun
MediaEncryptedEventInit ( initDataType: String? = \ " \ " , initData: ArrayBuffer? = null , bubbles: Boolean? = false ,
cancelable: Boolean? = false , composed: Boolean? = false ) : MediaEncryptedEventInit { \ n   val o = js ( \ " ( { } ) \ " ) \ n
o [ \ " initDataType \ " ] = initDataType \ n   o [ \ " initData \ " ] = initData \ n   o [ \ " bubbles \ " ] = bubbles \ n   o [ \ " cancelable \ " ]
= cancelable \ n   o [ \ " composed \ " ] = composed \ n   return o \ n } \ n \ n /* please, don't implement this interface!
* \ n @ JsName ( \ " null \ " ) \ n @ Suppress ( \ " NESTED_CLASS_IN_EXTERNAL_INTERFACE \ " ) \ n public external
interface MediaKeysRequirement { \ n   companion object \ n } \ n \ n public inline val
MediaKeysRequirement . Companion . REQUIRED : MediaKeysRequirement get () =
\ " required \ " . asDynamic () . unsafeCast < MediaKeysRequirement > () \ n \ n public inline val
MediaKeysRequirement . Companion . OPTIONAL : MediaKeysRequirement get () =
\ " optional \ " . asDynamic () . unsafeCast < MediaKeysRequirement > () \ n \ n public inline val
MediaKeysRequirement . Companion . NOT_ALLOWED : MediaKeysRequirement get () = \ " not-
allowed \ " . asDynamic () . unsafeCast < MediaKeysRequirement > () \ n \ n /* please, don't implement this interface!
* \ n @ JsName ( \ " null \ " ) \ n @ Suppress ( \ " NESTED_CLASS_IN_EXTERNAL_INTERFACE \ " ) \ n public external
interface MediaKeySessionType { \ n   companion object \ n } \ n \ n public inline val
MediaKeySessionType . Companion . TEMPORARY : MediaKeySessionType get () =
\ " temporary \ " . asDynamic () . unsafeCast < MediaKeySessionType > () \ n \ n public inline val
MediaKeySessionType . Companion . PERSISTENT_LICENSE : MediaKeySessionType get () = \ " persistent-
license \ " . asDynamic () . unsafeCast < MediaKeySessionType > () \ n \ n /* please, don't implement this interface!
* \ n @ JsName ( \ " null \ " ) \ n @ Suppress ( \ " NESTED_CLASS_IN_EXTERNAL_INTERFACE \ " ) \ n public external
interface MediaKeyStatus { \ n   companion object \ n } \ n \ n public inline val MediaKeyStatus . Companion . USABLE :
MediaKeyStatus get () = \ " usable \ " . asDynamic () . unsafeCast < MediaKeyStatus > () \ n \ n public inline val
MediaKeyStatus . Companion . EXPIRED : MediaKeyStatus get () =
\ " expired \ " . asDynamic () . unsafeCast < MediaKeyStatus > () \ n \ n public inline val
MediaKeyStatus . Companion . RELEASED : MediaKeyStatus get () =
\ " released \ " . asDynamic () . unsafeCast < MediaKeyStatus > () \ n \ n public inline val
MediaKeyStatus . Companion . OUTPUT_RESTRICTED : MediaKeyStatus get () = \ " output-
restricted \ " . asDynamic () . unsafeCast < MediaKeyStatus > () \ n \ n public inline val
MediaKeyStatus . Companion . OUTPUT_DOWNSCALED : MediaKeyStatus get () = \ " output-
downscaled \ " . asDynamic () . unsafeCast < MediaKeyStatus > () \ n \ n public inline val
MediaKeyStatus . Companion . STATUS_PENDING : MediaKeyStatus get () = \ " status-
pending \ " . asDynamic () . unsafeCast < MediaKeyStatus > () \ n \ n public inline val
MediaKeyStatus . Companion . INTERNAL_ERROR : MediaKeyStatus get () = \ " internal-
error \ " . asDynamic () . unsafeCast < MediaKeyStatus > () \ n \ n /* please, don't implement this interface!
* \ n @ JsName ( \ " null \ " ) \ n @ Suppress ( \ " NESTED_CLASS_IN_EXTERNAL_INTERFACE \ " ) \ n public external
interface MediaKeyMessageType { \ n   companion object \ n } \ n \ n public inline val
MediaKeyMessageType . Companion . LICENSE_REQUEST : MediaKeyMessageType get () = \ " license-
request \ " . asDynamic () . unsafeCast < MediaKeyMessageType > () \ n \ n public inline val
MediaKeyMessageType . Companion . LICENSE_RENEWAL : MediaKeyMessageType get () = \ " license-
renewal \ " . asDynamic () . unsafeCast < MediaKeyMessageType > () \ n \ n public inline val
MediaKeyMessageType . Companion . LICENSE_RELEASE : MediaKeyMessageType get () = \ " license-
release \ " . asDynamic () . unsafeCast < MediaKeyMessageType > () \ n \ n public inline val
MediaKeyMessageType . Companion . INDIVIDUALIZATION_REQUEST : MediaKeyMessageType get () =
\ " individualization-request \ " . asDynamic () . unsafeCast < MediaKeyMessageType > () , /* \ n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors. \ n * Use of this source code is governed by the

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Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.events\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\n\n/**\n * Exposes the JavaScript [UIEvent](https://developer.mozilla.org/en/docs/Web/API/UIEvent) to Kotlin\n *\n\npublic external open class UIEvent(type: String, eventInitDict: UIEventInit = definedExternally) : Event {\n open val view: Window?\n open val detail: Int?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n\n\npublic external interface UIEventInit : EventInit {\n var view: Window? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n var detail: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun UIEventInit(view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): UIEventInit {\n val o = js("{}")\n o["view"] = view\n o["detail"] = detail\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [FocusEvent](https://developer.mozilla.org/en/docs/Web/API/FocusEvent) to Kotlin\n *\n\npublic external open class FocusEvent(type: String, eventInitDict: FocusEventInit = definedExternally) : UIEvent {\n open val relatedTarget: EventTarget?\n\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n\n\npublic external interface FocusEventInit : UIEventInit {\n var relatedTarget: EventTarget? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun FocusEventInit(relatedTarget: EventTarget? = null, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): FocusEventInit {\n val o = js("{}")\n o["relatedTarget"] = relatedTarget\n o["view"] = view\n o["detail"] = detail\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [MouseEvent](https://developer.mozilla.org/en/docs/Web/API/MouseEvent) to Kotlin\n *\n\npublic external open class MouseEvent(type: String, eventInitDict: MouseEventInit = definedExternally) : UIEvent, UnionElementOrMouseEvent {\n open val screenX: Int\n open val screenY: Int\n open val clientX: Int\n open val clientY: Int\n open val ctrlKey: Boolean\n open val shiftKey: Boolean\n open val altKey: Boolean\n open val metaKey: Boolean\n open val button: Short\n open val buttons: Short\n open val relatedTarget: EventTarget?\n open val region: String?\n open val pageX: Double\n open val pageY: Double\n open val x: Double\n open val y: Double\n open val offsetX: Double\n open val offsetY: Double\n fun getModifierState(keyArg: String): Boolean\n\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n\n\npublic external interface MouseEventInit : EventModifierInit {\n var screenX: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var screenY: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var clientX: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var clientY: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var button: Short? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var buttons: Short? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var relatedTarget: EventTarget? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n var region: String? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun MouseEventInit(screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false,

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modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false,
modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): MouseEventInit {\n  val o =
js("{}")\n  o["screenX"] = screenX\n  o["screenY"] = screenY\n  o["clientX"] = clientX\n  o["clientY"]
= clientY\n  o["button"] = button\n  o["buttons"] = buttons\n  o["relatedTarget"] = relatedTarget\n
o["region"] = region\n  o["ctrlKey"] = ctrlKey\n  o["shiftKey"] = shiftKey\n  o["altKey"] = altKey\n
o["metaKey"] = metaKey\n  o["modifierAltGraph"] = modifierAltGraph\n  o["modifierCapsLock"] =
modifierCapsLock\n  o["modifierFn"] = modifierFn\n  o["modifierFnLock"] = modifierFnLock\n
o["modifierHyper"] = modifierHyper\n  o["modifierNumLock"] = modifierNumLock\n
o["modifierScrollLock"] = modifierScrollLock\n  o["modifierSuper"] = modifierSuper\n
o["modifierSymbol"] = modifierSymbol\n  o["modifierSymbolLock"] = modifierSymbolLock\n  o["view"] =
view\n  o["detail"] = detail\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] =
composed\n  return o\n}\n\npublic external interface EventModifierInit : UIEventInit {\n  var ctrlKey: Boolean?
/* = false */\n  get() = definedExternally\n  set(value) = definedExternally\n  var shiftKey: Boolean? /* =
false */\n  get() = definedExternally\n  set(value) = definedExternally\n  var altKey: Boolean? /* = false
*/\n  get() = definedExternally\n  set(value) = definedExternally\n  var metaKey: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var modifierAltGraph: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var modifierCapsLock: Boolean? /* = false
*/\n  get() = definedExternally\n  set(value) = definedExternally\n  var modifierFn: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var modifierFnLock: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var modifierHyper: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var modifierNumLock: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var modifierScrollLock: Boolean? /* = false
*/\n  get() = definedExternally\n  set(value) = definedExternally\n  var modifierSuper: Boolean? /* = false
*/\n  get() = definedExternally\n  set(value) = definedExternally\n  var modifierSymbol: Boolean? /* = false
*/\n  get() = definedExternally\n  set(value) = definedExternally\n  var modifierSymbolLock: Boolean? /* =
false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun EventModifierInit(ctrlKey: Boolean? =
false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph:
Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? =
false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false,
modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view:
Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): EventModifierInit {\n  val o = js("{}")\n  o["ctrlKey"] = ctrlKey\n  o["shiftKey"] = shiftKey\n
o["altKey"] = altKey\n  o["metaKey"] = metaKey\n  o["modifierAltGraph"] = modifierAltGraph\n
o["modifierCapsLock"] = modifierCapsLock\n  o["modifierFn"] = modifierFn\n  o["modifierFnLock"] =
modifierFnLock\n  o["modifierHyper"] = modifierHyper\n  o["modifierNumLock"] = modifierNumLock\n
o["modifierScrollLock"] = modifierScrollLock\n  o["modifierSuper"] = modifierSuper\n
o["modifierSymbol"] = modifierSymbol\n  o["modifierSymbolLock"] = modifierSymbolLock\n  o["view"] =
view\n  o["detail"] = detail\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] =
composed\n  return o\n}\n\n/*\n * Exposes the JavaScript
[WheelEvent](https://developer.mozilla.org/en/docs/Web/API/WheelEvent) to Kotlin\n */\n\npublic external open
class WheelEvent(type: String, eventInitDict: WheelEventInit = definedExternally) : MouseEvent {\n  open val
deltaX: Double\n  open val deltaY: Double\n  open val deltaZ: Double\n  open val deltaMode: Int\n\n  companion
object {\n    val DOM_DELTA_PIXEL: Int\n    val DOM_DELTA_LINE: Int\n    val
DOM_DELTA_PAGE: Int\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val
AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface WheelEventInit :

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MouseEventInit {\n    var deltaX: Double? /* = 0.0 */\n        get() = definedExternally\n        set(value) = definedExternally\n    var deltaY: Double? /* = 0.0 */\n        get() = definedExternally\n        set(value) = definedExternally\n    var deltaZ: Double? /* = 0.0 */\n        get() = definedExternally\n        set(value) = definedExternally\n    var deltaMode: Int? /* = 0 */\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun WheelEventInit(deltaX: Double? = 0.0, deltaY: Double? = 0.0, deltaZ: Double? = 0.0, deltaMode: Int? = 0, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): WheelEventInit {\n    val o = js(\"({})\")\n    o[\"deltaX\"] = deltaX\n    o[\"deltaY\"] = deltaY\n    o[\"deltaZ\"] = deltaZ\n    o[\"deltaMode\"] = deltaMode\n    o[\"screenX\"] = screenX\n    o[\"screenY\"] = screenY\n    o[\"clientX\"] = clientX\n    o[\"clientY\"] = clientY\n    o[\"button\"] = button\n    o[\"buttons\"] = buttons\n    o[\"relatedTarget\"] = relatedTarget\n    o[\"region\"] = region\n    o[\"ctrlKey\"] = ctrlKey\n    o[\"shiftKey\"] = shiftKey\n    o[\"altKey\"] = altKey\n    o[\"metaKey\"] = metaKey\n    o[\"modifierAltGraph\"] = modifierAltGraph\n    o[\"modifierCapsLock\"] = modifierCapsLock\n    o[\"modifierFn\"] = modifierFn\n    o[\"modifierFnLock\"] = modifierFnLock\n    o[\"modifierHyper\"] = modifierHyper\n    o[\"modifierNumLock\"] = modifierNumLock\n    o[\"modifierScrollLock\"] = modifierScrollLock\n    o[\"modifierSuper\"] = modifierSuper\n    o[\"modifierSymbol\"] = modifierSymbol\n    o[\"modifierSymbolLock\"] = modifierSymbolLock\n    o[\"view\"] = view\n    o[\"detail\"] = detail\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\n/**\n * Exposes the JavaScript [InputEvent](https://developer.mozilla.org/en/docs/Web/API/InputEvent) to Kotlin\n */\npublic external open class InputEvent(type: String, eventInitDict: InputEventInit = definedExternally) : UIEvent {\n    open val data: String\n    open val isComposing: Boolean\n\n    companion object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n\n    public external interface InputEventInit : UIEventInit {\n        var data: String? /* = \"\" */\n        get() = definedExternally\n        set(value) = definedExternally\n        var isComposing: Boolean? /* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n    }\n\n    @Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n    @kotlin.internal.InlineOnly\n    public inline fun InputEventInit(data: String? = \"\", isComposing: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): InputEventInit {\n        val o = js(\"({})\")\n        o[\"data\"] = data\n        o[\"isComposing\"] = isComposing\n        o[\"view\"] = view\n        o[\"detail\"] = detail\n        o[\"bubbles\"] = bubbles\n        o[\"cancelable\"] = cancelable\n        o[\"composed\"] = composed\n        return o\n    }\n\n    /**\n     * Exposes the JavaScript [KeyboardEvent](https://developer.mozilla.org/en/docs/Web/API/KeyboardEvent) to Kotlin\n     */\n    public external open class KeyboardEvent(type: String, eventInitDict: KeyboardEventInit = definedExternally) : UIEvent {\n        open val key: String\n        open val code: String\n        open val location: Int\n        open val ctrlKey: Boolean\n        open val shiftKey: Boolean\n        open val altKey: Boolean\n        open val metaKey: Boolean\n        open val repeat: Boolean\n        open val isComposing: Boolean\n        open val charCode: Int\n        open val keyCode: Int\n        open val which: Int\n        fun getModifierState(keyArg: String): Boolean\n\n        companion object {\n            val DOM_KEY_LOCATION_STANDARD: Int\n            val DOM_KEY_LOCATION_LEFT: Int\n            val DOM_KEY_LOCATION_RIGHT: Int\n            val DOM_KEY_LOCATION_NUMPAD: Int\n            val NONE: Short\n            val CAPTURING_PHASE: Short\n            val AT_TARGET: Short\n            val BUBBLING_PHASE: Short\n        }\n\n        public external interface KeyboardEventInit : EventModifierInit {\n            var key: String? /* = \"\" */\n            * get() = definedExternally\n            set(value) = definedExternally\n            var code: String? /* = \"\" */\n            * get() = definedExternally\n            set(value) = definedExternally\n            var location: Int? /* = 0 */\n            * get() =

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definedExternally\n    set(value) = definedExternally\n    var repeat: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var isComposing: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun KeyboardEventInit(key: String? = \"\",
code: String? = \"\", location: Int? = 0, repeat: Boolean? = false, isComposing: Boolean? = false, ctrlKey: Boolean?
= false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph:
Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? =
false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false,
modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view:
Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): KeyboardEventInit {\n    val o = js(\"({})\")\n    o[\"key\"] = key\n    o[\"code\"] = code\n    o[\"location\"] =
location\n    o[\"repeat\"] = repeat\n    o[\"isComposing\"] = isComposing\n    o[\"ctrlKey\"] = ctrlKey\n
o[\"shiftKey\"] = shiftKey\n    o[\"altKey\"] = altKey\n    o[\"metaKey\"] = metaKey\n    o[\"modifierAltGraph\"] =
modifierAltGraph\n    o[\"modifierCapsLock\"] = modifierCapsLock\n    o[\"modifierFn\"] = modifierFn\n
o[\"modifierFnLock\"] = modifierFnLock\n    o[\"modifierHyper\"] = modifierHyper\n    o[\"modifierNumLock\"] =
modifierNumLock\n    o[\"modifierScrollLock\"] = modifierScrollLock\n    o[\"modifierSuper\"] = modifierSuper\n
o[\"modifierSymbol\"] = modifierSymbol\n    o[\"modifierSymbolLock\"] = modifierSymbolLock\n    o[\"view\"] =
view\n    o[\"detail\"] = detail\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] =
composed\n    return o\n}\n\n/**\n * Exposes the JavaScript
[CompositionEvent](https://developer.mozilla.org/en/docs/Web/API/CompositionEvent) to Kotlin\n */\npublic
external open class CompositionEvent(type: String, eventInitDict: CompositionEventInit = definedExternally) :
UIEvent {\n    open val data: String\n    companion object {\n        val NONE: Short\n        val
CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface CompositionEventInit : UIEventInit {\n    var data: String? /* = \"\" */\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun CompositionEventInit(data: String? =
\"\", view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): CompositionEventInit {\n    val o = js(\"({})\")\n    o[\"data\"] = data\n    o[\"view\"] = view\n
o[\"detail\"] = detail\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] =
composed\n    return o\n}\n\n/**\n * Exposes the JavaScript
[Event](https://developer.mozilla.org/en/docs/Web/API/Event) to Kotlin\n */\npublic external open class
Event(type: String, eventInitDict: EventInit = definedExternally) {\n    open val type: String\n    open val target:
EventTarget?\n    open val currentTarget: EventTarget?\n    open val eventPhase: Short\n    open val bubbles:
Boolean\n    open val cancelable: Boolean\n    open val defaultPrevented: Boolean\n    open val composed:
Boolean\n    open val isTrusted: Boolean\n    open val timeStamp: Number\n    fun composedPath():
Array<EventTarget>\n    fun stopPropagation()\n    fun stopImmediatePropagation()\n    fun preventDefault()\n
fun initEvent(type: String, bubbles: Boolean, cancelable: Boolean)\n\n    companion object {\n        val NONE:
Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE:
Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[EventTarget](https://developer.mozilla.org/en/docs/Web/API/EventTarget) to Kotlin\n */\npublic external abstract
class EventTarget {\n    fun addEventListener(type: String, callback: EventListener?, options: dynamic =
definedExternally)\n    fun addEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic =
definedExternally)\n    fun removeEventListener(type: String, callback: EventListener?, options: dynamic =
definedExternally)\n    fun removeEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic =
definedExternally)\n    fun dispatchEvent(event: Event): Boolean\n}\n\n/**\n * Exposes the JavaScript
[EventListener](https://developer.mozilla.org/en/docs/Web/API/EventListener) to Kotlin\n */\npublic external
interface EventListener {\n    fun handleEvent(event: Event)\n}\n\n\", /*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that

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can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external abstract class HTMLAllCollection {\n open val length: Int\n fun item(nameOrIndex: String = definedExternally): UnionElementOrHTMLCollection?\n fun namedItem(name: String): UnionElementOrHTMLCollection?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLAllCollection.get(index: Int): Element? = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLAllCollection.get(name: String): UnionElementOrHTMLCollection? = asDynamic()[name]\n\n\n/**\n * Exposes the JavaScript [HTMLFormControlsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLFormControlsCollection) to Kotlin\n */\npublic external abstract class HTMLFormControlsCollection : HTMLCollection\n\n\n/**\n * Exposes the JavaScript [RadioNodeList](https://developer.mozilla.org/en/docs/Web/API/RadioNodeList) to Kotlin\n */\npublic external abstract class RadioNodeList : NodeList, UnionElementOrRadioNodeList {\n open var value: String\n}\n\n\n/**\n * Exposes the JavaScript [HTMLOptionsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionsCollection) to Kotlin\n */\npublic external abstract class HTMLOptionsCollection : HTMLCollection {\n override var length: Int\n open var selectedIndex: Int\n fun add(element: UnionHTMLOptGroupElementOrHTMLOptionElement, before: dynamic = definedExternally)\n fun remove(index: Int)\n}\n\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLOptionsCollection.set(index: Int, option: HTMLOptionElement?) { asDynamic()[index] = option }\n\n\n/**\n * Exposes the JavaScript [HTMLElement](https://developer.mozilla.org/en/docs/Web/API/HTMLElement) to Kotlin\n */\npublic external abstract class HTMLElement : Element, GlobalEventHandlers, DocumentAndElementEventHandlers, ElementContentEditable, ElementCSSInlineStyle {\n open var title: String\n open var lang: String\n open var translate: Boolean\n open var dir: String\n open val dataset: DOMStringMap\n open var hidden: Boolean\n open var tabIndex: Int\n open var accessKey: String\n open val accessKeyLabel: String\n open var draggable: Boolean\n open val dropzone: DOMTokenList\n open var contextMenu: HTMLMenuElement?\n open var spellcheck: Boolean\n open var innerText: String\n open val offsetParent: Element?\n open val offsetTop: Int\n open val offsetLeft: Int\n open val offsetWidth: Int\n open val offsetHeight: Int\n fun click()\n fun focus()\n fun blur()\n fun forceSpellCheck()\n}\n\n\ncompanion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n}\n}\n\n\n/**\n * Exposes the JavaScript [HTMLUnknownElement](https://developer.mozilla.org/en/docs/Web/API/HTMLUnknownElement) to Kotlin\n */\npublic external abstract class HTMLUnknownElement : HTMLElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n }\n}\n

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Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[DOMStringMap](https://developer.mozilla.org/en/docs/Web/API/DOMStringMap) to Kotlin\n *\npublic external
abstract class DOMStringMap\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun DOMStringMap.get(name:
String): String? = asDynamic()[name]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun DOMStringMap.set(name:
String, value: String) { asDynamic()[name] = value }\n\n\n/**\n * Exposes the JavaScript
[HTMLHtmlElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHtmlElement) to Kotlin\n *\npublic
external abstract class HTMLHtmlElement : HTMLElement {\n    open var version: String\n\n    companion object
{\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n\n/**\n * Exposes the JavaScript
[HTMLHeadElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadElement) to Kotlin\n *\npublic
external abstract class HTMLHeadElement : HTMLElement {\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n\n/**\n * Exposes the JavaScript
[HTMLTitleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTitleElement) to Kotlin\n *\npublic
external abstract class HTMLTitleElement : HTMLElement {\n    open var text: String\n\n    companion object {\n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n\n/**\n * Exposes the JavaScript
[HTMLBaseElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBaseElement) to Kotlin\n *\npublic
external abstract class HTMLBaseElement : HTMLElement {\n    open var href: String\n    open var target:

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String companion object {
    val ELEMENT_NODE: Short
    val ATTRIBUTE_NODE: Short
    val TEXT_NODE: Short
    val CDATA_SECTION_NODE: Short
    val ENTITY_REFERENCE_NODE: Short
    val ENTITY_NODE: Short
    val PROCESSING_INSTRUCTION_NODE: Short
    val COMMENT_NODE: Short
    val DOCUMENT_NODE: Short
    val DOCUMENT_TYPE_NODE: Short
    val DOCUMENT_FRAGMENT_NODE: Short
    val NOTATION_NODE: Short
    val DOCUMENT_POSITION_DISCONNECTED: Short
    val DOCUMENT_POSITION_PRECEDING: Short
    val DOCUMENT_POSITION_FOLLOWING: Short
    val DOCUMENT_POSITION_CONTAINS: Short
    val DOCUMENT_POSITION_CONTAINED_BY: Short
    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short }
}

/** Exposes the JavaScript [HTMLLinkElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLinkElement) to Kotlin */
@public external abstract class HTMLLinkElement : HTMLElement, LinkStyle {
    open var href: String
    open var crossOrigin: String?
    open var rel: String
    open var `as`: RequestDestination
    open val relList: DOMTokenList
    open var media: String
    open var nonce: String
    open var hreflang: String
    open var type: String
    open val sizes: DOMTokenList
    open varreferrerPolicy: String
    open var charset: String
    open var rev: String
    open var target: String
    open var scope: String
    open var workerType: WorkerType
}

companion object {
    val ELEMENT_NODE: Short
    val ATTRIBUTE_NODE: Short
    val TEXT_NODE: Short
    val CDATA_SECTION_NODE: Short
    val ENTITY_REFERENCE_NODE: Short
    val ENTITY_NODE: Short
    val PROCESSING_INSTRUCTION_NODE: Short
    val COMMENT_NODE: Short
    val DOCUMENT_NODE: Short
    val DOCUMENT_TYPE_NODE: Short
    val DOCUMENT_FRAGMENT_NODE: Short
    val NOTATION_NODE: Short
    val DOCUMENT_POSITION_DISCONNECTED: Short
    val DOCUMENT_POSITION_PRECEDING: Short
    val DOCUMENT_POSITION_FOLLOWING: Short
    val DOCUMENT_POSITION_CONTAINS: Short
    val DOCUMENT_POSITION_CONTAINED_BY: Short
    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short }
}

/** Exposes the JavaScript [HTMLMetaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMetaElement) to Kotlin */
@public external abstract class HTMLMetaElement : HTMLElement {
    open var name: String
    open var httpEquiv: String
    open var content: String
    open var scheme: String
}

companion object {
    val ELEMENT_NODE: Short
    val ATTRIBUTE_NODE: Short
    val TEXT_NODE: Short
    val CDATA_SECTION_NODE: Short
    val ENTITY_REFERENCE_NODE: Short
    val ENTITY_NODE: Short
    val PROCESSING_INSTRUCTION_NODE: Short
    val COMMENT_NODE: Short
    val DOCUMENT_NODE: Short
    val DOCUMENT_TYPE_NODE: Short
    val DOCUMENT_FRAGMENT_NODE: Short
    val NOTATION_NODE: Short
    val DOCUMENT_POSITION_DISCONNECTED: Short
    val DOCUMENT_POSITION_PRECEDING: Short
    val DOCUMENT_POSITION_FOLLOWING: Short
    val DOCUMENT_POSITION_CONTAINS: Short
    val DOCUMENT_POSITION_CONTAINED_BY: Short
    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short }
}

/** Exposes the JavaScript [HTMLStyleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLStyleElement) to Kotlin */
@public external abstract class HTMLStyleElement : HTMLElement, LinkStyle {
    open var media: String
    open var nonce: String
    open var type: String
}

companion object {
    val ELEMENT_NODE: Short
    val ATTRIBUTE_NODE: Short
    val TEXT_NODE: Short
    val CDATA_SECTION_NODE: Short
    val ENTITY_REFERENCE_NODE: Short
    val ENTITY_NODE: Short
    val PROCESSING_INSTRUCTION_NODE: Short
    val COMMENT_NODE: Short
    val DOCUMENT_NODE: Short
    val DOCUMENT_TYPE_NODE: Short
    val DOCUMENT_FRAGMENT_NODE: Short
    val NOTATION_NODE: Short
    val DOCUMENT_POSITION_DISCONNECTED: Short
    val DOCUMENT_POSITION_PRECEDING: Short
    val DOCUMENT_POSITION_FOLLOWING: Short
    val DOCUMENT_POSITION_CONTAINS: Short
    val DOCUMENT_POSITION_CONTAINED_BY: Short
}

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DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n * Exposes the JavaScript [HTMLBodyElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBodyElement) to Kotlin\n * public external abstract class HTMLBodyElement : HTMLInputElement, WindowEventHandlers {\n open var text: String\n open var link: String\n open var vLink: String\n open var aLink: String\n open var bgColor: String\n open var background: String\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n * Exposes the JavaScript [HTMLHeadingElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadingElement) to Kotlin\n * public external abstract class HTMLHeadingElement : HTMLInputElement {\n open var align: String\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n * Exposes the JavaScript [HTMLParagraphElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParagraphElement) to Kotlin\n * public external abstract class HTMLParagraphElement : HTMLInputElement {\n open var align: String\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n * Exposes the JavaScript [HTMLHRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHRElement) to Kotlin\n * public external abstract class HTMLHRElement : HTMLInputElement {\n open var align: String\n open var color: String\n open var noShade: Boolean\n open var size: String\n open var width: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n * Exposes the JavaScript

[HTMLPreElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPreElement) to Kotlin\n *^\\npublic external abstract class HTMLPreElement : HTMLElement {\n open var width: Int\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\\n}\\n\\n/**\n * Exposes the JavaScript

[HTMLQuoteElement](https://developer.mozilla.org/en/docs/Web/API/HTMLQuoteElement) to Kotlin\n *^\\npublic external abstract class HTMLQuoteElement : HTMLElement {\n open var cite: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\\n}\\n\\n/**\n * Exposes the JavaScript

[HTMLLOListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLOListElement) to Kotlin\n *^\\npublic external abstract class HTMLLOListElement : HTMLElement {\n open var reversed: Boolean\n open var start: Int\n open var type: String\n open var compact: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\\n}\\n\\n/**\n * Exposes the JavaScript

[HTMLLUListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLUListElement) to Kotlin\n *^\\npublic external abstract class HTMLLUListElement : HTMLElement {\n open var compact: Boolean\n open var type: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\\n}\\n\\n/**\n * Exposes the JavaScript

[HTMLLIElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLIElement) to Kotlin\n *^\\npublic external abstract class HTMLLIElement : HTMLElement {\n open var value: Int\n open var type: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val

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TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLDListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDListElement) to Kotlin\n */\npublic
external abstract class HTMLDListElement : HTMLInputElement {\n    open var compact: Boolean\n\n    companion
object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE:
Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLDivElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDivElement) to Kotlin\n */\npublic
external abstract class HTMLDivElement : HTMLInputElement {\n    open var align: String\n\n    companion object {\n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLAnchorElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAnchorElement) to Kotlin\n
*/\npublic external abstract class HTMLAnchorElement : HTMLInputElement, HTMLHyperlinkElementUtils {\n    open
var target: String\n    open var download: String\n    open var ping: String\n    open var rel: String\n    open val
relList: DOMTokenList\n    open var hreflang: String\n    open var type: String\n    open var text: String\n    open
var referrerPolicy: String\n    open var coords: String\n    open var charset: String\n    open var name: String\n
    open var rev: String\n    open var shape: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n
        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n
        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLDataElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataElement) to Kotlin\n */\npublic
external abstract class HTMLDataElement : HTMLInputElement {\n    open var value: String\n\n    companion object {\n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val

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CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLTimeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTimeElement) to Kotlin \n * \n public
external abstract class HTMLTimeElement : HTMLElement { \n    open var dateTime: String \n \n    companion
object { \n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE:
Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLSpanElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSpanElement) to Kotlin \n * \n public
external abstract class HTMLSpanElement : HTMLElement { \n    companion object { \n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLBRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBRElement) to Kotlin \n * \n public
external abstract class HTMLBRElement : HTMLElement { \n    open var clear: String \n \n    companion object { \n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLHyperlinkElementUtils](https://developer.mozilla.org/en/docs/Web/API/HTMLHyperlinkElementUtils) to
Kotlin \n * \n public external interface HTMLHyperlinkElementUtils { \n    var href: String\n    val origin: String\n
var protocol: String\n    var username: String\n    var password: String\n    var host: String\n    var hostname:
String\n    var port: String\n    var pathname: String\n    var search: String\n    var hash: String \n} \n \n /** \n * Exposes
the JavaScript [HTMLModElement](https://developer.mozilla.org/en/docs/Web/API/HTMLModElement) to
Kotlin \n * \n public external abstract class HTMLModElement : HTMLElement { \n    open var cite: String\n    open
var dateTime: String \n \n    companion object { \n        val ELEMENT_NODE: Short\n        val

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ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLPictureElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPictureElement) to Kotlin \n
*\npublic external abstract class HTMLPictureElement : HTMLInputElement { \n    companion object { \n        val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLSourceElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSourceElement) to Kotlin \n
*\npublic external abstract class HTMLSourceElement : HTMLInputElement { \n    open var src: String \n    open var
type: String \n    open var srcset: String \n    open var sizes: String \n    open var media: String \n \n    companion object
{ \n        val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n
    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val
ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE:
Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLImageElement](https://developer.mozilla.org/en/docs/Web/API/HTMLImageElement) to Kotlin \n
*\npublic external abstract class HTMLImageElement : HTMLInputElement, HTMLCanvasElement,
TexImageSource { \n    open var alt: String \n    open var src: String \n    open var srcset: String \n    open var sizes:
String \n    open var crossOrigin: String? \n    open var useMap: String \n    open var isMap: Boolean \n    open var
width: Int \n    open var height: Int \n    open val naturalWidth: Int \n    open val naturalHeight: Int \n    open val
complete: Boolean \n    open val currentSrc: String \n    open var referrerPolicy: String \n    open var name: String \n
    open var lowsrc: String \n    open var align: String \n    open var hspace: Int \n    open var vspace: Int \n    open var
longDesc: String \n    open var border: String \n    open val x: Int \n    open val y: Int \n \n    companion object { \n
        val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val

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DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLIFrameElement](https://developer.mozilla.org/en/docs/Web/API/HTMLIFrameElement) to Kotlin\n
*\n\npublic external abstract class HTMLIFrameElement : HTMLInputElement {\n  open var src: String\n  open var
srcdoc: String\n  open var name: String\n  open val sandbox: DOMTokenList\n  open var allowFullscreen:
Boolean\n  open var allowUserMedia: Boolean\n  open var width: String\n  open var height: String\n  open var
referrerPolicy: String\n  open val contentDocument: Document?\n  open val contentWindow: Window?\n  open
var align: String\n  open var scrolling: String\n  open var frameBorder: String\n  open var longDesc: String\n
open var marginHeight: String\n  open var marginWidth: String\n  fun getSVGDocument(): Document?\n\n
companion object {\n  val ELEMENT_NODE: Short\n  val ATTRIBUTE_NODE: Short\n  val
TEXT_NODE: Short\n  val CDATA_SECTION_NODE: Short\n  val ENTITY_REFERENCE_NODE:
Short\n  val ENTITY_NODE: Short\n  val PROCESSING_INSTRUCTION_NODE: Short\n  val
COMMENT_NODE: Short\n  val DOCUMENT_NODE: Short\n  val DOCUMENT_TYPE_NODE: Short\n
  val DOCUMENT_FRAGMENT_NODE: Short\n  val NOTATION_NODE: Short\n  val
DOCUMENT_POSITION_DISCONNECTED: Short\n  val DOCUMENT_POSITION_PRECEDING: Short\n
  val DOCUMENT_POSITION_FOLLOWING: Short\n  val DOCUMENT_POSITION_CONTAINS: Short\n
  val DOCUMENT_POSITION_CONTAINED_BY: Short\n  val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLEmbedElement](https://developer.mozilla.org/en/docs/Web/API/HTMLEmbedElement) to Kotlin\n
*\n\npublic external abstract class HTMLEmbedElement : HTMLInputElement {\n  open var src: String\n  open var
type: String\n  open var width: String\n  open var height: String\n  open var align: String\n  open var name:
String\n  fun getSVGDocument(): Document?\n\n  companion object {\n  val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n  val TEXT_NODE: Short\n  val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n  val ENTITY_NODE: Short\n  val
PROCESSING_INSTRUCTION_NODE: Short\n  val COMMENT_NODE: Short\n  val
DOCUMENT_NODE: Short\n  val DOCUMENT_TYPE_NODE: Short\n  val
DOCUMENT_FRAGMENT_NODE: Short\n  val NOTATION_NODE: Short\n  val
DOCUMENT_POSITION_DISCONNECTED: Short\n  val DOCUMENT_POSITION_PRECEDING: Short\n
  val DOCUMENT_POSITION_FOLLOWING: Short\n  val DOCUMENT_POSITION_CONTAINS: Short\n
  val DOCUMENT_POSITION_CONTAINED_BY: Short\n  val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLObjectElement](https://developer.mozilla.org/en/docs/Web/API/HTMLObjectElement) to Kotlin\n
*\n\npublic external abstract class HTMLObjectElement : HTMLInputElement {\n  open var data: String\n  open var
type: String\n  open var typeMustMatch: Boolean\n  open var name: String\n  open var useMap: String\n  open
val form: HTMLFormElement?\n  open var width: String\n  open var height: String\n  open val
contentDocument: Document?\n  open val contentWindow: Window?\n  open val willValidate: Boolean\n  open
val validity: ValidityState\n  open val validationMessage: String\n  open var align: String\n  open var archive:
String\n  open var code: String\n  open var declare: Boolean\n  open var hspace: Int\n  open var standby:
String\n  open var vspace: Int\n  open var codeBase: String\n  open var codeType: String\n  open var border:
String\n  fun getSVGDocument(): Document?\n  fun checkValidity(): Boolean\n  fun reportValidity():
Boolean\n  fun setCustomValidity(error: String)\n\n  companion object {\n  val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n  val TEXT_NODE: Short\n  val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n  val ENTITY_NODE: Short\n  val
PROCESSING_INSTRUCTION_NODE: Short\n  val COMMENT_NODE: Short\n  val
DOCUMENT_NODE: Short\n  val DOCUMENT_TYPE_NODE: Short\n  val
DOCUMENT_FRAGMENT_NODE: Short\n  val NOTATION_NODE: Short\n  val
DOCUMENT_POSITION_DISCONNECTED: Short\n  val DOCUMENT_POSITION_PRECEDING: Short\n
  val DOCUMENT_POSITION_FOLLOWING: Short\n  val DOCUMENT_POSITION_CONTAINS: Short\n
  val DOCUMENT_POSITION_CONTAINED_BY: Short\n  val

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DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n\n * Exposes the JavaScript [HTMLParamElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParamElement) to Kotlin\n *\n\npublic external abstract class HTMLParamElement : HTMLInputElement {\n open var name: String\n open var value: String\n open var type: String\n open var valueType: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n\n * Exposes the JavaScript [HTMLVideoElement](https://developer.mozilla.org/en/docs/Web/API/HTMLVideoElement) to Kotlin\n *\n\npublic external abstract class HTMLVideoElement : HTMLMediaElement, CanvasImageSource, TexImageSource {\n open var width: Int\n open var height: Int\n open val videoWidth: Int\n open val videoHeight: Int\n open var poster: String\n open var playsInline: Boolean\n\n companion object {\n val NETWORK_EMPTY: Short\n val NETWORK_IDLE: Short\n val NETWORK_LOADING: Short\n val NETWORK_NO_SOURCE: Short\n val HAVE_NOTHING: Short\n val HAVE_METADATA: Short\n val HAVE_CURRENT_DATA: Short\n val HAVE_FUTURE_DATA: Short\n val HAVE_ENOUGH_DATA: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n\n * Exposes the JavaScript [HTMLAudioElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAudioElement) to Kotlin\n *\n\npublic external abstract class HTMLAudioElement : HTMLMediaElement {\n companion object {\n val NETWORK_EMPTY: Short\n val NETWORK_IDLE: Short\n val NETWORK_LOADING: Short\n val NETWORK_NO_SOURCE: Short\n val HAVE_NOTHING: Short\n val HAVE_METADATA: Short\n val HAVE_CURRENT_DATA: Short\n val HAVE_FUTURE_DATA: Short\n val HAVE_ENOUGH_DATA: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n\n * Exposes the JavaScript [HTMLTrackElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTrackElement) to Kotlin\n *\n\npublic external abstract class HTMLTrackElement : HTMLInputElement {\n open var kind: String\n open var src: String\n open var srclang: String\n open var label: String\n open var default: Boolean\n open val readyState: Short\n open val track: TextTrack\n\n companion object {\n val NONE: Short\n val LOADING: Short\n val LOADED: Short\n val ERROR: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:

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Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLMediaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMediaElement) to Kotlin \n
*\npublic external abstract class HTMLMediaElement : HTMLMediaElement { \n    open val error: MediaError? \n    open
var src: String \n    open val srcObject: MediaProvider? \n    open val currentSrc: String \n    open val crossOrigin:
String? \n    open val networkState: Short \n    open val preload: String \n    open val buffered: TimeRanges \n    open
val readyState: Short \n    open val seeking: Boolean \n    open val currentTime: Double \n    open val duration:
Double \n    open val paused: Boolean \n    open val defaultPlaybackRate: Double \n    open val playbackRate:
Double \n    open val played: TimeRanges \n    open val seekable: TimeRanges \n    open val ended: Boolean \n    open
var autoplay: Boolean \n    open var loop: Boolean \n    open var controls: Boolean \n    open var volume: Double \n
    open var muted: Boolean \n    open var defaultMuted: Boolean \n    open val audioTracks: AudioTrackList \n    open
val videoTracks: VideoTrackList \n    open val textTracks: TextTrackList \n    open val mediaKeys: MediaKeys? \n
    open var onencrypted: ((Event) -> dynamic)? \n    open var onwaitingforkey: ((Event) -> dynamic)? \n    fun load() \n
    fun canPlayType(type: String): CanPlayTypeResult \n    fun fastSeek(time: Double) \n    fun getStartDate():
dynamic \n    fun play(): Promise<Unit> \n    fun pause() \n    fun addTextTrack(kind: TextTrackKind, label: String =
definedExternally, language: String = definedExternally): TextTrack \n    fun setMediaKeys(mediaKeys:
MediaKeys?): Promise<Unit> \n \n    companion object { \n        val NETWORK_EMPTY: Short \n        val
NETWORK_IDLE: Short \n        val NETWORK_LOADING: Short \n        val NETWORK_NO_SOURCE: Short \n
        val HAVE_NOTHING: Short \n        val HAVE_METADATA: Short \n        val HAVE_CURRENT_DATA:
Short \n        val HAVE_FUTURE_DATA: Short \n        val HAVE_ENOUGH_DATA: Short \n        val
ELEMENT_NODE: Short \n        val ATTRIBUTE_NODE: Short \n        val TEXT_NODE: Short \n        val
CDATA_SECTION_NODE: Short \n        val ENTITY_REFERENCE_NODE: Short \n        val ENTITY_NODE:
Short \n        val PROCESSING_INSTRUCTION_NODE: Short \n        val COMMENT_NODE: Short \n        val
DOCUMENT_NODE: Short \n        val DOCUMENT_TYPE_NODE: Short \n        val
DOCUMENT_FRAGMENT_NODE: Short \n        val NOTATION_NODE: Short \n        val
DOCUMENT_POSITION_DISCONNECTED: Short \n        val DOCUMENT_POSITION_PRECEDING: Short \n
        val DOCUMENT_POSITION_FOLLOWING: Short \n        val DOCUMENT_POSITION_CONTAINS: Short \n
        val DOCUMENT_POSITION_CONTAINED_BY: Short \n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[MediaError](https://developer.mozilla.org/en/docs/Web/API/MediaError) to Kotlin \n
*\npublic external abstract
class MediaError { \n    open val code: Short \n \n    companion object { \n        val MEDIA_ERR_ABORTED: Short \n
        val MEDIA_ERR_NETWORK: Short \n        val MEDIA_ERR_DECODE: Short \n        val
MEDIA_ERR_SRC_NOT_SUPPORTED: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[AudioTrackList](https://developer.mozilla.org/en/docs/Web/API/AudioTrackList) to Kotlin \n
*\npublic external
abstract class AudioTrackList : EventTarget { \n    open val length: Int \n    open var onchange: ((Event) ->
dynamic)? \n    open var onaddtrack: ((TrackEvent) -> dynamic)? \n    open var onremovetrack: ((TrackEvent) ->
dynamic)? \n    fun getTrackById(id: String): AudioTrack? \n} \n \n @Suppress("\nINVISIBLE_REFERENCE",
\nINVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun AudioTrackList.get(index:
Int): AudioTrack? = asDynamic()[index] \n \n /** \n * Exposes the JavaScript
[AudioTrack](https://developer.mozilla.org/en/docs/Web/API/AudioTrack) to Kotlin \n
*\npublic external abstract
class AudioTrack : UnionAudioTrackOrTextTrackOrVideoTrack { \n    open val id: String \n    open val kind:

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String\n open val label: String\n open val language: String\n open var enabled: Boolean\n open val sourceBuffer: SourceBuffer?\n}\n\n/**\n * Exposes the JavaScript

[VideoTrackList](https://developer.mozilla.org/en/docs/Web/API/VideoTrackList) to Kotlin\n *\npublic external abstract class VideoTrackList : EventTarget {\n open val length: Int\n open val selectedIndex: Int\n open var onchange: ((Event) -> dynamic)?\n open var onaddtrack: ((TrackEvent) -> dynamic)?\n open var onremovetrack: ((TrackEvent) -> dynamic)?\n fun getTrackById(id: String): VideoTrack?\n}\n\n@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun VideoTrackList.get(index: Int): VideoTrack? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript

[VideoTrack](https://developer.mozilla.org/en/docs/Web/API/VideoTrack) to Kotlin\n *\npublic external abstract class VideoTrack : UnionAudioTrackOrTextTrackOrVideoTrack {\n open val id: String\n open val kind: String\n open val label: String\n open val language: String\n open var selected: Boolean\n open val sourceBuffer: SourceBuffer?\n}\n\npublic external abstract class TextTrackList : EventTarget {\n open val length: Int\n open var onchange: ((Event) -> dynamic)?\n open var onaddtrack: ((TrackEvent) -> dynamic)?\n open var onremovetrack: ((TrackEvent) -> dynamic)?\n fun getTrackById(id: String): TextTrack?\n}\n\n@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun TextTrackList.get(index: Int): TextTrack? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript

[TextTrack](https://developer.mozilla.org/en/docs/Web/API/TextTrack) to Kotlin\n *\npublic external abstract class TextTrack : EventTarget, UnionAudioTrackOrTextTrackOrVideoTrack {\n open val kind: TextTrackKind\n open val label: String\n open val language: String\n open val id: String\n open val inBandMetadataTrackDispatchType: String\n open var mode: TextTrackMode\n open val cues: TextTrackCueList?\n open val activeCues: TextTrackCueList?\n open var oncuechange: ((Event) -> dynamic)?\n open val sourceBuffer: SourceBuffer?\n fun addCue(cue: TextTrackCue)\n fun removeCue(cue: TextTrackCue)\n}\n\npublic external abstract class TextTrackCueList {\n open val length: Int\n fun getCueById(id: String): TextTrackCue?\n}\n\n@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun TextTrackCueList.get(index: Int): TextTrackCue? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript

[TextTrackCue](https://developer.mozilla.org/en/docs/Web/API/TextTrackCue) to Kotlin\n *\npublic external abstract class TextTrackCue : EventTarget {\n open val track: TextTrack?\n open var id: String\n open var startTime: Double\n open var endTime: Double\n open var pauseOnExit: Boolean\n open var onenter: ((Event) -> dynamic)?\n open var onexit: ((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript

[TimeRanges](https://developer.mozilla.org/en/docs/Web/API/TimeRanges) to Kotlin\n *\npublic external abstract class TimeRanges {\n open val length: Int\n fun start(index: Int): Double\n fun end(index: Int): Double\n}\n\n/**\n * Exposes the JavaScript

[TrackEvent](https://developer.mozilla.org/en/docs/Web/API/TrackEvent) to Kotlin\n *\npublic external open class TrackEvent(type: String, eventInitDict: TrackEventInit = definedExternally) : Event {\n open val track: UnionAudioTrackOrTextTrackOrVideoTrack?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface TrackEventInit : EventInit {\n var track: UnionAudioTrackOrTextTrackOrVideoTrack? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun TrackEventInit(track: UnionAudioTrackOrTextTrackOrVideoTrack? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): TrackEventInit {\n val o = js("{}")\n o["track"] = track\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript

[HTMLElement](https://developer.mozilla.org/en/docs/Web/API/HTMLElement) to Kotlin\n *\npublic external abstract class HTMLElement : HTMLDivElement {\n open var name: String\n open val

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areas: HTMLCollection\n\n companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n} \n\n/**\n * Exposes the JavaScript
[HTMLAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAreaElement) to Kotlin\n */\npublic
external abstract class HTMLAreaElement : HTMLInputElement, HTMLHyperlinkElementUtils {\n    open var alt:
String\n    open var coords: String\n    open var shape: String\n    open var target: String\n    open var download:
String\n    open var ping: String\n    open var rel: String\n    open val relList: DOMTokenList\n    open var
referrerPolicy: String\n    open var noHref: Boolean\n\n    companion object {\n        val ELEMENT_NODE:
Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE:
Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n\n/**\n * Exposes the JavaScript
[HTMLTableElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableElement) to Kotlin\n */\npublic
external abstract class HTMLTableElement : HTMLInputElement {\n    open var caption:
HTMLTableCaptionElement?\n    open var tHead: HTMLTableSectionElement?\n    open var tFoot:
HTMLTableSectionElement?\n    open val tBodies: HTMLCollection\n    open val rows: HTMLCollection\n    open
var align: String\n    open var border: String\n    open var frame: String\n    open var rules: String\n    open var
summary: String\n    open var width: String\n    open var bgColor: String\n    open var cellPadding: String\n    open
var cellSpacing: String\n    fun createCaption(): HTMLTableCaptionElement\n    fun deleteCaption()\n    fun
createTHead(): HTMLTableSectionElement\n    fun deleteTHead()\n    fun createTFoot():
HTMLTableSectionElement\n    fun deleteTFoot()\n    fun createTBody(): HTMLTableSectionElement\n    fun
insertRow(index: Int = definedExternally): HTMLTableRowElement\n    fun deleteRow(index: Int)\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val
TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n\n/**\n * Exposes the JavaScript
[HTMLTableCaptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCaptionElement) to
Kotlin\n */\npublic external abstract class HTMLTableCaptionElement : HTMLInputElement {\n    open var align:
String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n
        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val

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COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLTableColElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableColElement) to Kotlin \n
*\npublic external abstract class HTMLTableColElement : HTMLElement { \n    open var span: Int \n    open var
align: String \n    open var ch: String \n    open var chOff: String \n    open var vAlign: String \n    open var width:
String \n \n    companion object { \n        val ELEMENT_NODE: Short \n        val ATTRIBUTE_NODE: Short \n
        val TEXT_NODE: Short \n        val CDATA_SECTION_NODE: Short \n        val ENTITY_REFERENCE_NODE:
Short \n        val ENTITY_NODE: Short \n        val PROCESSING_INSTRUCTION_NODE: Short \n        val
COMMENT_NODE: Short \n        val DOCUMENT_NODE: Short \n        val DOCUMENT_TYPE_NODE: Short \n
        val DOCUMENT_FRAGMENT_NODE: Short \n        val NOTATION_NODE: Short \n        val
DOCUMENT_POSITION_DISCONNECTED: Short \n        val DOCUMENT_POSITION_PRECEDING: Short \n
        val DOCUMENT_POSITION_FOLLOWING: Short \n        val DOCUMENT_POSITION_CONTAINS: Short \n
        val DOCUMENT_POSITION_CONTAINED_BY: Short \n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLTableSectionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableSectionElement) to
Kotlin \n *\npublic external abstract class HTMLTableSectionElement : HTMLElement { \n    open val rows:
HTMLCollection \n    open var align: String \n    open var ch: String \n    open var chOff: String \n    open var vAlign:
String \n    fun insertRow(index: Int = definedExternally): HTMLElement \n    fun deleteRow(index: Int) \n \n
    companion object { \n        val ELEMENT_NODE: Short \n        val ATTRIBUTE_NODE: Short \n        val
TEXT_NODE: Short \n        val CDATA_SECTION_NODE: Short \n        val ENTITY_REFERENCE_NODE:
Short \n        val ENTITY_NODE: Short \n        val PROCESSING_INSTRUCTION_NODE: Short \n        val
COMMENT_NODE: Short \n        val DOCUMENT_NODE: Short \n        val DOCUMENT_TYPE_NODE: Short \n
        val DOCUMENT_FRAGMENT_NODE: Short \n        val NOTATION_NODE: Short \n        val
DOCUMENT_POSITION_DISCONNECTED: Short \n        val DOCUMENT_POSITION_PRECEDING: Short \n
        val DOCUMENT_POSITION_FOLLOWING: Short \n        val DOCUMENT_POSITION_CONTAINS: Short \n
        val DOCUMENT_POSITION_CONTAINED_BY: Short \n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLTableRowElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableRowElement) to Kotlin \n
*\npublic external abstract class HTMLTableRowElement : HTMLElement { \n    open val rowIndex: Int \n    open
val sectionRowIndex: Int \n    open val cells: HTMLCollection \n    open var align: String \n    open var ch: String \n
    open var chOff: String \n    open var vAlign: String \n    open var bgColor: String \n    fun insertCell(index: Int =
definedExternally): HTMLElement \n    fun deleteCell(index: Int) \n \n    companion object { \n        val
ELEMENT_NODE: Short \n        val ATTRIBUTE_NODE: Short \n        val TEXT_NODE: Short \n        val
CDATA_SECTION_NODE: Short \n        val ENTITY_REFERENCE_NODE: Short \n        val ENTITY_NODE:
Short \n        val PROCESSING_INSTRUCTION_NODE: Short \n        val COMMENT_NODE: Short \n        val
DOCUMENT_NODE: Short \n        val DOCUMENT_TYPE_NODE: Short \n        val
DOCUMENT_FRAGMENT_NODE: Short \n        val NOTATION_NODE: Short \n        val
DOCUMENT_POSITION_DISCONNECTED: Short \n        val DOCUMENT_POSITION_PRECEDING: Short \n
        val DOCUMENT_POSITION_FOLLOWING: Short \n        val DOCUMENT_POSITION_CONTAINS: Short \n
        val DOCUMENT_POSITION_CONTAINED_BY: Short \n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLTableCellElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCellElement) to Kotlin \n
*\npublic external abstract class HTMLTableCellElement : HTMLElement { \n    open var colSpan: Int \n    open var
rowSpan: Int \n    open var headers: String \n    open val cellIndex: Int \n    open var scope: String \n    open var abbr:

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String\n open var align: String\n open var axis: String\n open var height: String\n open var width: String\n
open var ch: String\n open var chOff: String\n open var noWrap: Boolean\n open var vAlign: String\n open
var bgColor: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } }\n\n/**\n * Exposes the JavaScript
[HTMLElement](https://developer.mozilla.org/en/docs/Web/API/HTMLElement) to Kotlin\n *\npublic
external abstract class HTMLElement : HTML_Element {\n open var acceptCharset: String\n open var
action: String\n open var autocomplete: String\n open var enctype: String\n open var encoding: String\n open
var method: String\n open var name: String\n open var noValidate: Boolean\n open var target: String\n open
val elements: HTMLFormControlsCollection\n open val length: Int\n fun submit()\n fun reset()\n fun
checkValidity(): Boolean\n fun reportValidity(): Boolean\n\n companion object {\n val ELEMENT_NODE:
Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE:
Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLElement.get(index: Int): Element? =
asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLElement.get(name: String): UnionElementOrRadioNodeList? = asDynamic()[name]\n\n/**\n * Exposes
the JavaScript [HTMLLabelElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLabelElement) to
Kotlin\n *\npublic external abstract class HTMLLabelElement : HTML_Element {\n open val form:
HTMLElement?\n open var htmlFor: String\n open val control: HTMLElement?\n\n companion object
{\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n
val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } }\n\n/**\n * Exposes the JavaScript
[HTMLInputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLInputElement) to Kotlin\n *\npublic
external abstract class HTMLInputElement : HTML_Element {\n open var accept: String\n open var alt: String\n
open var autocomplete: String\n open var autofocus: Boolean\n open var defaultChecked: Boolean\n open var

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checked: Boolean\n open var dirName: String\n open var disabled: Boolean\n open val form:
HTMLFormElement?\n open val files: FileList?\n open var formAction: String\n open var formEnctype:
String\n open var formMethod: String\n open var formNoValidate: Boolean\n open var formTarget: String\n
open var height: Int\n open var indeterminate: Boolean\n open var inputMode: String\n open val list:
HTMLElement?\n open var max: String\n open var maxLength: Int\n open var min: String\n open var
minLength: Int\n open var multiple: Boolean\n open var name: String\n open var pattern: String\n open var
placeholder: String\n open var readOnly: Boolean\n open var required: Boolean\n open var size: Int\n open
var src: String\n open var step: String\n open var type: String\n open var defaultValue: String\n open var
value: String\n open var valueAsDate: dynamic\n open var valueAsNumber: Double\n open var width: Int\n
open val willValidate: Boolean\n open val validity: ValidityState\n open val validationMessage: String\n open
val labels: NodeList\n open var selectionStart: Int?\n open var selectionEnd: Int?\n open var
selectionDirection: String?\n open var align: String\n open var useMap: String\n fun stepUp(n: Int =
definedExternally)\n fun stepDown(n: Int = definedExternally)\n fun checkValidity(): Boolean\n fun
reportValidity(): Boolean\n fun setCustomValidity(error: String)\n fun select()\n fun
setRangeText(replacement: String)\n fun setRangeText(replacement: String, start: Int, end: Int, selectionMode:
SelectionMode = definedExternally)\n fun setSelectionRange(start: Int, end: Int, direction: String =
definedExternally)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLButtonElement](https://developer.mozilla.org/en/docs/Web/API/HTMLButtonElement) to Kotlin\n
*\npublic external abstract class HTMLButtonElement : HTMLElement {\n open var autofocus: Boolean\n
open var disabled: Boolean\n open val form: HTMLFormElement?\n open var formAction: String\n open var
formEnctype: String\n open var formMethod: String\n open var formNoValidate: Boolean\n open var
formTarget: String\n open var name: String\n open var type: String\n open var value: String\n open var
menu: HTMLMenuElement?\n open val willValidate: Boolean\n open val validity: ValidityState\n open val
validationMessage: String\n open val labels: NodeList\n fun checkValidity(): Boolean\n fun reportValidity():
Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSelectElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSelectElement) to Kotlin\n
*\npublic external abstract class HTMLSelectElement : HTMLElement, ItemArrayLike<Element> {\n open var
autocomplete: String\n open var autofocus: Boolean\n open var disabled: Boolean\n open val form:
HTMLFormElement?\n open var multiple: Boolean\n open var name: String\n open var required: Boolean\n
open var size: Int\n open val type: String\n open val options: HTMLOptionsCollection\n override var length:

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Int\n    open val selectedOptions: HTMLCollection\n    open var selectedIndex: Int\n    open var value: String\n
open val willValidate: Boolean\n    open val validity: ValidityState\n    open val validationMessage: String\n    open
val labels: NodeList\n    fun namedItem(name: String): HTMLOptionElement?\n    fun add(element:
UnionHTMLOptGroupElementOrHTMLOptionElement, before: dynamic = definedExternally)\n    fun
remove(index: Int)\n    fun checkValidity(): Boolean\n    fun reportValidity(): Boolean\n    fun
setCustomValidity(error: String)\n    override fun item(index: Int): Element?\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
    }\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLSelectElement.get(index: Int): Element? =
asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLSelectElement.set(index: Int, option: HTMLOptionElement?) { asDynamic()[index] = option }\n\n/**\n *
Exposes the JavaScript
[HTMLDataListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataListElement) to Kotlin\n
*/\n\npublic external abstract class HTMLDataListElement : HTMLInputElement {\n    open val options:
HTMLCollection\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLOptGroupElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptGroupElement) to Kotlin\n
*/\n\npublic external abstract class HTMLOptGroupElement : HTMLInputElement,
UnionHTMLOptGroupElementOrHTMLOptionElement {\n    open var disabled: Boolean\n    open var label:
String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n
        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLOptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionElement) to Kotlin\n
*/\n\npublic external abstract class HTMLOptionElement : HTMLInputElement,

```

```

UnionHTMLOptGroupElementOrHTMLOptionElement {
    open var disabled: Boolean
    open val form: HTMLFormElement?
    open var label: String
    open var defaultSelected: Boolean
    open var selected: Boolean
    open var value: String
    open var text: String
    open val index: Int
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
    }
}

/** Exposes the JavaScript [HTMLTextAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTextAreaElement) to Kotlin
 *
 * \npublic external abstract class HTMLTextAreaElement : HTMLElement {
    open var autocomplete: String
    open var autofocus: Boolean
    open var cols: Int
    open var dirName: String
    open var disabled: Boolean
    open val form: HTMLFormElement?
    open var inputMode: String
    open var maxLength: Int
    open var minLength: Int
    open var name: String
    open var placeholder: String
    open var readOnly: Boolean
    open var required: Boolean
    open var rows: Int
    open var wrap: String
    open val type: String
    open var defaultValue: String
    open var value: String
    open val textLength: Int
    open val willValidate: Boolean
    open val validity: ValidityState
    open val validationMessage: String
    open val labels: NodeList
    open var selectionStart: Int?
    open var selectionEnd: Int?
    open var selectionDirection: String?
    fun checkValidity(): Boolean
    fun reportValidity(): Boolean
    fun setCustomValidity(error: String)
    fun select()
    fun setRangeText(replacement: String)
    fun setRangeText(replacement: String, start: Int, end: Int, selectionMode: SelectionMode = definedExternally)
    fun setSelectionRange(start: Int, end: Int, direction: String = definedExternally)
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
    }
}

/** Exposes the JavaScript [HTMLKeygenElement](https://developer.mozilla.org/en/docs/Web/API/HTMLKeygenElement) to Kotlin
 *
 * \npublic external abstract class HTMLKeygenElement : HTMLElement {
    open var autofocus: Boolean
    open var challenge: String
    open var disabled: Boolean
    open val form: HTMLFormElement?
    open var keytype: String
    open var name: String
    open val type: String
    open val willValidate: Boolean
    open val validity: ValidityState
    open val validationMessage: String
    open val labels: NodeList
    fun checkValidity(): Boolean
    fun reportValidity(): Boolean
    fun setCustomValidity(error: String)
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
    }
}

```

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLOutputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOutputElement) to Kotlin\n *\n\npublic external abstract class HTMLOutputElement : HTMLElement {\n open val htmlFor: DOMTokenList\n open val form: HTMLFormElement?\n open var name: String\n open val type: String\n open var defaultValue: String\n open var value: String\n open val willValidate: Boolean\n open val validity: ValidityState\n open val validationMessage: String\n open val labels: NodeList\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLProgressElement](https://developer.mozilla.org/en/docs/Web/API/HTMLProgressElement) to Kotlin\n *\n\npublic external abstract class HTMLProgressElement : HTMLElement {\n open var value: Double\n open var max: Double\n open val position: Double\n open val labels: NodeList\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLMeterElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMeterElement) to Kotlin\n *\n\npublic external abstract class HTMLMeterElement : HTMLElement {\n open var value: Double\n open var min: Double\n open var max: Double\n open var low: Double\n open var high: Double\n open var optimum: Double\n open val labels: NodeList\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLFieldSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFieldSetElement) to Kotlin\n *\n\npublic external abstract class HTMLFieldSetElement : HTMLElement {\n open var disabled: Boolean\n open val form: HTMLFormElement?\n open var name: String\n open val type: String\n open val elements: HTMLCollection\n open val willValidate: Boolean\n open val validity: ValidityState\n open val validationMessage: String\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val

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ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }n}\n\n/**\n * Exposes the JavaScript
[HTMLLegendElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLegendElement) to Kotlin\n
*\npublic external abstract class HTMLLegendElement : HTMLInputElement {\n    open val form:
HTMLFormElement?\n    open var align: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n
        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n
        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
        PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
        DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
        DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
        DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
        DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }n}\n\n/**\n * Exposes the JavaScript
[ValidityState](https://developer.mozilla.org/en/docs/Web/API/ValidityState) to Kotlin\n
*\npublic external
abstract class ValidityState {\n    open val valueMissing: Boolean\n    open val typeMismatch: Boolean\n    open val
patternMismatch: Boolean\n    open val tooLong: Boolean\n    open val tooShort: Boolean\n    open val
rangeUnderflow: Boolean\n    open val rangeOverflow: Boolean\n    open val stepMismatch: Boolean\n    open val
badInput: Boolean\n    open val customError: Boolean\n    open val valid: Boolean\n}\n\n/**\n * Exposes the
JavaScript [HTMLDetailsElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDetailsElement) to
Kotlin\n
*\npublic external abstract class HTMLDetailsElement : HTMLInputElement {\n    open var open: Boolean\n\n
    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val
        TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
        Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
        COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
        DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
        DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }n}\n\npublic external abstract class
HTMLMenuItemElement : HTMLInputElement {\n    open var type: String\n    open var label: String\n    open var compact:
Boolean\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n
        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
        Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
        COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
        DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
        DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }n}\n\npublic external abstract class
HTMLMenuItemElement : HTMLInputElement {\n    open var type: String\n    open var label: String\n    open var icon:
String\n    open var disabled: Boolean\n    open var checked: Boolean\n    open var radiogroup: String\n    open var

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default: Boolean\n\n companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }
\n\npublic external open class RelatedEvent(type: String, eventInitDict: RelatedEventInit = definedExternally) : Event {\n    open val relatedTarget: EventTarget?\n\n    companion object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }
\n\npublic external interface RelatedEventInit : EventInit {\n    var relatedTarget: EventTarget? /* = null */\n    get() = definedExternally\n    set(value) = definedExternally\n}
\n\n@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun RelatedEventInit(relatedTarget: EventTarget? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): RelatedEventInit {\n    val o = js("{}")\n    o["relatedTarget"] = relatedTarget\n    o["bubbles"] = bubbles\n    o["cancelable"] = cancelable\n    o["composed"] = composed\n    return o\n}
\n\n/**\n * Exposes the JavaScript [HTMLDialogElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDialogElement) to Kotlin\n */\npublic external abstract class HTMLDialogElement : HTMLInputElement {\n    open var open: Boolean\n    open var returnValue: String\n    fun show(anchor: UnionElementOrMouseEvent = definedExternally)\n    fun showModal(anchor: UnionElementOrMouseEvent = definedExternally)\n    fun close(returnValue: String = definedExternally)\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }
\n\n/**\n * Exposes the JavaScript [HTMLScriptElement](https://developer.mozilla.org/en/docs/Web/API/HTMLScriptElement) to Kotlin\n */\npublic external abstract class HTMLScriptElement : HTMLInputElement, HTMLOrSVGScriptElement {\n    open var src: String\n    open var type: String\n    open var charset: String\n    open var async: Boolean\n    open var defer: Boolean\n    open var crossOrigin: String?\n    open var text: String\n    open var nonce: String\n    open var event: String\n    open var htmlFor: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }
\n\n/**\n * Exposes the JavaScript [HTMLTemplateElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTemplateElement) to Kotlin\n */

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*/\npublic external abstract class HTMLTemplateElement : HTMLInputElement {\n    open val content:
DocumentFragment\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n\n    /**\n * Exposes the JavaScript
[HTMLSlotElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSlotElement) to Kotlin\n
*/\npublic
external abstract class HTMLSlotElement : HTMLInputElement {\n    open var name: String\n    fun
assignedNodes(options: AssignedNodesOptions = definedExternally): Array<Node>\n\n    companion object {\n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n\n    public external interface
AssignedNodesOptions {\n        var flatten: Boolean? /* = false */\n        get() = definedExternally\n
        set(value) =
definedExternally\n    }\n\n    @Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n    @kotlin.internal.InlineOnly\n    public inline fun AssignedNodesOptions(flatten:
Boolean? = false): AssignedNodesOptions {\n        val o = js(\"({})\")\n        o[\"flatten\"] = flatten\n
return
o\n    }\n\n    /**\n * Exposes the JavaScript
[HTMLCanvasElement](https://developer.mozilla.org/en/docs/Web/API/HTMLCanvasElement) to Kotlin\n
*/\npublic external abstract class HTMLCanvasElement : HTMLInputElement, CanvasImageSource, TexImageSource
{\n    open var width: Int\n    open var height: Int\n    fun getContext(contextId: String, vararg arguments: Any?):
RenderingContext?\n    fun toDataURL(type: String = definedExternally, quality: Any? = definedExternally):
String\n    fun toBlob(_callback: (Blob?) -> Unit, type: String = definedExternally, quality: Any? =
definedExternally)\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n\n    public external interface
CanvasRenderingContext2DSettings {\n        var alpha: Boolean? /* = true */\n        get() = definedExternally\n
set(value) = definedExternally\n    }\n\n    @Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n    @kotlin.internal.InlineOnly\n    public inline fun
CanvasRenderingContext2DSettings(alpha: Boolean? = true): CanvasRenderingContext2DSettings {\n        val o =
js(\"({})\")\n        o[\"alpha\"] = alpha\n        return o\n    }\n\n    /**\n * Exposes the JavaScript

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[CanvasRenderingContext2D](https://developer.mozilla.org/en/docs/Web/API/CanvasRenderingContext2D) to
Kotlin\n *\\npublic external abstract class CanvasRenderingContext2D : CanvasState, CanvasTransform,
CanvasCompositing, CanvasImageSmoothing, CanvasFillStrokeStyles, CanvasShadowStyles, CanvasFilters,
CanvasRect, CanvasDrawPath, CanvasUserInterface, CanvasText, CanvasDrawImage, CanvasHitRegion,
CanvasImageData, CanvasPathDrawingStyles, CanvasTextDrawingStyles, CanvasPath, RenderingContext {\n
open val canvas: HTMLCanvasElement\\n}\\n\\npublic external interface CanvasState {\n fun save()\\n fun
restore()\\n}\\n\\npublic external interface CanvasTransform {\n fun scale(x: Double, y: Double)\\n fun
rotate(angle: Double)\\n fun translate(x: Double, y: Double)\\n fun transform(a: Double, b: Double, c: Double, d:
Double, e: Double, f: Double)\\n fun getTransform(): DOMMatrix\\n fun setTransform(a: Double, b: Double, c:
Double, d: Double, e: Double, f: Double)\\n fun setTransform(transform: dynamic = definedExternally)\\n fun
resetTransform()\\n}\\n\\npublic external interface CanvasCompositing {\n var globalAlpha: Double\\n var
globalCompositeOperation: String\\n}\\n\\npublic external interface CanvasImageSmoothing {\n var
imageSmoothingEnabled: Boolean\\n var imageSmoothingQuality: ImageSmoothingQuality\\n}\\n\\npublic external
interface CanvasFillStrokeStyles {\n var strokeStyle: dynamic\\n get() = definedExternally\\n set(value) =
definedExternally\\n var fillStyle: dynamic\\n get() = definedExternally\\n set(value) = definedExternally\\n
fun createLinearGradient(x0: Double, y0: Double, x1: Double, y1: Double): CanvasGradient\\n fun
createRadialGradient(x0: Double, y0: Double, r0: Double, x1: Double, y1: Double, r1: Double): CanvasGradient\\n
fun createPattern(image: CanvasImageSource, repetition: String): CanvasPattern?\\n}\\n\\npublic external interface
CanvasShadowStyles {\n var shadowOffsetX: Double\\n var shadowOffsetY: Double\\n var shadowBlur:
Double\\n var shadowColor: String\\n}\\n\\npublic external interface CanvasFilters {\n var filter:
String\\n}\\n\\npublic external interface CanvasRect {\n fun clearRect(x: Double, y: Double, w: Double, h:
Double)\\n fun fillRect(x: Double, y: Double, w: Double, h: Double)\\n fun strokeRect(x: Double, y: Double, w:
Double, h: Double)\\n}\\n\\npublic external interface CanvasDrawPath {\n fun beginPath()\\n fun fill(fillRule:
CanvasFillRule = definedExternally)\\n fun fill(path: Path2D, fillRule: CanvasFillRule = definedExternally)\\n
fun stroke()\\n fun stroke(path: Path2D)\\n fun clip(fillRule: CanvasFillRule = definedExternally)\\n fun
clip(path: Path2D, fillRule: CanvasFillRule = definedExternally)\\n fun resetClip()\\n fun isPointInPath(x:
Double, y: Double, fillRule: CanvasFillRule = definedExternally): Boolean\\n fun isPointInPath(path: Path2D, x:
Double, y: Double, fillRule: CanvasFillRule = definedExternally): Boolean\\n fun isPointInStroke(x: Double, y:
Double): Boolean\\n fun isPointInStroke(path: Path2D, x: Double, y: Double): Boolean\\n}\\n\\npublic external
interface CanvasUserInterface {\n fun drawFocusIfNeeded(element: Element)\\n fun drawFocusIfNeeded(path:
Path2D, element: Element)\\n fun scrollPathIntoView()\\n fun scrollPathIntoView(path: Path2D)\\n}\\n\\npublic
external interface CanvasText {\n fun fillText(text: String, x: Double, y: Double, maxWidth: Double =
definedExternally)\\n fun strokeText(text: String, x: Double, y: Double, maxWidth: Double = definedExternally)\\n
fun measureText(text: String): TextMetrics\\n}\\n\\npublic external interface CanvasDrawImage {\n fun
drawImage(image: CanvasImageSource, dx: Double, dy: Double)\\n fun drawImage(image: CanvasImageSource,
dx: Double, dy: Double, dw: Double, dh: Double)\\n fun drawImage(image: CanvasImageSource, sx: Double, sy:
Double, sw: Double, sh: Double, dx: Double, dy: Double, dw: Double, dh: Double)\\n}\\n\\npublic external interface
CanvasHitRegion {\n fun addHitRegion(options: HitRegionOptions = definedExternally)\\n fun
removeHitRegion(id: String)\\n fun clearHitRegions()\\n}\\n\\npublic external interface CanvasImageData {\n fun
createImageData(sw: Double, sh: Double): ImageData\\n fun createImageData(imagedata: ImageData):
ImageData\\n fun getImageData(sx: Double, sy: Double, sw: Double, sh: Double): ImageData\\n fun
putImageData(imagedata: ImageData, dx: Double, dy: Double)\\n fun putImageData(imagedata: ImageData, dx:
Double, dy: Double, dirtyX: Double, dirtyY: Double, dirtyWidth: Double, dirtyHeight: Double)\\n}\\n\\npublic
external interface CanvasPathDrawingStyles {\n var lineWidth: Double\\n var lineCap: CanvasLineCap\\n var
lineJoin: CanvasLineJoin\\n var miterLimit: Double\\n var lineDashOffset: Double\\n fun setLineDash(segments:
Array<Double>)\\n fun getLineDash(): Array<Double>\\n}\\n\\npublic external interface CanvasTextDrawingStyles
{\n var font: String\\n var textAlign: CanvasTextAlign\\n var textBaseline: CanvasTextBaseline\\n var
direction: CanvasDirection\\n}\\n\\npublic external interface CanvasPath {\n fun closePath()\\n fun moveTo(x:

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Double, y: Double)\n fun lineTo(x: Double, y: Double)\n fun quadraticCurveTo(cpx: Double, cpy: Double, x:
Double, y: Double)\n fun bezierCurveTo(cp1x: Double, cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y:
Double)\n fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radius: Double)\n fun arcTo(x1: Double,
y1: Double, x2: Double, y2: Double, radiusX: Double, radiusY: Double, rotation: Double)\n fun rect(x: Double, y:
Double, w: Double, h: Double)\n fun arc(x: Double, y: Double, radius: Double, startAngle: Double, endAngle:
Double, anticlockwise: Boolean = definedExternally)\n fun ellipse(x: Double, y: Double, radiusX: Double,
radiusY: Double, rotation: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean =
definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[CanvasGradient](https://developer.mozilla.org/en/docs/Web/API/CanvasGradient) to Kotlin\n */\npublic external
abstract class CanvasGradient {\n fun addColorStop(offset: Double, color: String)\n}\n\n/**\n * Exposes the
JavaScript [CanvasPattern](https://developer.mozilla.org/en/docs/Web/API/CanvasPattern) to Kotlin\n */\npublic
external abstract class CanvasPattern {\n fun setTransform(transform: dynamic = definedExternally)\n}\n\n/**\n *
Exposes the JavaScript [TextMetrics](https://developer.mozilla.org/en/docs/Web/API/TextMetrics) to Kotlin\n
*/\npublic external abstract class TextMetrics {\n open val width: Double\n open val actualBoundingBoxLeft:
Double\n open val actualBoundingBoxRight: Double\n open val fontBoundingBoxAscent: Double\n open val
fontBoundingBoxDescent: Double\n open val actualBoundingBoxAscent: Double\n open val
actualBoundingBoxDescent: Double\n open val emHeightAscent: Double\n open val emHeightDescent:
Double\n open val hangingBaseline: Double\n open val alphabeticBaseline: Double\n open val
ideographicBaseline: Double\n}\n\npublic external interface HitRegionOptions {\n var path: Path2D? /* = null
*/\n get() = definedExternally\n set(value) = definedExternally\n var fillRule: CanvasFillRule? /* =
CanvasFillRule.NONZERO */\n get() = definedExternally\n set(value) = definedExternally\n var id:
String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var parentID: String? /*
= null */\n get() = definedExternally\n set(value) = definedExternally\n var cursor: String? /* = \"inherit\"
*/\n get() = definedExternally\n set(value) = definedExternally\n var control: Element? /* = null */\n
get() = definedExternally\n set(value) = definedExternally\n var label: String? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n var role: String? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun HitRegionOptions(path: Path2D? =
null, fillRule: CanvasFillRule? = CanvasFillRule.NONZERO, id: String? = \"\", parentID: String? = null, cursor:
String? = \"inherit\", control: Element? = null, label: String? = null, role: String? = null): HitRegionOptions {\n
val o = js(\"({})\")\n o[\"path\"] = path\n o[\"fillRule\"] = fillRule\n o[\"id\"] = id\n o[\"parentID\"] = parentID\n
o[\"cursor\"] = cursor\n o[\"control\"] = control\n o[\"label\"] = label\n o[\"role\"] = role\n return
o\n}\n\n/**\n * Exposes the JavaScript [ImageData](https://developer.mozilla.org/en/docs/Web/API/ImageData) to
Kotlin\n */\npublic external open class ImageData : ImageBitmapSource, TexImageSource {\n constructor(sw:
Int, sh: Int)\n constructor(data: Uint8ClampedArray, sw: Int, sh: Int = definedExternally)\n open val width: Int\n
open val height: Int\n open val data: Uint8ClampedArray\n}\n\n/**\n * Exposes the JavaScript
[Path2D](https://developer.mozilla.org/en/docs/Web/API/Path2D) to Kotlin\n */\npublic external open class
Path2D() : CanvasPath {\n constructor(path: Path2D)\n constructor(paths: Array<Path2D>, fillRule:
CanvasFillRule = definedExternally)\n constructor(d: String)\n fun addPath(path: Path2D, transform: dynamic =
definedExternally)\n override fun closePath()\n override fun moveTo(x: Double, y: Double)\n override fun
lineTo(x: Double, y: Double)\n override fun quadraticCurveTo(cpx: Double, cpy: Double, x: Double, y: Double)\n
override fun bezierCurveTo(cp1x: Double, cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y: Double)\n
override fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radius: Double)\n override fun arcTo(x1:
Double, y1: Double, x2: Double, y2: Double, radiusX: Double, radiusY: Double, rotation: Double)\n override fun
rect(x: Double, y: Double, w: Double, h: Double)\n override fun arc(x: Double, y: Double, radius: Double,
startAngle: Double, endAngle: Double, anticlockwise: Boolean /* = definedExternally */) \n override fun ellipse(x:
Double, y: Double, radiusX: Double, radiusY: Double, rotation: Double, startAngle: Double, endAngle: Double,
anticlockwise: Boolean /* = definedExternally */) \n}\n\n/**\n * Exposes the JavaScript

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[ImageBitmapRenderingContext](https://developer.mozilla.org/en/docs/Web/API/ImageBitmapRenderingContext) to Kotlin\n *
 \npublic external abstract class ImageBitmapRenderingContext {\n open val canvas: HTMLCanvasElement\n fun transferFromImageBitmap(bitmap: ImageBitmap?)\n}\n\npublic external interface ImageBitmapRenderingContextSettings {\n var alpha: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ImageBitmapRenderingContextSettings(alpha: Boolean? = true): ImageBitmapRenderingContextSettings {\n val o = js(\"({})\")\n o[\"alpha\"] = alpha\n return o\n}\n\n/**\n * Exposes the JavaScript

[CustomElementRegistry](https://developer.mozilla.org/en/docs/Web/API/CustomElementRegistry) to Kotlin\n *
 \npublic external abstract class CustomElementRegistry {\n fun define(name: String, constructor: () -> dynamic, options: ElementDefinitionOptions = definedExternally)\n fun get(name: String): Any?\n fun whenDefined(name: String): Promise<Unit>\n}\n\npublic external interface ElementDefinitionOptions {\n var extends: String?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ElementDefinitionOptions(extends: String? = undefined): ElementDefinitionOptions {\n val o = js(\"({})\")\n o[\"extends\"] = extends\n return o\n}\n\npublic external interface ElementContentEditable {\n var contentEditable: String\n val isContentEditable: Boolean\n}\n\n/**\n * Exposes the JavaScript

[DataTransfer](https://developer.mozilla.org/en/docs/Web/API/DataTransfer) to Kotlin\n *
 \npublic external abstract class DataTransfer {\n open var dropEffect: String\n open var effectAllowed: String\n open val items: DataTransferItemList\n open val types: Array<out String>\n open val files: FileList\n fun setDragImage(image: Element, x: Int, y: Int)\n fun getData(format: String): String\n fun setData(format: String, data: String)\n fun clearData(format: String = definedExternally)\n}\n\n/**\n * Exposes the JavaScript

[DataTransferItemList](https://developer.mozilla.org/en/docs/Web/API/DataTransferItemList) to Kotlin\n *
 \npublic external abstract class DataTransferItemList {\n open val length: Int\n fun add(data: String, type: String): DataTransferItem?\n fun add(data: File): DataTransferItem?\n fun remove(index: Int)\n fun clear()\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun DataTransferItemList.get(index: Int): DataTransferItem? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript

[DataTransferItem](https://developer.mozilla.org/en/docs/Web/API/DataTransferItem) to Kotlin\n *
 \npublic external abstract class DataTransferItem {\n open val kind: String\n open val type: String\n fun getAsString(_callback: ((String) -> Unit)?)\n fun getAsFile(): File?\n}\n\n/**\n * Exposes the JavaScript

[DragEvent](https://developer.mozilla.org/en/docs/Web/API/TouchEvent) to Kotlin\n *
 \npublic external open class DragEvent(type: String, eventInitDict: DragEventInit = definedExternally) : MouseEvent {\n open val dataTransfer: DataTransfer?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface DragEventInit : MouseEventInit {\n var dataTransfer: DataTransfer? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun DragEventInit(dataTransfer: DataTransfer? = null, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): DragEventInit {\n val o = js(\"({})\")\n o[\"dataTransfer\"] = dataTransfer\n o[\"screenX\"] = screenX\n o[\"screenY\"] = screenY\n o[\"clientX\"] = clientX\n o[\"clientY\"] = clientY\n o[\"button\"] = button\n

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o["buttons"] = buttons\n o["relatedTarget"] = relatedTarget\n o["region"] = region\n o["ctrlKey"] =
ctrlKey\n o["shiftKey"] = shiftKey\n o["altKey"] = altKey\n o["metaKey"] = metaKey\n
o["modifierAltGraph"] = modifierAltGraph\n o["modifierCapsLock"] = modifierCapsLock\n
o["modifierFn"] = modifierFn\n o["modifierFnLock"] = modifierFnLock\n o["modifierHyper"] =
modifierHyper\n o["modifierNumLock"] = modifierNumLock\n o["modifierScrollLock"] =
modifierScrollLock\n o["modifierSuper"] = modifierSuper\n o["modifierSymbol"] = modifierSymbol\n
o["modifierSymbolLock"] = modifierSymbolLock\n o["view"] = view\n o["detail"] = detail\n
o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return
o\n}\n\n/**\n * Exposes the JavaScript [Window](https://developer.mozilla.org/en/docs/Web/API/Window) to
Kotlin\n *\npublic external abstract class Window : EventTarget, GlobalEventHandlers, WindowEventHandlers,
WindowOrWorkerGlobalScope, WindowSessionStorage, WindowLocalStorage, GlobalPerformance,
UnionMessagePortOrWindowProxy {\n open val window: Window\n open val self: Window\n open val
document: Document\n open var name: String\n open val location: Location\n open val history: History\n
open val customElements: CustomElementRegistry\n open val locationbar: BarProp\n open val menubar:
BarProp\n open val personalbar: BarProp\n open val scrollbars: BarProp\n open val statusbar: BarProp\n
open val toolbar: BarProp\n open var status: String\n open val closed: Boolean\n open val frames: Window\n
open val length: Int\n open val top: Window\n open var opener: Any?\n open val parent: Window\n open val
frameElement: Element?\n open val navigator: Navigator\n open val applicationCache: ApplicationCache\n
open val external: External\n open val screen: Screen\n open val innerWidth: Int\n open val innerHeight: Int\n
open val scrollX: Double\n open val pageXOffset: Double\n open val scrollY: Double\n open val
pageYOffset: Double\n open val screenX: Int\n open val screenY: Int\n open val outerWidth: Int\n open val
outerHeight: Int\n open val devicePixelRatio: Double\n fun close()\n fun stop()\n fun focus()\n fun blur()\n
fun open(url: String = definedExternally, target: String = definedExternally, features: String = definedExternally):
Window?\n fun alert()\n fun alert(message: String)\n fun confirm(message: String = definedExternally):
Boolean\n fun prompt(message: String = definedExternally, default: String = definedExternally): String?\n fun
print()\n fun requestAnimationFrame(callback: (Double) -> Unit): Int\n fun cancelAnimationFrame(handle:
Int)\n fun postMessage(message: Any?, targetOrigin: String, transfer: Array<dynamic> = definedExternally)\n
fun captureEvents()\n fun releaseEvents()\n fun matchMedia(query: String): MediaQueryList\n fun moveTo(x:
Int, y: Int)\n fun moveBy(x: Int, y: Int)\n fun resizeTo(x: Int, y: Int)\n fun resizeBy(x: Int, y: Int)\n fun
scroll(options: ScrollToOptions = definedExternally)\n fun scroll(x: Double, y: Double)\n fun scrollTo(options:
ScrollToOptions = definedExternally)\n fun scrollTo(x: Double, y: Double)\n fun scrollBy(options:
ScrollToOptions = definedExternally)\n fun scrollBy(x: Double, y: Double)\n fun getComputedStyle(elt:
Element, pseudoElt: String? = definedExternally):
CSSStyleDeclaration}\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun Window.get(name: String):
dynamic = asDynamic()[name]\n\npublic external abstract class BarProp {\n open val visible: Boolean}\n}\n\n/**\n * Exposes the JavaScript [History](https://developer.mozilla.org/en/docs/Web/API/History) to Kotlin\n *\npublic
external abstract class History {\n open val length: Int\n open var scrollRestoration: ScrollRestoration\n open
val state: Any?\n fun go(delta: Int = definedExternally)\n fun back()\n fun forward()\n fun pushState(data:
Any?, title: String, url: String? = definedExternally)\n fun replaceState(data: Any?, title: String, url: String? =
definedExternally)\n}\n}\n\n/**\n * Exposes the JavaScript
[Location](https://developer.mozilla.org/en/docs/Web/API/Location) to Kotlin\n *\npublic external abstract class
Location {\n open var href: String\n open val origin: String\n open var protocol: String\n open var host:
String\n open var hostname: String\n open var port: String\n open var pathname: String\n open var search:
String\n open var hash: String\n open val ancestorOrigins: Array<out String>\n fun assign(url: String)\n fun
replace(url: String)\n fun reload()\n}\n}\n\n/**\n * Exposes the JavaScript
[PopStateEvent](https://developer.mozilla.org/en/docs/Web/API/PopStateEvent) to Kotlin\n *\npublic external
open class PopStateEvent(type: String, eventInitDict: PopStateEventInit = definedExternally) : Event {\n open val

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state: Any? \n\n companion object { \n    val NONE: Short \n    val CAPTURING_PHASE: Short \n    val
AT_TARGET: Short \n    val BUBBLING_PHASE: Short \n } \n} \n\npublic external interface PopStateEventInit
: EventInit { \n    var state: Any? /* = null */ \n    get() = definedExternally \n    set(value) =
definedExternally \n} \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n@kotlin.internal.InlineOnly \npublic inline fun PopStateEventInit(state: Any? = null,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PopStateEventInit { \n    val o
= js("{}") \n    o["state"] = state \n    o["bubbles"] = bubbles \n    o["cancelable"] = cancelable \n
o["composed"] = composed \n    return o \n} \n\n/** \n * Exposes the JavaScript
[HashChangeEvent](https://developer.mozilla.org/en/docs/Web/API/HashChangeEvent) to Kotlin \n * \n\npublic
external open class HashChangeEvent(type: String, eventInitDict: HashChangeEventInit = definedExternally) :
Event { \n    open val oldURL: String \n    open val newURL: String \n\n    companion object { \n        val NONE:
Short \n        val CAPTURING_PHASE: Short \n        val AT_TARGET: Short \n        val BUBBLING_PHASE:
Short \n    } \n} \n\npublic external interface HashChangeEventInit : EventInit { \n    var oldURL: String? /* = "" */ \n
get() = definedExternally \n    set(value) = definedExternally \n    var newURL: String? /* = "" */ \n    get() =
definedExternally \n    set(value) = definedExternally \n} \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n@kotlin.internal.InlineOnly \npublic inline fun HashChangeEventInit(oldURL:
String? = "", newURL: String? = "", bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): HashChangeEventInit { \n    val o = js("{}") \n    o["oldURL"] = oldURL \n    o["newURL"]
= newURL \n    o["bubbles"] = bubbles \n    o["cancelable"] = cancelable \n    o["composed"] = composed \n
return o \n} \n\n/** \n * Exposes the JavaScript
[PageTransitionEvent](https://developer.mozilla.org/en/docs/Web/API/PageTransitionEvent) to Kotlin \n * \n\npublic
external open class PageTransitionEvent(type: String, eventInitDict: PageTransitionEventInit = definedExternally) :
Event { \n    open val persisted: Boolean \n\n    companion object { \n        val NONE: Short \n        val
CAPTURING_PHASE: Short \n        val AT_TARGET: Short \n        val BUBBLING_PHASE: Short \n    } \n} \n\npublic external interface PageTransitionEventInit : EventInit { \n    var persisted: Boolean? /* = false */ \n
get() = definedExternally \n    set(value) = definedExternally \n} \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n@kotlin.internal.InlineOnly \npublic inline fun PageTransitionEventInit(persisted:
Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
PageTransitionEventInit { \n    val o = js("{}") \n    o["persisted"] = persisted \n    o["bubbles"] = bubbles \n
o["cancelable"] = cancelable \n    o["composed"] = composed \n    return o \n} \n\n/** \n * Exposes the JavaScript
[BeforeUnloadEvent](https://developer.mozilla.org/en/docs/Web/API/BeforeUnloadEvent) to Kotlin \n * \n\npublic
external open class BeforeUnloadEvent : Event { \n    var returnValue: String \n\n    companion object { \n        val
NONE: Short \n        val CAPTURING_PHASE: Short \n        val AT_TARGET: Short \n        val
BUBBLING_PHASE: Short \n    } \n} \n\npublic external abstract class ApplicationCache : EventTarget { \n    open
val status: Short \n    open var onchecking: ((Event) -> dynamic)? \n    open var onerror: ((Event) -> dynamic)? \n
open var onnoupdate: ((Event) -> dynamic)? \n    open var ondownloading: ((Event) -> dynamic)? \n    open var
onprogress: ((ProgressEvent) -> dynamic)? \n    open var onupdateready: ((Event) -> dynamic)? \n    open var
oncached: ((Event) -> dynamic)? \n    open var onobsolete: ((Event) -> dynamic)? \n    fun update() \n    fun abort() \n
fun swapCache() \n\n    companion object { \n        val UNCACHED: Short \n        val IDLE: Short \n        val
CHECKING: Short \n        val DOWNLOADING: Short \n        val UPDATEREADY: Short \n        val OBSOLETE:
Short \n    } \n} \n\n/** \n * Exposes the JavaScript
[NavigatorOnLine](https://developer.mozilla.org/en/docs/Web/API/NavigatorOnLine) to Kotlin \n * \n\npublic
external interface NavigatorOnLine { \n    val onLine: Boolean \n} \n\n/** \n * Exposes the JavaScript
[ErrorEvent](https://developer.mozilla.org/en/docs/Web/API/ErrorEvent) to Kotlin \n * \n\npublic external open class
ErrorEvent(type: String, eventInitDict: ErrorEventInit = definedExternally) : Event { \n    open val message: String \n
open val filename: String \n    open val lineno: Int \n    open val colno: Int \n    open val error: Any? \n\n    companion
object { \n        val NONE: Short \n        val CAPTURING_PHASE: Short \n        val AT_TARGET: Short \n        val
BUBBLING_PHASE: Short \n    } \n} \n\npublic external interface ErrorEventInit : EventInit { \n    var message:

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String? /* = \\\" *^n    get() = definedExternally^n    set(value) = definedExternally^n    var filename: String? /*
= \\\" *^n    get() = definedExternally^n    set(value) = definedExternally^n    var lineno: Int? /* = 0 *^n
get() = definedExternally^n    set(value) = definedExternally^n    var colno: Int? /* = 0 *^n    get() =
definedExternally^n    set(value) = definedExternally^n    var error: Any? /* = null *^n    get() =
definedExternally^n    set(value) = definedExternally^n}^n^n@Suppress(\\\"INVISIBLE_REFERENCE\\\",
\\\"INVISIBLE_MEMBER\\\")^n@kotlin.internal.InlineOnly^npublic inline fun ErrorEventInit(message: String? = \\\",
filename: String? = \\\", lineno: Int? = 0, colno: Int? = 0, error: Any? = null, bubbles: Boolean? = false, cancelable:
Boolean? = false, composed: Boolean? = false): ErrorEventInit {^n    val o = js(\\\"({})\\\")^n    o[\\\"message\\\"] =
message^n    o[\\\"filename\\\"] = filename^n    o[\\\"lineno\\\"] = lineno^n    o[\\\"colno\\\"] = colno^n    o[\\\"error\\\"] = error^n
o[\\\"bubbles\\\"] = bubbles^n    o[\\\"cancelable\\\"] = cancelable^n    o[\\\"composed\\\"] = composed^n    return
o^n}^n^n/*^n * Exposes the JavaScript
[PromiseRejectionEvent](https://developer.mozilla.org/en/docs/Web/API/PromiseRejectionEvent) to Kotlin^n
*^npublic external open class PromiseRejectionEvent(type: String, eventInitDict: PromiseRejectionEventInit) :
Event {^n    open val promise: Promise<Any?>^n    open val reason: Any?^n^n    companion object {^n    val
NONE: Short^n    val CAPTURING_PHASE: Short^n    val AT_TARGET: Short^n    val
BUBBLING_PHASE: Short^n    }^n}^npublic external interface PromiseRejectionEventInit : EventInit {^n    var
promise: Promise<Any?>?^n    var reason: Any?^n    get() = definedExternally^n    set(value) =
definedExternally^n}^n^n@Suppress(\\\"INVISIBLE_REFERENCE\\\",
\\\"INVISIBLE_MEMBER\\\")^n@kotlin.internal.InlineOnly^npublic inline fun PromiseRejectionEventInit(promise:
Promise<Any?>?, reason: Any? = undefined, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): PromiseRejectionEventInit {^n    val o = js(\\\"({})\\\")^n    o[\\\"promise\\\"] = promise^n
o[\\\"reason\\\"] = reason^n    o[\\\"bubbles\\\"] = bubbles^n    o[\\\"cancelable\\\"] = cancelable^n    o[\\\"composed\\\"] =
composed^n    return o^n}^n^n/*^n * Exposes the JavaScript
[GlobalEventHandlers](https://developer.mozilla.org/en/docs/Web/API/GlobalEventHandlers) to Kotlin^n
*^npublic external interface GlobalEventHandlers {^n    var onabort: ((Event) -> dynamic)?^n    get() =
definedExternally^n    set(value) = definedExternally^n    var onblur: ((FocusEvent) -> dynamic)?^n    get() =
definedExternally^n    set(value) = definedExternally^n    var oncancel: ((Event) -> dynamic)?^n    get() =
definedExternally^n    set(value) = definedExternally^n    var oncanplay: ((Event) -> dynamic)?^n    get() =
definedExternally^n    set(value) = definedExternally^n    var oncanplaythrough: ((Event) -> dynamic)?^n    get()
= definedExternally^n    set(value) = definedExternally^n    var onchange: ((Event) -> dynamic)?^n    get() =
definedExternally^n    set(value) = definedExternally^n    var onclick: ((MouseEvent) -> dynamic)?^n    get() =
definedExternally^n    set(value) = definedExternally^n    var onclose: ((Event) -> dynamic)?^n    get() =
definedExternally^n    set(value) = definedExternally^n    var oncontextmenu: ((MouseEvent) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var oncuechange: ((Event) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var ondblclick: ((MouseEvent) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var ondrag: ((DragEvent) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var ondragend: ((DragEvent) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var ondragenter: ((DragEvent) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var ondragexit: ((DragEvent) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var ondragleave: ((DragEvent) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var ondragover: ((DragEvent) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var ondragstart: ((DragEvent) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var ondrop: ((DragEvent) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var ondurationchange: ((Event) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var onemptied: ((Event) -> dynamic)?^n
get() = definedExternally^n    set(value) = definedExternally^n    var onended: ((Event) -> dynamic)?^n    get() =
definedExternally^n    set(value) = definedExternally^n    var onerror: ((dynamic, String, Int, Int, Any?) ->
dynamic)?^n    get() = definedExternally^n    set(value) = definedExternally^n    var onfocus: ((FocusEvent) ->

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dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var oninput: ((InputEvent) ->
dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var oninvalid: ((Event) ->
dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var onkeydown:
((KeyboardEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var
onkeypress: ((KeyboardEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n
var onkeyup: ((KeyboardEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onload: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onloadeddata: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onloadedmetadata: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onloadend: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onloadstart: ((ProgressEvent) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onmousedown: ((MouseEvent) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onmouseenter: ((MouseEvent) -> dynamic)?\n
get() = definedExternally\n    set(value) = definedExternally\n    var onmouseleave: ((MouseEvent) ->
dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var onmousemove:
((MouseEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var
onmouseout: ((MouseEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n
var onmouseover: ((MouseEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onmouseup: ((MouseEvent) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onwheel: ((WheelEvent) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onpause: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onplay: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onplaying: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onprogress: ((ProgressEvent) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onratechange: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onreset: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onresize: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onscroll: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onseeked: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onseeking: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onselect: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onshow: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onstalled: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onsubmit: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onsuspend: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var ontimeupdate: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var ontoggle: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onvolumechange: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onwaiting: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var ongotpointercapture: ((PointerEvent) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onlostpointercapture: ((PointerEvent) -> dynamic)?\n
get() = definedExternally\n    set(value) = definedExternally\n    var onpointerdown: ((PointerEvent) ->
dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var onpointermove:
((PointerEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var
onpointerup: ((PointerEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n
var onpointercancel: ((PointerEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onpointerover: ((PointerEvent) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onpointerout: ((PointerEvent) -> dynamic)?\n    get() = definedExternally\n

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    set(value) = definedExternally\n    var onpointerenter: ((PointerEvent) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onpointerleave: ((PointerEvent) -> dynamic)?\n
get() = definedExternally\n    set(value) = definedExternally\n}\n\n/**\n * Exposes the JavaScript
[WindowEventHandlers](https://developer.mozilla.org/en/docs/Web/API/WindowEventHandlers) to Kotlin\n
*\npublic external interface WindowEventHandlers {\n    var onafterprint: ((Event) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onbeforeprint: ((Event) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onbeforeunload: ((BeforeUnloadEvent) ->
String?)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var onhashchange:
((HashChangeEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var
onlanguagechange: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n
var onmessage: ((MessageEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onoffline: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var ononline: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onpagehide: ((PageTransitionEvent) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onpageshow: ((PageTransitionEvent) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onpopstate: ((PopStateEvent) -> dynamic)?\n
get() = definedExternally\n    set(value) = definedExternally\n    var onrejectionhandled: ((Event) -> dynamic)?\n
    get() = definedExternally\n    set(value) = definedExternally\n    var onstorage: ((StorageEvent) -> dynamic)?\n
    get() = definedExternally\n    set(value) = definedExternally\n    var onunhandledrejection:
((PromiseRejectionEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n
var onunload: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\npublic external interface DocumentAndElementEventHandlers {\n    var oncopy:
((ClipboardEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var oncut:
((ClipboardEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var
onpaste: ((ClipboardEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n/**\n * Exposes the JavaScript
[WindowOrWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WindowOrWorkerGlobalScope)
to Kotlin\n
*\npublic external interface WindowOrWorkerGlobalScope {\n    val origin: String\n    val caches:
CacheStorage\n    fun btoa(data: String): String\n    fun atob(data: String): String\n    fun setTimeout(handler:
dynamic, timeout: Int = definedExternally, vararg arguments: Any?): Int\n    fun clearTimeout(handle: Int =
definedExternally)\n    fun setInterval(handler: dynamic, timeout: Int = definedExternally, vararg arguments: Any?):
Int\n    fun clearInterval(handle: Int = definedExternally)\n    fun createImageBitmap(image: ImageBitmapSource,
options: ImageBitmapOptions = definedExternally): Promise<ImageBitmap>\n    fun createImageBitmap(image:
ImageBitmapSource, sx: Int, sy: Int, sw: Int, sh: Int, options: ImageBitmapOptions = definedExternally):
Promise<ImageBitmap>\n    fun fetch(input: dynamic, init: RequestInit = definedExternally):
Promise<Response>\n}\n\n/**\n * Exposes the JavaScript
[Navigator](https://developer.mozilla.org/en/docs/Web/API/Navigator) to Kotlin\n
*\npublic external abstract class
Navigator : NavigatorID, NavigatorLanguage, NavigatorOnLine, NavigatorContentUtils, NavigatorCookies,
NavigatorPlugins, NavigatorConcurrentHardware {\n    open val clipboard: Clipboard\n    open val mediaDevices:
MediaDevices\n    open val maxTouchPoints: Int\n    open val serviceWorker: ServiceWorkerContainer\n    fun
requestMediaKeySystemAccess(keySystem: String, supportedConfigurations:
Array<MediaKeySystemConfiguration>): Promise<MediaKeySystemAccess>\n    fun getUserMedia(constraints:
MediaStreamConstraints, successCallback: (MediaStream) -> Unit, errorCallback: (dynamic) -> Unit)\n    fun
vibrate(pattern: dynamic): Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorID](https://developer.mozilla.org/en/docs/Web/API/NavigatorID) to Kotlin\n
*\npublic external interface
NavigatorID {\n    val appCodeName: String\n    val appName: String\n    val appVersion: String\n    val platform:
String\n    val product: String\n    val productSub: String\n    val userAgent: String\n    val vendor: String\n    val
vendorSub: String\n    val oscpu: String\n    fun taintEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript

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Boolean\n  open val code: Short\n  open val reason: String\n\n  companion object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n\n  \n\n  public external interface CloseEventInit : EventInit {\n    var wasClean: Boolean? /* = false */\n    get() = definedExternally\n    set(value) = definedExternally\n    var code: Short? /* = 0 */\n    get() = definedExternally\n    set(value) = definedExternally\n    var reason: String? /* = \"\" */\n    get() = definedExternally\n    set(value) = definedExternally\n  }\n\n  @Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n  @kotlin.internal.InlineOnly\n  public inline fun CloseEventInit(wasClean: Boolean? = false, code: Short? = 0, reason: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): CloseEventInit {\n    val o = js(\"({})\")\n    o[\"wasClean\"] = wasClean\n    o[\"code\"] = code\n    o[\"reason\"] = reason\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n  }\n\n  /**\n   * Exposes the JavaScript [MessageChannel](https://developer.mozilla.org/en/docs/Web/API/MessageChannel) to Kotlin\n   */\n  public external open class MessageChannel {\n    open val port1: MessagePort\n    open val port2: MessagePort\n  }\n\n  /**\n   * Exposes the JavaScript [MessagePort](https://developer.mozilla.org/en/docs/Web/API/MessagePort) to Kotlin\n   */\n  public external abstract class MessagePort : EventTarget, UnionMessagePortOrWindowProxy, UnionMessagePortOrServiceWorker, UnionClientOrMessagePortOrServiceWorker {\n    open var onmessage: ((MessageEvent) -> dynamic)?\n    fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n    fun start()\n    fun close()\n  }\n\n  /**\n   * Exposes the JavaScript [BroadcastChannel](https://developer.mozilla.org/en/docs/Web/API/BroadcastChannel) to Kotlin\n   */\n  public external open class BroadcastChannel(name: String) : EventTarget {\n    open val name: String\n    var onmessage: ((MessageEvent) -> dynamic)?\n    fun postMessage(message: Any?)\n    fun close()\n  }\n\n  /**\n   * Exposes the JavaScript [WorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WorkerGlobalScope) to Kotlin\n   */\n  public external abstract class WorkerGlobalScope : EventTarget, WindowOrWorkerGlobalScope, GlobalPerformance {\n    open val self: WorkerGlobalScope\n    open val location: WorkerLocation\n    open val navigator: WorkerNavigator\n    open var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n    open var onlanguagechange: ((Event) -> dynamic)?\n    open var onoffline: ((Event) -> dynamic)?\n    open var ononline: ((Event) -> dynamic)?\n    open var onrejectionhandled: ((Event) -> dynamic)?\n    open var onunhandledrejection: ((PromiseRejectionEvent) -> dynamic)?\n    fun importScripts(vararg urls: String)\n  }\n\n  /**\n   * Exposes the JavaScript [DedicatedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/DedicatedWorkerGlobalScope) to Kotlin\n   */\n  public external abstract class DedicatedWorkerGlobalScope : WorkerGlobalScope {\n    open var onmessage: ((MessageEvent) -> dynamic)?\n    fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n    fun close()\n  }\n\n  /**\n   * Exposes the JavaScript [SharedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/SharedWorkerGlobalScope) to Kotlin\n   */\n  public external abstract class SharedWorkerGlobalScope : WorkerGlobalScope {\n    open val name: String\n    open val applicationCache: ApplicationCache\n    open var onconnect: ((Event) -> dynamic)?\n    fun close()\n  }\n\n  /**\n   * Exposes the JavaScript [AbstractWorker](https://developer.mozilla.org/en/docs/Web/API/AbstractWorker) to Kotlin\n   */\n  public external interface AbstractWorker {\n    var onerror: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n  }\n\n  /**\n   * Exposes the JavaScript [Worker](https://developer.mozilla.org/en/docs/Web/API/Worker) to Kotlin\n   */\n  public external open class Worker(scriptURL: String, options: WorkerOptions = definedExternally) : EventTarget, AbstractWorker {\n    var onmessage: ((MessageEvent) -> dynamic)?\n    override var onerror: ((Event) -> dynamic)?\n    fun terminate()\n    fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n  }\n\n  public external interface WorkerOptions {\n    var type: WorkerType? /* = WorkerType.CLASSIC */\n    get() = definedExternally\n    set(value) = definedExternally\n    var credentials: RequestCredentials? /* = RequestCredentials.OMIT */\n    get() = definedExternally\n    set(value) = definedExternally\n  }\n\n  @Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n  @kotlin.internal.InlineOnly\n  public inline fun WorkerOptions(type: WorkerType? =

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WorkerType.CLASSIC, credentials: RequestCredentials? = RequestCredentials.OMIT): WorkerOptions {
    val o = js("{}")
    o["type"] = type
    o["credentials"] = credentials
    return o
}
/** Exposes the JavaScript [SharedWorker](https://developer.mozilla.org/en/docs/Web/API/SharedWorker) to Kotlin
 *
 * public external open class SharedWorker(scriptURL: String, name: String = definedExternally, options: WorkerOptions = definedExternally) : EventTarget, AbstractWorker {
    open val port: MessagePort
    override var onerror: ((Event) -> dynamic)?
}
/** Exposes the JavaScript [NavigatorConcurrentHardware](https://developer.mozilla.org/en/docs/Web/API/NavigatorConcurrentHardware) to Kotlin
 *
 * public external interface NavigatorConcurrentHardware {
    val hardwareConcurrency: Number
}
/** Exposes the JavaScript [WorkerNavigator](https://developer.mozilla.org/en/docs/Web/API/WorkerNavigator) to Kotlin
 *
 * public external abstract class WorkerNavigator : NavigatorID, NavigatorLanguage, NavigatorOnLine, NavigatorConcurrentHardware {
    open val serviceWorker: ServiceWorkerContainer
}
/** Exposes the JavaScript [WorkerLocation](https://developer.mozilla.org/en/docs/Web/API/WorkerLocation) to Kotlin
 *
 * public external abstract class WorkerLocation {
    open val href: String
    open val origin: String
    open val protocol: String
    open val host: String
    open val hostname: String
    open val port: String
    open val pathname: String
    open val search: String
    open val hash: String
}
/** Exposes the JavaScript [Storage](https://developer.mozilla.org/en/docs/Web/API/Storage) to Kotlin
 *
 * public external abstract class Storage {
    open val length: Int
    fun key(index: Int): String?
    fun removeItem(key: String)
    fun clear()
    fun getItem(key: String): String?
    fun setItem(key: String, value: String)
}
@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun Storage.get(key: String): String? = asDynamic()[key]
@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun Storage.set(key: String, value: String) { asDynamic()[key] = value }
/** Exposes the JavaScript [WindowSessionStorage](https://developer.mozilla.org/en/docs/Web/API/WindowSessionStorage) to Kotlin
 *
 * public external interface WindowSessionStorage {
    val sessionStorage: Storage
}
/** Exposes the JavaScript [WindowLocalStorage](https://developer.mozilla.org/en/docs/Web/API/WindowLocalStorage) to Kotlin
 *
 * public external interface WindowLocalStorage {
    val localStorage: Storage
}
/** Exposes the JavaScript [StorageEvent](https://developer.mozilla.org/en/docs/Web/API/StorageEvent) to Kotlin
 *
 * public external open class StorageEvent(type: String, eventInitDict: StorageEventInit = definedExternally) : Event {
    open val key: String?
    open val oldValue: String?
    open val newValue: String?
    open val url: String
    open val storageArea: Storage?
}
companion object {
    val NONE: Short
    val CAPTURING_PHASE: Short
    val AT_TARGET: Short
    val BUBBLING_PHASE: Short
}
public external interface StorageEventInit : EventInit {
    var key: String? /* = null */
    get() = definedExternally
    set(value) = definedExternally
    var oldValue: String? /* = null */
    get() = definedExternally
    set(value) = definedExternally
    var newValue: String? /* = null */
    get() = definedExternally
    set(value) = definedExternally
    var url: String? /* = "" */
    get() = definedExternally
    set(value) = definedExternally
    var storageArea: Storage? /* = null */
    get() = definedExternally
    set(value) = definedExternally
}
@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun StorageEventInit(key: String? = null, oldValue: String? = null, newValue: String? = null, url: String? = "", storageArea: Storage? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): StorageEventInit {
    val o = js("{}")
    o["key"] = key
    o["oldValue"] = oldValue
    o["newValue"] = newValue
    o["url"] = url
    o["storageArea"] = storageArea
    o["bubbles"] = bubbles
    o["cancelable"] = cancelable
    o["composed"] = composed
    return o
}
public external abstract class HTMLAppletElement : HTMLElement {
    open var align: String
    open var alt: String
    open var archive: String
    open var code: String
    open var codeBase: String
    open var height: String
    open var hspace: Int
    open var name: String
    open var _object: String
    open var vspace: Int
    open var width: String
}
companion object {
}

```

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    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n } \n \n /** \n * Exposes the JavaScript
[HTMLMarqueeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMarqueeElement) to Kotlin \n
*/ \n public external abstract class HTMLMarqueeElement : HTMLElement { \n    open var behavior: String \n    open
var bgColor: String \n    open var direction: String \n    open var height: String \n    open var hspace: Int \n    open var
loop: Int \n    open var scrollAmount: Int \n    open var scrollDelay: Int \n    open var trueSpeed: Boolean \n    open var
vspace: Int \n    open var width: String \n    open var onbounce: ((Event) -> dynamic)? \n    open var onfinish: ((Event)
-> dynamic)? \n    open var onstart: ((Event) -> dynamic)? \n    fun start() \n    fun stop() \n \n    companion object { \n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n } \n \n /** \n * Exposes the JavaScript
[HTMLFrameSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFrameSetElement) to Kotlin \n
*/ \n public external abstract class HTMLFrameSetElement : HTMLElement, WindowEventHandlers { \n    open var
cols: String \n    open var rows: String \n \n    companion object { \n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n } \n \n public external abstract class
HTMLFrameElement : HTMLElement { \n    open var name: String \n    open var scrolling: String \n    open var src:
String \n    open var frameBorder: String \n    open var longDesc: String \n    open var noResize: Boolean \n    open val
contentDocument: Document? \n    open val contentWindow: Window? \n    open var marginHeight: String \n    open
var marginWidth: String \n \n    companion object { \n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n } \n

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DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\npublic external abstract class
HTMLDirectoryElement : HTMLElement { \n open var compact: Boolean\n\n companion object { \n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n/** \n * Exposes the JavaScript
[HTMLFontElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFontElement) to Kotlin\n */\npublic
external abstract class HTMLFontElement : HTMLElement { \n open var color: String\n open var face: String\n
open var size: String\n\n companion object { \n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\npublic external interface External
{ \n fun AddSearchProvider()\n fun IsSearchProviderInstalled()\n\n\npublic external interface EventInit { \n
var bubbles: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var
cancelable: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var
composed: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n } \n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun EventInit(bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): EventInit { \n val o = js(\"({})\")\n o[\"bubbles\"] =
bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n } \n\n/** \n * Exposes the
JavaScript [CustomEvent](https://developer.mozilla.org/en/docs/Web/API/CustomEvent) to Kotlin\n */\npublic
external open class CustomEvent(type: String, eventInitDict: CustomEventInit = definedExternally) : Event { \n
open val detail: Any?\n fun initCustomEvent(type: String, bubbles: Boolean, cancelable: Boolean, detail:
Any?)\n\n companion object { \n val NONE: Short\n val CAPTURING_PHASE: Short\n val
AT_TARGET: Short\n val BUBBLING_PHASE: Short\n } \n\n\npublic external interface CustomEventInit :
EventInit { \n var detail: Any? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n } \n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun CustomEventInit(detail: Any? = null,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): CustomEventInit { \n val o
= js(\"({})\")\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n
o[\"composed\"] = composed\n return o\n } \n\n\npublic external interface EventListenerOptions { \n var capture:
Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n } \n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun EventListenerOptions(capture:
Boolean? = false): EventListenerOptions { \n val o = js(\"({})\")\n o[\"capture\"] = capture\n return
o\n } \n\n\npublic external interface AddEventListenerOptions : EventListenerOptions { \n var passive: Boolean? /* =
false */\n get() = definedExternally\n set(value) = definedExternally\n var once: Boolean? /* = false */\n

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    get() = definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun AddEventListenerOptions(passive:
Boolean? = false, once: Boolean? = false, capture: Boolean? = false): AddEventListenerOptions {\n    val o =
js(\"({})\")\n    o[\"passive\"] = passive\n    o[\"once\"] = once\n    o[\"capture\"] = capture\n    return o\n}\n\npublic
external interface NonElementParentNode {\n    fun getElementById(elementId: String): Element?\n}\n\n/**\n *
Exposes the JavaScript
[DocumentOrShadowRoot](https://developer.mozilla.org/en/docs/Web/API/DocumentOrShadowRoot) to Kotlin\n
*/\n\npublic external interface DocumentOrShadowRoot {\n    val fullscreenElement: Element?\n    get() =
definedExternally\n}\n\n/**\n * Exposes the JavaScript
[ParentNode](https://developer.mozilla.org/en/docs/Web/API/ParentNode) to Kotlin\n
*/\n\npublic external interface
ParentNode {\n    val children: HTMLCollection\n    val firstElementChild: Element?\n    get() =
definedExternally\n    val lastElementChild: Element?\n    get() = definedExternally\n    val childElementCount:
Int\n    fun prepend(vararg nodes: dynamic)\n    fun append(vararg nodes: dynamic)\n    fun querySelector(selectors:
String): Element?\n    fun querySelectorAll(selectors: String): NodeList\n}\n\n/**\n * Exposes the JavaScript
[NonDocumentTypeChildNode](https://developer.mozilla.org/en/docs/Web/API/NonDocumentTypeChildNode) to
Kotlin\n
*/\n\npublic external interface NonDocumentTypeChildNode {\n    val previousElementSibling: Element?\n
    get() = definedExternally\n    val nextElementSibling: Element?\n    get() = definedExternally\n}\n\n/**\n *
Exposes the JavaScript [ChildNode](https://developer.mozilla.org/en/docs/Web/API/ChildNode) to Kotlin\n
*/\n\npublic external interface ChildNode {\n    fun before(vararg nodes: dynamic)\n    fun after(vararg nodes:
dynamic)\n    fun replaceWith(vararg nodes: dynamic)\n    fun remove()\n}\n\n/**\n * Exposes the JavaScript
[Slotable](https://developer.mozilla.org/en/docs/Web/API/Slotable) to Kotlin\n
*/\n\npublic external interface Slotable
{\n    val assignedSlot: HTMLSlotElement?\n    get() = definedExternally\n}\n\n/**\n * Exposes the JavaScript
[NodeList](https://developer.mozilla.org/en/docs/Web/API/NodeList) to Kotlin\n
*/\n\npublic external abstract class
NodeList : ItemArrayLike<Node> {\n    override fun item(index: Int):
Node?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun NodeList.get(index: Int):
Node? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[HTMLCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLCollection) to Kotlin\n
*/\n\npublic
external abstract class HTMLCollection : ItemArrayLike<Element>, UnionElementOrHTMLCollection {\n
    override fun item(index: Int): Element?\n    fun namedItem(name: String):
Element?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLCollection.get(index:
Int): Element? = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLCollection.get(name:
String): Element? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[MutationObserver](https://developer.mozilla.org/en/docs/Web/API/MutationObserver) to Kotlin\n
*/\n\npublic
external open class MutationObserver(callback: (Array<MutationRecord>, MutationObserver) -> Unit) {\n    fun
observe(target: Node, options: MutationObserverInit = definedExternally)\n    fun disconnect()\n    fun
takeRecords(): Array<MutationRecord>\n}\n\n/**\n * Exposes the JavaScript
[MutationObserverInit](https://developer.mozilla.org/en/docs/Web/API/MutationObserverInit) to Kotlin\n
*/\n\npublic external interface MutationObserverInit {\n    var childList: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var attributes: Boolean?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var characterData: Boolean?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var subtree: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var attributeOldValue: Boolean?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var characterDataOldValue: Boolean?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var attributeFilter: Array<String>?\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",

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\@kotlin.internal.InlineOnly\npublic inline fun MutationObserverInit(childList:
Boolean? = false, attributes: Boolean? = undefined, characterData: Boolean? = undefined, subtree: Boolean? = false,
attributeOldValue: Boolean? = undefined, characterDataOldValue: Boolean? = undefined, attributeFilter:
Array<String?> = undefined): MutationObserverInit {\n  val o = js("{}")\n  o["childList"] = childList\n  o["attributes"] = attributes\n  o["characterData"] = characterData\n  o["subtree"] = subtree\n  o["attributeOldValue"] = attributeOldValue\n  o["characterDataOldValue"] = characterDataOldValue\n  o["attributeFilter"] = attributeFilter\n  return o\n}\n\n/**\n * Exposes the JavaScript
[MutationRecord](https://developer.mozilla.org/en/docs/Web/API/MutationRecord) to Kotlin\n */\npublic external
abstract class MutationRecord {\n  open val type: String\n  open val target: Node\n  open val addedNodes:
NodeList\n  open val removedNodes: NodeList\n  open val previousSibling: Node?\n  open val nextSibling:
Node?\n  open val attributeName: String?\n  open val attributeNamespace: String?\n  open val oldValue:
String?\n}\n\n/**\n * Exposes the JavaScript [Node](https://developer.mozilla.org/en/docs/Web/API/Node) to
Kotlin\n */\npublic external abstract class Node : EventTarget {\n  open val nodeType: Short\n  open val
nodeName: String\n  open val baseURI: String\n  open val isConnected: Boolean\n  open val ownerDocument:
Document?\n  open val parentNode: Node?\n  open val parentElement: Element?\n  open val childNodes:
NodeList\n  open val firstChild: Node?\n  open val lastChild: Node?\n  open val previousSibling: Node?\n
open val nextSibling: Node?\n  open var nodeValue: String?\n  open var textContent: String?\n  fun
getRootNode(options: GetRootNodeOptions = definedExternally): Node\n  fun hasChildNodes(): Boolean\n  fun
normalize()\n  fun cloneNode(deep: Boolean = definedExternally): Node\n  fun isEqualNode(otherNode: Node?):
Boolean\n  fun isSameNode(otherNode: Node?): Boolean\n  fun compareDocumentPosition(other: Node): Short\n
  fun contains(other: Node?): Boolean\n  fun lookupPrefix(namespace: String?): String?\n  fun
lookupNamespaceURI(prefix: String?): String?\n  fun isDefaultNamespace(namespace: String?): Boolean\n  fun
insertBefore(node: Node, child: Node?): Node\n  fun appendChild(node: Node): Node\n  fun replaceChild(node:
Node, child: Node): Node\n  fun removeChild(child: Node): Node\n\n  companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external interface
GetRootNodeOptions {\n  var composed: Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("\@kotlin.internal.InlineOnly\npublic inline fun GetRootNodeOptions(composed:
Boolean? = false): GetRootNodeOptions {\n  val o = js("{}")\n  o["composed"] = composed\n  return
o\n}\n\n/**\n * Exposes the JavaScript [Document](https://developer.mozilla.org/en/docs/Web/API/Document) to
Kotlin\n */\npublic external open class Document : Node, GlobalEventHandlers,
DocumentAndElementEventHandlers, NonElementParentNode, DocumentOrShadowRoot, ParentNode,
GeometryUtils {\n  open val implementation: DOMImplementation\n  open val URL: String\n  open val
documentURI: String\n  open val origin: String\n  open val compatMode: String\n  open val characterSet:
String\n  open val charset: String\n  open val inputEncoding: String\n  open val contentType: String\n  open val
doctype: DocumentType?\n  open val documentElement: Element?\n  open val location: Location?\n  var
domain: String\n  open val referrer: String\n  var cookie: String\n  open val lastModified: String\n  open val
readyState: DocumentReadyState\n  var title: String\n  var dir: String\n  var body: HTMLCollection\n  open val
head: HTMLHeadElement?\n  open val images: HTMLCollection\n  open val embeds: HTMLCollection\n  open
val plugins: HTMLCollection\n  open val links: HTMLCollection\n  open

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val scripts: HTMLCollection\n  open val currentScript: HTMLOrSVGScriptElement?\n  open val defaultView: Window?\n  open val activeElement: Element?\n  var designMode: String\n  var onreadystatechange: ((Event) -> dynamic)?\n  var fgColor: String\n  var linkColor: String\n  var vlinkColor: String\n  var alinkColor: String\n  var bgColor: String\n  open val anchors: HTMLCollection\n  open val applets: HTMLCollection\n  open val all: HTMLAllCollection\n  open val scrollingElement: Element?\n  open val styleSheets: StyleSheetList\n  open val rootElement: SVGSVGElement?\n  open val fullscreenEnabled: Boolean\n  open val fullscreen: Boolean\n  var onfullscreenchange: ((Event) -> dynamic)?\n  var onfullscreenerror: ((Event) -> dynamic)?\n  override var onabort: ((Event) -> dynamic)?\n  override var onblur: ((FocusEvent) -> dynamic)?\n  override var onCancel: ((Event) -> dynamic)?\n  override var oncanplay: ((Event) -> dynamic)?\n  override var oncanplaythrough: ((Event) -> dynamic)?\n  override var onChange: ((Event) -> dynamic)?\n  override var onclick: ((MouseEvent) -> dynamic)?\n  override var onclose: ((Event) -> dynamic)?\n  override var oncontextmenu: ((MouseEvent) -> dynamic)?\n  override var oncuechange: ((Event) -> dynamic)?\n  override var ondblclick: ((MouseEvent) -> dynamic)?\n  override var ondrag: ((DragEvent) -> dynamic)?\n  override var ondragend: ((DragEvent) -> dynamic)?\n  override var ondragenter: ((DragEvent) -> dynamic)?\n  override var ondragexit: ((DragEvent) -> dynamic)?\n  override var ondragleave: ((DragEvent) -> dynamic)?\n  override var ondragover: ((DragEvent) -> dynamic)?\n  override var ondragstart: ((DragEvent) -> dynamic)?\n  override var ondrop: ((DragEvent) -> dynamic)?\n  override var ondurationchange: ((Event) -> dynamic)?\n  override var onemptied: ((Event) -> dynamic)?\n  override var onended: ((Event) -> dynamic)?\n  override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n  override var onfocus: ((FocusEvent) -> dynamic)?\n  override var oninput: ((InputEvent) -> dynamic)?\n  override var oninvalid: ((Event) -> dynamic)?\n  override var onkeydown: ((KeyboardEvent) -> dynamic)?\n  override var onkeypress: ((KeyboardEvent) -> dynamic)?\n  override var onkeyup: ((KeyboardEvent) -> dynamic)?\n  override var onload: ((Event) -> dynamic)?\n  override var onloadeddata: ((Event) -> dynamic)?\n  override var onloadedmetadata: ((Event) -> dynamic)?\n  override var onloadend: ((Event) -> dynamic)?\n  override var onloadstart: ((ProgressEvent) -> dynamic)?\n  override var onmousedown: ((MouseEvent) -> dynamic)?\n  override var onmouseenter: ((MouseEvent) -> dynamic)?\n  override var onmouseleave: ((MouseEvent) -> dynamic)?\n  override var onmousemove: ((MouseEvent) -> dynamic)?\n  override var onmouseout: ((MouseEvent) -> dynamic)?\n  override var onmouseover: ((MouseEvent) -> dynamic)?\n  override var onmouseup: ((MouseEvent) -> dynamic)?\n  override var onwheel: ((WheelEvent) -> dynamic)?\n  override var onpause: ((Event) -> dynamic)?\n  override var onplay: ((Event) -> dynamic)?\n  override var onplaying: ((Event) -> dynamic)?\n  override var onprogress: ((ProgressEvent) -> dynamic)?\n  override var onratechange: ((Event) -> dynamic)?\n  override var onreset: ((Event) -> dynamic)?\n  override var onresize: ((Event) -> dynamic)?\n  override var onscroll: ((Event) -> dynamic)?\n  override var onseeked: ((Event) -> dynamic)?\n  override var onseeking: ((Event) -> dynamic)?\n  override var onselect: ((Event) -> dynamic)?\n  override var onshow: ((Event) -> dynamic)?\n  override var onstalled: ((Event) -> dynamic)?\n  override var onsubmit: ((Event) -> dynamic)?\n  override var onsuspend: ((Event) -> dynamic)?\n  override var ontimeupdate: ((Event) -> dynamic)?\n  override var ontoggle: ((Event) -> dynamic)?\n  override var onvolumechange: ((Event) -> dynamic)?\n  override var onwaiting: ((Event) -> dynamic)?\n  override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override var onlostpointercapture: ((PointerEvent) -> dynamic)?\n  override var onpointerdown: ((PointerEvent) -> dynamic)?\n  override var onpointermove: ((PointerEvent) -> dynamic)?\n  override var onpointerup: ((PointerEvent) -> dynamic)?\n  override var onpointercancel: ((PointerEvent) -> dynamic)?\n  override var onpointerover: ((PointerEvent) -> dynamic)?\n  override var onpointerout: ((PointerEvent) -> dynamic)?\n  override var onpointerenter: ((PointerEvent) -> dynamic)?\n  override var onpointerleave: ((PointerEvent) -> dynamic)?\n  override var oncopy: ((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) -> dynamic)?\n  override var onpaste: ((ClipboardEvent) -> dynamic)?\n  override val fullscreenElement: Element?\n  override val children: HTMLCollection\n  override val firstElementChild: Element?\n  override val lastElementChild: Element?\n  override val childElementCount: Int\n  fun getElementsByTagName(qualifiedName: String): HTMLCollection\n  fun getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n  fun

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getElementsByClassName(classNames: String): HTMLCollection\n fun createElement(localName: String,
options: ElementCreationOptions = definedExternally): Element\n fun createElementNS(namespace: String?,
qualifiedName: String, options: ElementCreationOptions = definedExternally): Element\n fun
createDocumentFragment(): DocumentFragment\n fun createTextNode(data: String): Text\n fun
createCDATASection(data: String): CDATASection\n fun createComment(data: String): Comment\n fun
createProcessingInstruction(target: String, data: String): ProcessingInstruction\n fun importNode(node: Node,
deep: Boolean = definedExternally): Node\n fun adoptNode(node: Node): Node\n fun
createAttribute(localName: String): Attr\n fun createAttributeNS(namespace: String?, qualifiedName: String):
Attr\n fun createEvent(`interface`: String): Event\n fun createRange(): Range\n fun createNodeIterator(root:
Node, whatToShow: Int = definedExternally, filter: NodeFilter? = definedExternally): NodeIterator\n fun
createNodeIterator(root: Node, whatToShow: Int = definedExternally, filter: ((Node) -> Short)? =
definedExternally): NodeIterator\n fun createTreeWalker(root: Node, whatToShow: Int = definedExternally, filter:
NodeFilter? = definedExternally): TreeWalker\n fun createTreeWalker(root: Node, whatToShow: Int =
definedExternally, filter: ((Node) -> Short)? = definedExternally): TreeWalker\n fun
getElementsByName(elementName: String): NodeList\n fun open(type: String = definedExternally, replace:
String = definedExternally): Document\n fun open(url: String, name: String, features: String): Window\n fun
close()\n fun write(vararg text: String)\n fun writeln(vararg text: String)\n fun hasFocus(): Boolean\n fun
execCommand(commandId: String, showUI: Boolean = definedExternally, value: String = definedExternally):
Boolean\n fun queryCommandEnabled(commandId: String): Boolean\n fun
queryCommandIndeterm(commandId: String): Boolean\n fun queryCommandState(commandId: String):
Boolean\n fun queryCommandSupported(commandId: String): Boolean\n fun
queryCommandValue(commandId: String): String\n fun clear()\n fun captureEvents()\n fun releaseEvents()\n
fun elementFromPoint(x: Double, y: Double): Element?\n fun elementsFromPoint(x: Double, y: Double):
Array<Element>\n fun caretPositionFromPoint(x: Double, y: Double): CaretPosition?\n fun createTouch(view:
Window, target: EventTarget, identifier: Int, pageX: Int, pageY: Int, screenX: Int, screenY: Int): Touch\n fun
createTouchList(vararg touches: Touch): TouchList\n fun exitFullscreen(): Promise<Unit>\n override fun
getElementById(elementId: String): Element?\n override fun prepend(vararg nodes: dynamic)\n override fun
append(vararg nodes: dynamic)\n override fun querySelector(selectors: String): Element?\n override fun
querySelectorAll(selectors: String): NodeList\n override fun getBoxQuads(options: BoxQuadOptions /* =
definedExternally */): Array<DOMQuad>\n override fun convertQuadFromNode(quad: dynamic, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun
convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n override fun convertPointFromNode(point: DOMPointInit, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Document.get(name: String):
dynamic = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[XMLDocument](https://developer.mozilla.org/en/docs/Web/API/XMLDocument) to Kotlin\n *\n\npublic external
open class XMLDocument : Document {\n companion object {\n val ELEMENT_NODE: Short\n val

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ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external interface
ElementCreationOptions {\n    var `is`: String?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ElementCreationOptions(`is`: String?
= undefined): ElementCreationOptions {\n    val o = js(\"({})\")\n    o[\"is\"] = `is`\n    return o\n}\n\n/**\n *
Exposes the JavaScript
[DOMImplementation](https://developer.mozilla.org/en/docs/Web/API/DOMImplementation) to Kotlin\n
*/\npublic external abstract class DOMImplementation {\n    fun createDocumentType(qualifiedName: String,
publicId: String, systemId: String): DocumentType\n    fun createDocument(namespace: String?, qualifiedName:
String, doctype: DocumentType? = definedExternally): XMLDocument\n    fun createHTMLDocument(title: String
= definedExternally): Document\n    fun hasFeature(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[DocumentType](https://developer.mozilla.org/en/docs/Web/API/DocumentType) to Kotlin\n
*/\npublic external
abstract class DocumentType : Node, ChildNode {\n    open val name: String\n    open val publicId: String\n    open
val systemId: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[DocumentFragment](https://developer.mozilla.org/en/docs/Web/API/DocumentFragment) to Kotlin\n
*/\npublic
external open class DocumentFragment : Node, NonElementParentNode, ParentNode {\n    override val children:
HTMLCollection\n    override val firstElementChild: Element?\n    override val lastElementChild: Element?\n
override val childElementCount: Int\n    override fun getElementById(elementId: String): Element?\n    override fun
prepend(vararg nodes: dynamic)\n    override fun append(vararg nodes: dynamic)\n    override fun
querySelector(selectors: String): Element?\n    override fun querySelectorAll(selectors: String): NodeList\n\n
companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val
TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[ShadowRoot](https://developer.mozilla.org/en/docs/Web/API/ShadowRoot) to Kotlin\n
*/\npublic external open
class ShadowRoot : DocumentFragment, DocumentOrShadowRoot {\n    open val mode: ShadowRootMode\n}

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open val host: Element\n  override val fullscreenElement: Element?\n\n  companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[Element](https://developer.mozilla.org/en/docs/Web/API/Element) to Kotlin\n * \n\npublic external abstract class
Element : Node, ParentNode, NonDocumentTypeChildNode, ChildNode, Slotable, GeometryUtils,
UnionElementOrHTMLCollection, UnionElementOrRadioNodeList, UnionElementOrMouseEvent,
UnionElementOrProcessingInstruction {\n  open val namespaceURI: String?\n  open val prefix: String?\n  open
val localName: String\n  open val tagName: String\n  open var id: String\n  open var className: String\n  open
val classList: DOMTokenList\n  open var slot: String\n  open val attributes: NamedNodeMap\n  open val
shadowRoot: ShadowRoot?\n  open var scrollTop: Double\n  open var scrollLeft: Double\n  open val
scrollWidth: Int\n  open val scrollHeight: Int\n  open val clientTop: Int\n  open val clientLeft: Int\n  open val
clientWidth: Int\n  open val clientHeight: Int\n  open var innerHTML: String\n  open var outerHTML: String\n
fun hasAttributes(): Boolean\n  fun getAttributeNames(): Array<String>\n  fun getAttribute(qualifiedName:
String): String?\n  fun getAttributeNS(namespace: String?, localName: String): String?\n  fun
setAttribute(qualifiedName: String, value: String)\n  fun setAttributeNS(namespace: String?, qualifiedName:
String, value: String)\n  fun removeAttribute(qualifiedName: String)\n  fun removeAttributeNS(namespace:
String?, localName: String)\n  fun hasAttribute(qualifiedName: String): Boolean\n  fun
hasAttributeNS(namespace: String?, localName: String): Boolean\n  fun getAttributeNode(qualifiedName: String):
Attr?\n  fun getAttributeNodeNS(namespace: String?, localName: String): Attr?\n  fun setAttributeNode(attr:
Attr): Attr?\n  fun setAttributeNodeNS(attr: Attr): Attr?\n  fun removeAttributeNode(attr: Attr): Attr\n  fun
attachShadow(init: ShadowRootInit): ShadowRoot\n  fun closest(selectors: String): Element?\n  fun
matches(selectors: String): Boolean\n  fun webkitMatchesSelector(selectors: String): Boolean\n  fun
getElementsByTagName(qualifiedName: String): HTMLCollection\n  fun
getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n  fun
getElementsByClassName(classNames: String): HTMLCollection\n  fun insertAdjacentElement(where: String,
element: Element): Element?\n  fun insertAdjacentText(where: String, data: String)\n  fun getClientRects():
Array<DOMRect>\n  fun getBoundingClientRect(): DOMRect\n  fun scrollIntoView()\n  fun
scrollIntoView(arg: dynamic)\n  fun scroll(options: ScrollToOptions = definedExternally)\n  fun scroll(x: Double,
y: Double)\n  fun scrollTo(options: ScrollToOptions = definedExternally)\n  fun scrollTo(x: Double, y: Double)\n
  fun scrollBy(options: ScrollToOptions = definedExternally)\n  fun scrollBy(x: Double, y: Double)\n  fun
insertAdjacentHTML(position: String, text: String)\n  fun setPointerCapture(pointerId: Int)\n  fun
releasePointerCapture(pointerId: Int)\n  fun hasPointerCapture(pointerId: Int): Boolean\n  fun requestFullscreen():
Promise<Unit>\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE:
Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val

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DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\npublic external interface
ShadowRootInit {\n var mode: ShadowRootMode?\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ShadowRootInit(mode:
ShadowRootMode?): ShadowRootInit {\n val o = js("{}")\n o["mode"] = mode\n return o\n\n/**\n *
Exposes the JavaScript [NamedNodeMap](https://developer.mozilla.org/en/docs/Web/API/NamedNodeMap) to
Kotlin\n *\npublic external abstract class NamedNodeMap : ItemArrayLike<Attr> {\n fun
getNamedItemNS(namespace: String?, localName: String): Attr?\n fun setNamedItem(attr: Attr): Attr?\n fun
setNamedItemNS(attr: Attr): Attr?\n fun removeNamedItem(qualifiedName: String): Attr\n fun
removeNamedItemNS(namespace: String?, localName: String): Attr\n override fun item(index: Int): Attr?\n fun
getNamedItem(qualifiedName: String): Attr?\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun NamedNodeMap.get(index:
Int): Attr? = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
NamedNodeMap.get(qualifiedName: String): Attr? = asDynamic()[qualifiedName]\n\n/**\n * Exposes the
JavaScript [Attr](https://developer.mozilla.org/en/docs/Web/API/Attr) to Kotlin\n *\npublic external abstract class
Attr : Node {\n open val namespaceURI: String?\n open val prefix: String?\n open val localName: String\n
open val name: String\n open var value: String\n open val ownerElement: Element?\n open val specified:
Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n/**\n * Exposes the JavaScript
[CharacterData](https://developer.mozilla.org/en/docs/Web/API/CharacterData) to Kotlin\n *\npublic external
abstract class CharacterData : Node, NonDocumentTypeChildNode, ChildNode {\n open var data: String\n open
val length: Int\n fun substringData(offset: Int, count: Int): String\n fun appendData(data: String)\n fun
insertData(offset: Int, data: String)\n fun deleteData(offset: Int, count: Int)\n fun replaceData(offset: Int, count:
Int, data: String)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n/**\n * Exposes the JavaScript
[Text](https://developer.mozilla.org/en/docs/Web/API/Text) to Kotlin\n *\npublic external open class Text(data:
String = definedExternally) : CharacterData, Slotable, GeometryUtils {\n open val wholeText: String\n override
val assignedSlot: HTMLSlotElement?\n override val previousElementSibling: Element?\n override val
nextElementSibling: Element?\n fun splitText(offset: Int): Text\n override fun getBoxQuads(options:
BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n override fun convertQuadFromNode(quad:
dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override
fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n override fun convertPointFromNode(point: DOMPointInit, from: dynamic,

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options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n  override fun before(vararg nodes:
dynamic)\n  override fun after(vararg nodes: dynamic)\n  override fun replaceWith(vararg nodes: dynamic)\n
override fun remove()\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[CDATASection](https://developer.mozilla.org/en/docs/Web/API/CDATASection) to Kotlin\n *^\npublic external
open class CDATASection : Text {\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[ProcessingInstruction](https://developer.mozilla.org/en/docs/Web/API/ProcessingInstruction) to Kotlin\n
*^\npublic external abstract class ProcessingInstruction : CharacterData, LinkStyle,
UnionElementOrProcessingInstruction {\n  open val target: String\n\n  companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[Comment](https://developer.mozilla.org/en/docs/Web/API/Comment) to Kotlin\n *^\npublic external open class
Comment(data: String = definedExternally) : CharacterData {\n  override val previousElementSibling: Element?\n
override val nextElementSibling: Element?\n  override fun before(vararg nodes: dynamic)\n  override fun
after(vararg nodes: dynamic)\n  override fun replaceWith(vararg nodes: dynamic)\n  override fun remove()\n\n
companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val
TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript

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[Range](https://developer.mozilla.org/en/docs/Web/API/Range) to Kotlin\n *\\npublic external open class Range {\n open val startContainer: Node\n open val startOffset: Int\n open val endContainer: Node\n open val endOffset: Int\n open val collapsed: Boolean\n open val commonAncestorContainer: Node\n fun setStart(node: Node, offset: Int)\n fun setEnd(node: Node, offset: Int)\n fun setStartBefore(node: Node)\n fun setStartAfter(node: Node)\n fun setEndBefore(node: Node)\n fun setEndAfter(node: Node)\n fun collapse(toStart: Boolean = definedExternally)\n fun selectNode(node: Node)\n fun selectNodeContents(node: Node)\n fun compareBoundaryPoints(how: Short, sourceRange: Range): Short\n fun deleteContents()\n fun extractContents(): DocumentFragment\n fun cloneContents(): DocumentFragment\n fun insertNode(node: Node)\n fun surroundContents(newParent: Node)\n fun cloneRange(): Range\n fun detach()\n fun isPointInRange(node: Node, offset: Int): Boolean\n fun comparePoint(node: Node, offset: Int): Short\n fun intersectsNode(node: Node): Boolean\n fun getClientRects(): Array<DOMRect>\n fun getBoundingClientRect(): DOMRect\n fun createContextualFragment(fragment: String): DocumentFragment\n\n companion object {\n val START_TO_START: Short\n val START_TO_END: Short\n val END_TO_END: Short\n val END_TO_START: Short\n }\\n}\\n\\n**\\n * Exposes the JavaScript

[NodeIterator](https://developer.mozilla.org/en/docs/Web/API/NodeIterator) to Kotlin\n *\\npublic external abstract class NodeIterator {\n open val root: Node\n open val referenceNode: Node\n open val pointerBeforeReferenceNode: Boolean\n open val whatToShow: Int\n open val filter: NodeFilter?\n fun nextNode(): Node?\n fun previousNode(): Node?\n fun detach()\\n}\\n}\\n\\n**\\n * Exposes the JavaScript

[TreeWalker](https://developer.mozilla.org/en/docs/Web/API/TreeWalker) to Kotlin\n *\\npublic external abstract class TreeWalker {\n open val root: Node\n open val whatToShow: Int\n open val filter: NodeFilter?\n open var currentNode: Node\n fun parentNode(): Node?\n fun firstChild(): Node?\n fun lastChild(): Node?\n fun previousSibling(): Node?\n fun nextSibling(): Node?\n fun previousNode(): Node?\n fun nextNode(): Node?\\n}\\n}\\n\\n**\\n * Exposes the JavaScript

[NodeFilter](https://developer.mozilla.org/en/docs/Web/API/NodeFilter) to Kotlin\n *\\n@Suppress(\\\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\\\")\\npublic external interface NodeFilter {\n fun acceptNode(node: Node): Short\n\n companion object {\n val FILTER_ACCEPT: Short\n val FILTER_REJECT: Short\n val FILTER_SKIP: Short\n val SHOW_ALL: Int\n val SHOW_ELEMENT: Int\n val SHOW_ATTRIBUTE: Int\n val SHOW_TEXT: Int\n val SHOW_CDATA_SECTION: Int\n val SHOW_ENTITY_REFERENCE: Int\n val SHOW_ENTITY: Int\n val SHOW_PROCESSING_INSTRUCTION: Int\n val SHOW_COMMENT: Int\n val SHOW_DOCUMENT: Int\n val SHOW_DOCUMENT_TYPE: Int\n val SHOW_DOCUMENT_FRAGMENT: Int\n val SHOW_NOTATION: Int\n }\\n}\\n}\\n\\n**\\n * Exposes the JavaScript

[DOMTokenList](https://developer.mozilla.org/en/docs/Web/API/DOMTokenList) to Kotlin\n *\\npublic external abstract class DOMTokenList : ItemArrayLike<String> {\n open var value: String\n fun contains(token: String): Boolean\n fun add(vararg tokens: String)\n fun remove(vararg tokens: String)\n fun toggle(token: String, force: Boolean = definedExternally): Boolean\n fun replace(token: String, newToken: String)\n fun supports(token: String): Boolean\n override fun item(index: Int): String?\\n}\\n}\\n@Suppress(\\\"INVISIBLE_REFERENCE\\\", \\\"INVISIBLE_MEMBER\\\")\\n@kotlin.internal.InlineOnly\\npublic inline operator fun DOMTokenList.get(index: Int): String? = asDynamic()[index]\\n}\\n}\\n\\n**\\n * Exposes the JavaScript

[DOMPointReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMPointReadOnly) to Kotlin\n *\\npublic external open class DOMPointReadOnly(x: Double, y: Double, z: Double, w: Double) {\n open val x: Double\n open val y: Double\n open val z: Double\n open val w: Double\n fun matrixTransform(matrix: DOMMatrixReadOnly): DOMPoint\\n}\\n}\\n\\n**\\n * Exposes the JavaScript

[DOMPoint](https://developer.mozilla.org/en/docs/Web/API/DOMPoint) to Kotlin\n *\\npublic external open class DOMPoint : DOMPointReadOnly {\n constructor(point: DOMPointInit)\n constructor(x: Double = definedExternally, y: Double = definedExternally, z: Double = definedExternally, w: Double = definedExternally)\n\n override var x: Double\n override var y: Double\n override var z: Double\n override var w:

Double\n}\n\n/**\n * Exposes the JavaScript

[DOMPointInit](https://developer.mozilla.org/en/docs/Web/API/DOMPointInit) to Kotlin\n */\npublic external interface DOMPointInit {\n var x: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var y: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var z: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var w: Double? /* = 1.0 */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",

\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun DOMPointInit(x: Double? = 0.0, y: Double? = 0.0, z: Double? = 0.0, w: Double? = 1.0): DOMPointInit {\n val o = js(\"({})\")\n o[\"x\"] = x\n o[\"y\"] = y\n o[\"z\"] = z\n o[\"w\"] = w\n return o\n}\n\n/**\n * Exposes the JavaScript

[DOMRect](https://developer.mozilla.org/en/docs/Web/API/DOMRect) to Kotlin\n */\npublic external open class DOMRect(x: Double = definedExternally, y: Double = definedExternally, width: Double = definedExternally, height: Double = definedExternally) : DOMRectReadOnly {\n override var x: Double\n override var y: Double\n override var width: Double\n override var height: Double\n}\n\n/**\n * Exposes the JavaScript

[DOMRectReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMRectReadOnly) to Kotlin\n */\npublic external open class DOMRectReadOnly(x: Double, y: Double, width: Double, height: Double) {\n open val x: Double\n open val y: Double\n open val width: Double\n open val height: Double\n open val top: Double\n open val right: Double\n open val bottom: Double\n open val left: Double\n}\n\npublic external interface DOMRectInit {\n var x: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var y: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var width: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var height: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",

\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun DOMRectInit(x: Double? = 0.0, y: Double? = 0.0, width: Double? = 0.0, height: Double? = 0.0): DOMRectInit {\n val o = js(\"({})\")\n o[\"x\"] = x\n o[\"y\"] = y\n o[\"width\"] = width\n o[\"height\"] = height\n return o\n}\n\npublic external interface DOMRectList : ItemArrayLike<DOMRect> {\n override fun item(index: Int):

DOMRect?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",

\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun DOMRectList.get(index: Int): DOMRect? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript

[DOMQuad](https://developer.mozilla.org/en/docs/Web/API/DOMQuad) to Kotlin\n */\npublic external open class DOMQuad {\n constructor(p1: DOMPointInit = definedExternally, p2: DOMPointInit = definedExternally, p3: DOMPointInit = definedExternally, p4: DOMPointInit = definedExternally)\n constructor(rect: DOMRectInit)\n open val p1: DOMPoint\n open val p2: DOMPoint\n open val p3: DOMPoint\n open val p4: DOMPoint\n open val bounds: DOMRectReadOnly\n}\n\n/**\n * Exposes the JavaScript

[DOMMatrixReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMMatrixReadOnly) to Kotlin\n */\npublic external open class DOMMatrixReadOnly(numberSequence: Array<Double>) {\n open val a: Double\n open val b: Double\n open val c: Double\n open val d: Double\n open val e: Double\n open val f: Double\n open val m11: Double\n open val m12: Double\n open val m13: Double\n open val m14: Double\n open val m21: Double\n open val m22: Double\n open val m23: Double\n open val m24: Double\n open val m31: Double\n open val m32: Double\n open val m33: Double\n open val m34: Double\n open val m41: Double\n open val m42: Double\n open val m43: Double\n open val m44: Double\n open val is2D: Boolean\n open val isIdentity: Boolean\n fun translate(tx: Double, ty: Double, tz: Double = definedExternally): DOMMatrix\n fun scale(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n fun scale3d(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally, originZ: Double = definedExternally): DOMMatrix\n fun scaleNonUniform(scaleX: Double, scaleY: Double = definedExternally, scaleZ: Double = definedExternally, originX: Double = definedExternally, originY: Double = definedExternally, originZ: Double = definedExternally): DOMMatrix\n fun rotate(angle: Double, originX:

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Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n fun rotateFromVector(x:
Double, y: Double): DOMMatrix\n fun rotateAxisAngle(x: Double, y: Double, z: Double, angle: Double):
DOMMatrix\n fun skewX(sx: Double): DOMMatrix\n fun skewY(sy: Double): DOMMatrix\n fun
multiply(other: DOMMatrix): DOMMatrix\n fun flipX(): DOMMatrix\n fun flipY(): DOMMatrix\n fun
inverse(): DOMMatrix\n fun transformPoint(point: DOMPointInit = definedExternally): DOMPoint\n fun
toFloat32Array(): Float32Array\n fun toFloat64Array(): Float64Array\n}\n\n/**\n * Exposes the JavaScript
[DOMMatrix](https://developer.mozilla.org/en/docs/Web/API/DOMMatrix) to Kotlin\n */\n\npublic external open
class DOMMatrix() : DOMMatrixReadOnly {\n constructor(transformList: String)\n constructor(other:
DOMMatrixReadOnly)\n constructor(array32: Float32Array)\n constructor(array64: Float64Array)\n
constructor(numberSequence: Array<Double>)\n override var a: Double\n override var b: Double\n override
var c: Double\n override var d: Double\n override var e: Double\n override var f: Double\n override var m11:
Double\n override var m12: Double\n override var m13: Double\n override var m14: Double\n override var
m21: Double\n override var m22: Double\n override var m23: Double\n override var m24: Double\n override
var m31: Double\n override var m32: Double\n override var m33: Double\n override var m34: Double\n
override var m41: Double\n override var m42: Double\n override var m43: Double\n override var m44:
Double\n fun multiplySelf(other: DOMMatrix): DOMMatrix\n fun preMultiplySelf(other: DOMMatrix):
DOMMatrix\n fun translateSelf(tx: Double, ty: Double, tz: Double = definedExternally): DOMMatrix\n fun
scaleSelf(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n
fun scale3dSelf(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally,
originZ: Double = definedExternally): DOMMatrix\n fun scaleNonUniformSelf(scaleX: Double, scaleY: Double =
definedExternally, scaleZ: Double = definedExternally, originX: Double = definedExternally, originY: Double =
definedExternally, originZ: Double = definedExternally): DOMMatrix\n fun rotateSelf(angle: Double, originX:
Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n fun rotateFromVectorSelf(x:
Double, y: Double): DOMMatrix\n fun rotateAxisAngleSelf(x: Double, y: Double, z: Double, angle: Double):
DOMMatrix\n fun skewXSelf(sx: Double): DOMMatrix\n fun skewYSelf(sy: Double): DOMMatrix\n fun
invertSelf(): DOMMatrix\n fun setMatrixValue(transformList: String): DOMMatrix\n}\n\npublic external
interface ScrollOptions {\n var behavior: ScrollBehavior? /* = ScrollBehavior.AUTO */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ScrollOptions(behavior:
ScrollBehavior? = ScrollBehavior.AUTO): ScrollOptions {\n val o = js(\"({})\")\n o[\"behavior\"] = behavior\n
return o\n}\n\n/**\n * Exposes the JavaScript
[ScrollToOptions](https://developer.mozilla.org/en/docs/Web/API/ScrollToOptions) to Kotlin\n */\n\npublic external
interface ScrollToOptions : ScrollOptions {\n var left: Double?\n get() = definedExternally\n set(value) =
definedExternally\n var top: Double?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ScrollToOptions(left: Double? =
undefined, top: Double? = undefined, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollToOptions {\n
val o = js(\"({})\")\n o[\"left\"] = left\n o[\"top\"] = top\n o[\"behavior\"] = behavior\n return o\n}\n\n/**\n *
Exposes the JavaScript [MediaQueryList](https://developer.mozilla.org/en/docs/Web/API/MediaQueryList) to
Kotlin\n */\n\npublic external abstract class MediaQueryList : EventTarget {\n open val media: String\n open val
matches: Boolean\n open var onchange: ((Event) -> dynamic)?\n fun addListener(listener: EventListener?)\n
fun addListener(listener: ((Event) -> Unit)?)\n fun removeListener(listener: EventListener?)\n fun
removeListener(listener: ((Event) -> Unit)?)\n}\n\n/**\n * Exposes the JavaScript
[MediaQueryListEvent](https://developer.mozilla.org/en/docs/Web/API/MediaQueryListEvent) to Kotlin\n */\n\n
public external open class MediaQueryListEvent(type: String, eventInitDict: MediaQueryListEventInit =
definedExternally) : Event {\n open val media: String\n open val matches: Boolean\n\n companion object {\n
val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic external interface MediaQueryListEventInit : EventInit {\n var

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media: String? /* = "" */\n    get() = definedExternally\n    set(value) = definedExternally\n    var matches:
Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun MediaQueryListEventInit(media:
String? = "", matches: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): MediaQueryListEventInit {\n    val o = js("{}")\n    o["media"] = media\n    o["matches"] =
matches\n    o["bubbles"] = bubbles\n    o["cancelable"] = cancelable\n    o["composed"] = composed\n    return
o\n}\n\n/**\n * Exposes the JavaScript [Screen](https://developer.mozilla.org/en/docs/Web/API/Screen) to Kotlin\n */\npublic external abstract class Screen {\n    open val availWidth: Int\n    open val availHeight: Int\n    open val
width: Int\n    open val height: Int\n    open val colorDepth: Int\n    open val pixelDepth: Int\n}\n\n/**\n * Exposes
the JavaScript [CaretPosition](https://developer.mozilla.org/en/docs/Web/API/CaretPosition) to Kotlin\n */\npublic
external abstract class CaretPosition {\n    open val offsetNode: Node\n    open val offset: Int\n    fun
getClientRect(): DOMRect?\n}\n\npublic external interface ScrollIntoViewOptions : ScrollOptions {\n    var block:
ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n    get() = definedExternally\n    set(value) =
definedExternally\n    var inline: ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ScrollIntoViewOptions(block:
ScrollLogicalPosition? = ScrollLogicalPosition.CENTER, inline: ScrollLogicalPosition? =
ScrollLogicalPosition.CENTER, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollIntoViewOptions {\n
    val o = js("{}")\n    o["block"] = block\n    o["inline"] = inline\n    o["behavior"] = behavior\n    return
o\n}\n\npublic external interface BoxQuadOptions {\n    var box: CSSBoxType? /* = CSSBoxType.BORDER */\n
    get() = definedExternally\n    set(value) = definedExternally\n    var relativeTo: dynamic\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun BoxQuadOptions(box: CSSBoxType?
= CSSBoxType.BORDER, relativeTo: dynamic = undefined): BoxQuadOptions {\n    val o = js("{}")\n
    o["box"] = box\n    o["relativeTo"] = relativeTo\n    return o\n}\n\npublic external interface
ConvertCoordinateOptions {\n    var fromBox: CSSBoxType? /* = CSSBoxType.BORDER */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var toBox: CSSBoxType? /* = CSSBoxType.BORDER
*/\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ConvertCoordinateOptions(fromBox:
CSSBoxType? = CSSBoxType.BORDER, toBox: CSSBoxType? = CSSBoxType.BORDER):
ConvertCoordinateOptions {\n    val o = js("{}")\n    o["fromBox"] = fromBox\n    o["toBox"] = toBox\n
    return o\n}\n\n/**\n * Exposes the JavaScript
[GeometryUtils](https://developer.mozilla.org/en/docs/Web/API/GeometryUtils) to Kotlin\n */\npublic external
interface GeometryUtils {\n    fun getBoxQuads(options: BoxQuadOptions = definedExternally):
Array<DOMQuad>\n    fun convertQuadFromNode(quad: dynamic, from: dynamic, options:
ConvertCoordinateOptions = definedExternally): DOMQuad\n    fun convertRectFromNode(rect:
DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions = definedExternally): DOMQuad\n    fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions =
definedExternally): DOMPoint\n}\n\n/**\n * Exposes the JavaScript
[Touch](https://developer.mozilla.org/en/docs/Web/API/Touch) to Kotlin\n */\npublic external abstract class Touch
{\n    open val identifier: Int\n    open val target: EventTarget\n    open val screenX: Int\n    open val screenY: Int\n
    open val clientX: Int\n    open val clientY: Int\n    open val pageX: Int\n    open val pageY: Int\n    open val region:
String?\n}\n\npublic external abstract class TouchList : ItemArrayLike<Touch> {\n    override fun item(index: Int):
Touch?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun TouchList.get(index: Int):
Touch? = asDynamic()[index]\n\npublic external open class TouchEvent : UIEvent {\n    open val touches:

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TouchList\n open val targetTouches: TouchList\n open val changedTouches: TouchList\n open val altKey: Boolean\n open val metaKey: Boolean\n open val ctrlKey: Boolean\n open val shiftKey: Boolean\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\n/**\n * Exposes the JavaScript

[Image](https://developer.mozilla.org/en/docs/Web/API/Image) to Kotlin\n *\npublic external open class Image(width: Int = definedExternally, height: Int = definedExternally) : HTMLImageElement {\n override var onabort: ((Event) -> dynamic)?\n override var onblur: ((FocusEvent) -> dynamic)?\n override var onCancel: ((Event) -> dynamic)?\n override var oncanplay: ((Event) -> dynamic)?\n override var oncanplaythrough: ((Event) -> dynamic)?\n override var onChange: ((Event) -> dynamic)?\n override var onclick: ((MouseEvent) -> dynamic)?\n override var onclose: ((Event) -> dynamic)?\n override var oncontextmenu: ((MouseEvent) -> dynamic)?\n override var oncuechange: ((Event) -> dynamic)?\n override var ondblclick: ((MouseEvent) -> dynamic)?\n override var ondrag: ((DragEvent) -> dynamic)?\n override var ondragend: ((DragEvent) -> dynamic)?\n override var ondragenter: ((DragEvent) -> dynamic)?\n override var ondragexit: ((DragEvent) -> dynamic)?\n override var ondragleave: ((DragEvent) -> dynamic)?\n override var ondragover: ((DragEvent) -> dynamic)?\n override var ondragstart: ((DragEvent) -> dynamic)?\n override var ondrop: ((DragEvent) -> dynamic)?\n override var ondurationchange: ((Event) -> dynamic)?\n override var onemptied: ((Event) -> dynamic)?\n override var onended: ((Event) -> dynamic)?\n override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n override var onfocus: ((FocusEvent) -> dynamic)?\n override var oninput: ((InputEvent) -> dynamic)?\n override var oninvalid: ((Event) -> dynamic)?\n override var onkeydown: ((KeyboardEvent) -> dynamic)?\n override var onkeypress: ((KeyboardEvent) -> dynamic)?\n override var onkeyup: ((KeyboardEvent) -> dynamic)?\n override var onloadeddata: ((Event) -> dynamic)?\n override var onloadedmetadata: ((Event) -> dynamic)?\n override var onloadend: ((Event) -> dynamic)?\n override var onloadstart: ((ProgressEvent) -> dynamic)?\n override var onmousedown: ((MouseEvent) -> dynamic)?\n override var onmouseenter: ((MouseEvent) -> dynamic)?\n override var onmouseleave: ((MouseEvent) -> dynamic)?\n override var onmousemove: ((MouseEvent) -> dynamic)?\n override var onmouseout: ((MouseEvent) -> dynamic)?\n override var onmouseover: ((MouseEvent) -> dynamic)?\n override var onmouseup: ((MouseEvent) -> dynamic)?\n override var onwheel: ((WheelEvent) -> dynamic)?\n override var onpause: ((Event) -> dynamic)?\n override var onplay: ((Event) -> dynamic)?\n override var onplaying: ((Event) -> dynamic)?\n override var onprogress: ((ProgressEvent) -> dynamic)?\n override var onratechange: ((Event) -> dynamic)?\n override var onreset: ((Event) -> dynamic)?\n override var onresize: ((Event) -> dynamic)?\n override var onscroll: ((Event) -> dynamic)?\n override var onseeked: ((Event) -> dynamic)?\n override var onseeking: ((Event) -> dynamic)?\n override var onselect: ((Event) -> dynamic)?\n override var onshow: ((Event) -> dynamic)?\n override var onstalled: ((Event) -> dynamic)?\n override var onsubmit: ((Event) -> dynamic)?\n override var onsuspend: ((Event) -> dynamic)?\n override var ontimeupdate: ((Event) -> dynamic)?\n override var ontoggle: ((Event) -> dynamic)?\n override var onvolumechange: ((Event) -> dynamic)?\n override var onwaiting: ((Event) -> dynamic)?\n override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n override var onlostpointercapture: ((PointerEvent) -> dynamic)?\n override var onpointerdown: ((PointerEvent) -> dynamic)?\n override var onpointermove: ((PointerEvent) -> dynamic)?\n override var onpointerup: ((PointerEvent) -> dynamic)?\n override var onpointercancel: ((PointerEvent) -> dynamic)?\n override var onpointerover: ((PointerEvent) -> dynamic)?\n override var onpointerout: ((PointerEvent) -> dynamic)?\n override var onpointerenter: ((PointerEvent) -> dynamic)?\n override var onpointerleave: ((PointerEvent) -> dynamic)?\n override var oncopy: ((ClipboardEvent) -> dynamic)?\n override var oncut: ((ClipboardEvent) -> dynamic)?\n override var onpaste: ((ClipboardEvent) -> dynamic)?\n override var contentEditable: String\n override val isContentEditable: Boolean\n override val style: CSSStyleDeclaration\n override val children: HTMLCollection\n override val firstElementChild: Element?\n override val lastElementChild: Element?\n override val childElementCount: Int\n override val previousElementSibling: Element?\n override val nextElementSibling: Element?\n override val assignedSlot: HTMLSlotElement?\n override fun prepend(vararg nodes: dynamic)\n override fun append(vararg

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nodes: dynamic)\n  override fun querySelector(selectors: String): Element?\n  override fun
querySelectorAll(selectors: String): NodeList\n  override fun before(vararg nodes: dynamic)\n  override fun
after(vararg nodes: dynamic)\n  override fun replaceWith(vararg nodes: dynamic)\n  override fun remove()\n
override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n  override
fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n  override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n\n  public external open class
Audio(src: String = definedExternally) : HTMLAudioElement {\n  override var onabort: ((Event) -> dynamic)?\n
override var onblur: ((FocusEvent) -> dynamic)?\n  override var oncancel: ((Event) -> dynamic)?\n  override var
oncanplay: ((Event) -> dynamic)?\n  override var oncanplaythrough: ((Event) -> dynamic)?\n  override var
onchange: ((Event) -> dynamic)?\n  override var onclick: ((MouseEvent) -> dynamic)?\n  override var onclose:
((Event) -> dynamic)?\n  override var oncontextmenu: ((MouseEvent) -> dynamic)?\n  override var oncuechange:
((Event) -> dynamic)?\n  override var ondblclick: ((MouseEvent) -> dynamic)?\n  override var ondrag:
((DragEvent) -> dynamic)?\n  override var ondragend: ((DragEvent) -> dynamic)?\n  override var ondragenter:
((DragEvent) -> dynamic)?\n  override var ondragexit: ((DragEvent) -> dynamic)?\n  override var ondragleave:
((DragEvent) -> dynamic)?\n  override var ondragover: ((DragEvent) -> dynamic)?\n  override var ondragstart:
((DragEvent) -> dynamic)?\n  override var ondrop: ((DragEvent) -> dynamic)?\n  override var ondurationchange:
((Event) -> dynamic)?\n  override var onemptied: ((Event) -> dynamic)?\n  override var onended: ((Event) ->
dynamic)?\n  override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n  override var onfocus:
((FocusEvent) -> dynamic)?\n  override var oninput: ((InputEvent) -> dynamic)?\n  override var oninvalid:
((Event) -> dynamic)?\n  override var onkeydown: ((KeyboardEvent) -> dynamic)?\n  override var onkeypress:
((KeyboardEvent) -> dynamic)?\n  override var onkeyup: ((KeyboardEvent) -> dynamic)?\n  override var onload:
((Event) -> dynamic)?\n  override var onloadeddata: ((Event) -> dynamic)?\n  override var onloadedmetadata:
((Event) -> dynamic)?\n  override var onloadend: ((Event) -> dynamic)?\n  override var onloadstart:
((ProgressEvent) -> dynamic)?\n  override var onmousedown: ((MouseEvent) -> dynamic)?\n  override var
onmouseenter: ((MouseEvent) -> dynamic)?\n  override var onmouseleave: ((MouseEvent) -> dynamic)?\n
override var onmousemove: ((MouseEvent) -> dynamic)?\n  override var onmouseout: ((MouseEvent) ->
dynamic)?\n  override var onmouseover: ((MouseEvent) -> dynamic)?\n  override var onmouseup: ((MouseEvent)
-> dynamic)?\n  override var onwheel: ((WheelEvent) -> dynamic)?\n  override var onpause: ((Event) ->
dynamic)?\n  override var onplay: ((Event) -> dynamic)?\n  override var onplaying: ((Event) -> dynamic)?\n
override var onprogress: ((ProgressEvent) -> dynamic)?\n  override var onratechange: ((Event) -> dynamic)?\n
override var onreset: ((Event) -> dynamic)?\n  override var onresize: ((Event) -> dynamic)?\n  override var
onscroll: ((Event) -> dynamic)?\n  override var onseeked: ((Event) -> dynamic)?\n  override var onseeking:
((Event) -> dynamic)?\n  override var onselect: ((Event) -> dynamic)?\n  override var onshow: ((Event) ->
dynamic)?\n  override var onstalled: ((Event) -> dynamic)?\n  override var onsubmit: ((Event) -> dynamic)?\n
override var onsuspend: ((Event) -> dynamic)?\n  override var ontimeupdate: ((Event) -> dynamic)?\n  override
var ontoggle: ((Event) -> dynamic)?\n  override var onvolumechange: ((Event) -> dynamic)?\n  override var

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onwaiting: ((Event) -> dynamic)?\n  override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override
var onlostpointercapture: ((PointerEvent) -> dynamic)?\n  override var onpointerdown: ((PointerEvent) ->
dynamic)?\n  override var onpointermove: ((PointerEvent) -> dynamic)?\n  override var onpointerup:
((PointerEvent) -> dynamic)?\n  override var onpointercancel: ((PointerEvent) -> dynamic)?\n  override var
onpointerover: ((PointerEvent) -> dynamic)?\n  override var onpointerout: ((PointerEvent) -> dynamic)?\n
override var onpointerenter: ((PointerEvent) -> dynamic)?\n  override var onpointerleave: ((PointerEvent) ->
dynamic)?\n  override var oncopy: ((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) ->
dynamic)?\n  override var onpaste: ((ClipboardEvent) -> dynamic)?\n  override var contentEditable: String\n
override val isContentEditable: Boolean\n  override val style: CSSStyleDeclaration\n  override val children:
HTMLCollection\n  override val firstElementChild: Element?\n  override val lastElementChild: Element?\n
override val childElementCount: Int\n  override val previousElementSibling: Element?\n  override val
nextElementSibling: Element?\n  override val assignedSlot: HTMLSlotElement?\n  override fun prepend(vararg
nodes: dynamic)\n  override fun append(vararg nodes: dynamic)\n  override fun querySelector(selectors: String):
Element?\n  override fun querySelectorAll(selectors: String): NodeList\n  override fun before(vararg nodes:
dynamic)\n  override fun after(vararg nodes: dynamic)\n  override fun replaceWith(vararg nodes: dynamic)\n
override fun remove()\n  override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */):
Array<DOMQuad>\n  override fun convertQuadFromNode(quad: dynamic, from: dynamic, options:
ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun convertRectFromNode(rect:
DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n
override fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n\n  companion object {\n    val NETWORK_EMPTY: Short\n    val
NETWORK_IDLE: Short\n    val NETWORK_LOADING: Short\n    val NETWORK_NO_SOURCE: Short\n
    val HAVE_NOTHING: Short\n    val HAVE_METADATA: Short\n    val HAVE_CURRENT_DATA:
Short\n    val HAVE_FUTURE_DATA: Short\n    val HAVE_ENOUGH_DATA: Short\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n\n  /**\n   * Exposes the JavaScript
[Option](https://developer.mozilla.org/en/docs/Web/API/Option) to Kotlin\n   */\n  @public external open class
Option(text: String = definedExternally, value: String = definedExternally, defaultSelected: Boolean =
definedExternally, selected: Boolean = definedExternally) : HTMLOptionElement {\n    override var onabort:
((Event) -> dynamic)?\n    override var onblur: ((FocusEvent) -> dynamic)?\n    override var oncancel: ((Event) ->
dynamic)?\n    override var oncanplay: ((Event) -> dynamic)?\n    override var oncanplaythrough: ((Event) ->
dynamic)?\n    override var onchange: ((Event) -> dynamic)?\n    override var onclick: ((MouseEvent) ->
dynamic)?\n    override var onclose: ((Event) -> dynamic)?\n    override var oncontextmenu: ((MouseEvent) ->
dynamic)?\n    override var oncuechange: ((Event) -> dynamic)?\n    override var ondblclick: ((MouseEvent) ->
dynamic)?\n    override var ondrag: ((DragEvent) -> dynamic)?\n    override var ondragend: ((DragEvent) ->
dynamic)?\n    override var ondragenter: ((DragEvent) -> dynamic)?\n    override var ondragexit: ((DragEvent) ->
dynamic)?\n    override var ondragleave: ((DragEvent) -> dynamic)?\n    override var ondragover: ((DragEvent) ->
dynamic)?\n    override var ondragstart: ((DragEvent) -> dynamic)?\n    override var ondrop: ((DragEvent) ->
dynamic)?\n    override var ondurationchange: ((Event) -> dynamic)?\n    override var onemptied: ((Event) ->
dynamic)?\n    override var onended: ((Event) -> dynamic)?\n    override var onerror: ((dynamic, String, Int, Int,
Any?) -> dynamic)?\n    override var onfocus: ((FocusEvent) -> dynamic)?\n    override var oninput: ((InputEvent) -

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> dynamic)?\n  override var oninvalid: ((Event) -> dynamic)?\n  override var onkeydown: ((KeyboardEvent) ->
dynamic)?\n  override var onkeypress: ((KeyboardEvent) -> dynamic)?\n  override var onkeyup:
((KeyboardEvent) -> dynamic)?\n  override var onload: ((Event) -> dynamic)?\n  override var onloadeddata:
((Event) -> dynamic)?\n  override var onloadedmetadata: ((Event) -> dynamic)?\n  override var onloadend:
((Event) -> dynamic)?\n  override var onloadstart: ((ProgressEvent) -> dynamic)?\n  override var onmousedown:
((MouseEvent) -> dynamic)?\n  override var onmouseenter: ((MouseEvent) -> dynamic)?\n  override var
onmouseleave: ((MouseEvent) -> dynamic)?\n  override var onmousemove: ((MouseEvent) -> dynamic)?\n
override var onmouseout: ((MouseEvent) -> dynamic)?\n  override var onmouseover: ((MouseEvent) ->
dynamic)?\n  override var onmouseup: ((MouseEvent) -> dynamic)?\n  override var onwheel: ((WheelEvent) ->
dynamic)?\n  override var onpause: ((Event) -> dynamic)?\n  override var onplay: ((Event) -> dynamic)?\n
override var onplaying: ((Event) -> dynamic)?\n  override var onprogress: ((ProgressEvent) -> dynamic)?\n
override var onratechange: ((Event) -> dynamic)?\n  override var onreset: ((Event) -> dynamic)?\n  override var
onresize: ((Event) -> dynamic)?\n  override var onscroll: ((Event) -> dynamic)?\n  override var onseeked:
((Event) -> dynamic)?\n  override var onseeking: ((Event) -> dynamic)?\n  override var onselect: ((Event) ->
dynamic)?\n  override var onshow: ((Event) -> dynamic)?\n  override var onstalled: ((Event) -> dynamic)?\n
override var onsubmit: ((Event) -> dynamic)?\n  override var onsuspend: ((Event) -> dynamic)?\n  override var
ontimeupdate: ((Event) -> dynamic)?\n  override var ontoggle: ((Event) -> dynamic)?\n  override var
onvolumechange: ((Event) -> dynamic)?\n  override var onwaiting: ((Event) -> dynamic)?\n  override var
ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override var onlostpointercapture: ((PointerEvent) ->
dynamic)?\n  override var onpointerdown: ((PointerEvent) -> dynamic)?\n  override var onpointermove:
((PointerEvent) -> dynamic)?\n  override var onpointerup: ((PointerEvent) -> dynamic)?\n  override var
onpointercancel: ((PointerEvent) -> dynamic)?\n  override var onpointerover: ((PointerEvent) -> dynamic)?\n
override var onpointerout: ((PointerEvent) -> dynamic)?\n  override var onpointerenter: ((PointerEvent) ->
dynamic)?\n  override var onpointerleave: ((PointerEvent) -> dynamic)?\n  override var oncopy:
((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) -> dynamic)?\n  override var onpaste:
((ClipboardEvent) -> dynamic)?\n  override var contentEditable: String\n  override val isContentEditable:
Boolean\n  override val style: CSSStyleDeclaration\n  override val children: HTMLCollection\n  override val
firstElementChild: Element?\n  override val lastElementChild: Element?\n  override val childElementCount: Int\n
  override val previousElementSibling: Element?\n  override val nextElementSibling: Element?\n  override val
assignedSlot: HTMLSlotElement?\n  override fun prepend(vararg nodes: dynamic)\n  override fun append(vararg
nodes: dynamic)\n  override fun querySelector(selectors: String): Element?\n  override fun
querySelectorAll(selectors: String): NodeList\n  override fun before(vararg nodes: dynamic)\n  override fun
after(vararg nodes: dynamic)\n  override fun replaceWith(vararg nodes: dynamic)\n  override fun remove()\n
override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n  override
fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n  override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external interface

```

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UnionElementOrHTMLCollection\n\npublic external interface UnionElementOrRadioNodeList\n\npublic external
interface UnionHTMLOptGroupElementOrHTMLOptionElement\n\npublic external interface
UnionAudioTrackOrTextTrackOrVideoTrack\n\npublic external interface UnionElementOrMouseEvent\n\npublic
external interface UnionMessagePortOrWindowProxy\n\npublic external interface MediaProvider\n\npublic
external interface RenderingContext\n\npublic external interface HTMLOrSVGImageElement :
CanvasImageSource\n\npublic external interface CanvasImageSource : ImageBitmapSource\n\npublic external
interface ImageBitmapSource\n\npublic external interface HTMLOrSVGScriptElement\n\n/* please, don't
implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface DocumentReadyState {\n  companion object\n}\n\npublic inline val
DocumentReadyState.Companion.LOADING: DocumentReadyState get() =
"loading".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val
DocumentReadyState.Companion.INTERACTIVE: DocumentReadyState get() =
"interactive".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val
DocumentReadyState.Companion.COMPLETE: DocumentReadyState get() =
"complete".asDynamic().unsafeCast<DocumentReadyState>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface CanPlayTypeResult {\n  companion object\n}\n\npublic inline val
CanPlayTypeResult.Companion.EMPTY: CanPlayTypeResult get() =
"".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic inline val CanPlayTypeResult.Companion.MAYBE:
CanPlayTypeResult get() = "maybe".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic inline val
CanPlayTypeResult.Companion.PROBABLY: CanPlayTypeResult get() =
"probably".asDynamic().unsafeCast<CanPlayTypeResult>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface TextTrackMode {\n  companion object\n}\n\npublic inline val TextTrackMode.Companion.DISABLED:
TextTrackMode get() = "disabled".asDynamic().unsafeCast<TextTrackMode>()\n\npublic inline val
TextTrackMode.Companion.HIDDEN: TextTrackMode get() =
"hidden".asDynamic().unsafeCast<TextTrackMode>()\n\npublic inline val
TextTrackMode.Companion.SHOWING: TextTrackMode get() =
"showing".asDynamic().unsafeCast<TextTrackMode>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface TextTrackKind {\n  companion object\n}\n\npublic inline val TextTrackKind.Companion.SUBTITLES:
TextTrackKind get() = "subtitles".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.CAPTIONS: TextTrackKind get() =
"captions".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.DESCRPTIONS: TextTrackKind get() =
"descriptions".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.CHAPTERS: TextTrackKind get() =
"chapters".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.METADATA: TextTrackKind get() =
"metadata".asDynamic().unsafeCast<TextTrackKind>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface SelectionMode {\n  companion object\n}\n\npublic inline val SelectionMode.Companion.SELECT:
SelectionMode get() = "select".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val
SelectionMode.Companion.START: SelectionMode get() =
"start".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val SelectionMode.Companion.END:
SelectionMode get() = "end".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val
SelectionMode.Companion.PRESERVE: SelectionMode get() =

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\`preserve\`.asDynamic().unsafeCast<SelectionMode>()\n\n/* please, don't implement this interface!
*\n@JsName(\`null\`)\n@Suppress(\`NESTED_CLASS_IN_EXTERNAL_INTERFACE\`)\n\npublic external
interface CanvasFillRule {\n  companion object\n}\n\npublic inline val CanvasFillRule.Companion.NONZERO:
CanvasFillRule get() = \`nonzero\`.asDynamic().unsafeCast<CanvasFillRule>()\n\npublic inline val
CanvasFillRule.Companion.EVENODD: CanvasFillRule get() =
\`evenodd\`.asDynamic().unsafeCast<CanvasFillRule>()\n\n/* please, don't implement this interface!
*\n@JsName(\`null\`)\n@Suppress(\`NESTED_CLASS_IN_EXTERNAL_INTERFACE\`)\n\npublic external
interface ImageSmoothingQuality {\n  companion object\n}\n\npublic inline val
ImageSmoothingQuality.Companion.LOW: ImageSmoothingQuality get() =
\`low\`.asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.MEDIUM: ImageSmoothingQuality get() =
\`medium\`.asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.HIGH: ImageSmoothingQuality get() =
\`high\`.asDynamic().unsafeCast<ImageSmoothingQuality>()\n\n/* please, don't implement this interface!
*\n@JsName(\`null\`)\n@Suppress(\`NESTED_CLASS_IN_EXTERNAL_INTERFACE\`)\n\npublic external
interface CanvasLineCap {\n  companion object\n}\n\npublic inline val CanvasLineCap.Companion.BUTT:
CanvasLineCap get() = \`butt\`.asDynamic().unsafeCast<CanvasLineCap>()\n\npublic inline val
CanvasLineCap.Companion.ROUND: CanvasLineCap get() =
\`round\`.asDynamic().unsafeCast<CanvasLineCap>()\n\npublic inline val CanvasLineCap.Companion.SQUARE:
CanvasLineCap get() = \`square\`.asDynamic().unsafeCast<CanvasLineCap>()\n\n/* please, don't implement this
interface! *\n@JsName(\`null\`)\n@Suppress(\`NESTED_CLASS_IN_EXTERNAL_INTERFACE\`)\n\npublic
external interface CanvasLineJoin {\n  companion object\n}\n\npublic inline val
CanvasLineJoin.Companion.ROUND: CanvasLineJoin get() =
\`round\`.asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val CanvasLineJoin.Companion.BEVEL:
CanvasLineJoin get() = \`bevel\`.asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val
CanvasLineJoin.Companion.MITER: CanvasLineJoin get() =
\`miter\`.asDynamic().unsafeCast<CanvasLineJoin>()\n\n/* please, don't implement this interface!
*\n@JsName(\`null\`)\n@Suppress(\`NESTED_CLASS_IN_EXTERNAL_INTERFACE\`)\n\npublic external
interface CanvasTextAlign {\n  companion object\n}\n\npublic inline val CanvasTextAlign.Companion.START:
CanvasTextAlign get() = \`start\`.asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.END: CanvasTextAlign get() =
\`end\`.asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val CanvasTextAlign.Companion.LEFT:
CanvasTextAlign get() = \`left\`.asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.RIGHT: CanvasTextAlign get() =
\`right\`.asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.CENTER: CanvasTextAlign get() =
\`center\`.asDynamic().unsafeCast<CanvasTextAlign>()\n\n/* please, don't implement this interface!
*\n@JsName(\`null\`)\n@Suppress(\`NESTED_CLASS_IN_EXTERNAL_INTERFACE\`)\n\npublic external
interface CanvasTextBaseline {\n  companion object\n}\n\npublic inline val CanvasTextBaseline.Companion.TOP:
CanvasTextBaseline get() = \`top\`.asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.HANGING: CanvasTextBaseline get() =
\`hanging\`.asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.MIDDLE: CanvasTextBaseline get() =
\`middle\`.asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.ALPHABETIC: CanvasTextBaseline get() =
\`alphabetic\`.asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.IDEOGRAPHIC: CanvasTextBaseline get() =
\`ideographic\`.asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val

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CanvasTextBaseline.Companion.BOTTOM: CanvasTextBaseline get() =
    \"bottom\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\n/* please, don't implement this interface!
    *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface CanvasDirection {\n    companion object\n}\n\npublic inline val CanvasDirection.Companion.LTR:
CanvasDirection get() = \"ltr\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic inline val
CanvasDirection.Companion.RTL: CanvasDirection get() =
    \"rtl\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic inline val CanvasDirection.Companion.INHERIT:
CanvasDirection get() = \"inherit\".asDynamic().unsafeCast<CanvasDirection>()\n\n/* please, don't implement this
interface! *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic
external interface ScrollRestoration {\n    companion object\n}\n\npublic inline val
ScrollRestoration.Companion.AUTO: ScrollRestoration get() =
    \"auto\".asDynamic().unsafeCast<ScrollRestoration>()\n\npublic inline val
ScrollRestoration.Companion.MANUAL: ScrollRestoration get() =
    \"manual\".asDynamic().unsafeCast<ScrollRestoration>()\n\n/* please, don't implement this interface!
    *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface ImageOrientation {\n    companion object\n}\n\npublic inline val ImageOrientation.Companion.NONE:
ImageOrientation get() = \"none\".asDynamic().unsafeCast<ImageOrientation>()\n\npublic inline val
ImageOrientation.Companion.FLIPY: ImageOrientation get() =
    \"flipY\".asDynamic().unsafeCast<ImageOrientation>()\n\n/* please, don't implement this interface!
    *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface PremultiplyAlpha {\n    companion object\n}\n\npublic inline val PremultiplyAlpha.Companion.NONE:
PremultiplyAlpha get() = \"none\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val
PremultiplyAlpha.Companion.PREMULTIPLY: PremultiplyAlpha get() =
    \"premultiply\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val
PremultiplyAlpha.Companion.DEFAULT: PremultiplyAlpha get() =
    \"default\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\n/* please, don't implement this interface!
    *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface ColorSpaceConversion {\n    companion object\n}\n\npublic inline val
ColorSpaceConversion.Companion.NONE: ColorSpaceConversion get() =
    \"none\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\npublic inline val
ColorSpaceConversion.Companion.DEFAULT: ColorSpaceConversion get() =
    \"default\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\n/* please, don't implement this interface!
    *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface ResizeQuality {\n    companion object\n}\n\npublic inline val ResizeQuality.Companion.PIXELATED:
ResizeQuality get() = \"pixelated\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val
ResizeQuality.Companion.LOW: ResizeQuality get() =
    \"low\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val ResizeQuality.Companion.MEDIUM:
ResizeQuality get() = \"medium\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val
ResizeQuality.Companion.HIGH: ResizeQuality get() = \"high\".asDynamic().unsafeCast<ResizeQuality>()\n\n/*
please, don't implement this interface!
    *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface BinaryType {\n    companion object\n}\n\npublic inline val BinaryType.Companion.BLOB: BinaryType
get() = \"blob\".asDynamic().unsafeCast<BinaryType>()\n\npublic inline val
BinaryType.Companion.ARRAYBUFFER: BinaryType get() =
    \"arraybuffer\".asDynamic().unsafeCast<BinaryType>()\n\n/* please, don't implement this interface!
    *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface WorkerType {\n    companion object\n}\n\npublic inline val WorkerType.Companion.CLASSIC:
WorkerType get() = \"classic\".asDynamic().unsafeCast<WorkerType>()\n\npublic inline val

```



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WorkerType.Companion.MODULE: WorkerType get() =
`module`.asDynamic().unsafeCast<WorkerType>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface ShadowRootMode {\n  companion object\n}\n\npublic inline val ShadowRootMode.Companion.OPEN:
ShadowRootMode get() = `open`.asDynamic().unsafeCast<ShadowRootMode>()\n\npublic inline val
ShadowRootMode.Companion.CLOSED: ShadowRootMode get() =
`closed`.asDynamic().unsafeCast<ShadowRootMode>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface ScrollBehavior {\n  companion object\n}\n\npublic inline val ScrollBehavior.Companion.AUTO:
ScrollBehavior get() = `auto`.asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val
ScrollBehavior.Companion.INSTANT: ScrollBehavior get() =
`instant`.asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val ScrollBehavior.Companion.SMOOTH:
ScrollBehavior get() = `smooth`.asDynamic().unsafeCast<ScrollBehavior>()\n\n/* please, don't implement this
interface! *\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic
external interface ScrollLogicalPosition {\n  companion object\n}\n\npublic inline val
ScrollLogicalPosition.Companion.START: ScrollLogicalPosition get() =
`start`.asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.CENTER: ScrollLogicalPosition get() =
`center`.asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.END: ScrollLogicalPosition get() =
`end`.asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.NEAREST: ScrollLogicalPosition get() =
`nearest`.asDynamic().unsafeCast<ScrollLogicalPosition>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface CSSBoxType {\n  companion object\n}\n\npublic inline val CSSBoxType.Companion.MARGIN:
CSSBoxType get() = `margin`.asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val
CSSBoxType.Companion.BORDER: CSSBoxType get() =
`border`.asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val CSSBoxType.Companion.PADDING:
CSSBoxType get() = `padding`.asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val
CSSBoxType.Companion.CONTENT: CSSBoxType get() =
`content`.asDynamic().unsafeCast<CSSBoxType>()"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n@n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n//
See github.com/kotlin/dukat for details\n\npackage org.w3c.fetch\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.files.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[Headers](https://developer.mozilla.org/en/docs/Web/API/Headers) to Kotlin\n *\npublic external open class
Headers(init: dynamic = definedExternally) {\n  fun append(name: String, value: String)\n  fun delete(name:
String)\n  fun get(name: String): String?\n  fun has(name: String): Boolean\n  fun set(name: String, value:
String)\n}\n\n/**\n * Exposes the JavaScript [Body](https://developer.mozilla.org/en/docs/Web/API/Body) to
Kotlin\n *\npublic external interface Body {\n  val bodyUsed: Boolean\n  fun arrayBuffer():
Promise<ArrayBuffer>\n  fun blob(): Promise<Blob>\n  fun formData(): Promise<FormData>\n  fun json():
Promise<Any?>\n  fun text(): Promise<String>\n}\n\n/**\n * Exposes the JavaScript
[Request](https://developer.mozilla.org/en/docs/Web/API/Request) to Kotlin\n *\npublic external open class
Request(input: dynamic, init: RequestInit = definedExternally) : Body {\n  open val method: String\n  open val
url: String\n  open val headers: Headers\n  open val type: RequestType\n  open val destination:
RequestDestination\n  open val referrer: String\n  open val referrerPolicy: dynamic\n  open val mode:
RequestMode\n  open val credentials: RequestCredentials\n  open val cache: RequestCache\n  open val redirect:
RequestRedirect\n  open val integrity: String\n  open val keepalive: Boolean\n  override val bodyUsed:

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Boolean\n fun clone(): Request\n override fun arrayBuffer(): Promise<ArrayBuffer>\n override fun blob():
Promise<Blob>\n override fun formData(): Promise<FormData>\n override fun json(): Promise<Any?>\n
override fun text(): Promise<String>\n}\n\npublic external interface RequestInit {\n var method: String?\n
get() = definedExternally\n set(value) = definedExternally\n var headers: dynamic\n get() =
definedExternally\n set(value) = definedExternally\n var body: dynamic\n get() = definedExternally\n
set(value) = definedExternally\n var referrer: String?\n get() = definedExternally\n set(value) =
definedExternally\n var referrerPolicy: dynamic\n get() = definedExternally\n set(value) =
definedExternally\n var mode: RequestMode?\n get() = definedExternally\n set(value) =
definedExternally\n var credentials: RequestCredentials?\n get() = definedExternally\n set(value) =
definedExternally\n var cache: RequestCache?\n get() = definedExternally\n set(value) =
definedExternally\n var redirect: RequestRedirect?\n get() = definedExternally\n set(value) =
definedExternally\n var integrity: String?\n get() = definedExternally\n set(value) = definedExternally\n
var keepalive: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var window:
Any?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun RequestInit(method: String? =
undefined, headers: dynamic = undefined, body: dynamic = undefined, referrer: String? = undefined, referrerPolicy:
dynamic = undefined, mode: RequestMode? = undefined, credentials: RequestCredentials? = undefined, cache:
RequestCache? = undefined, redirect: RequestRedirect? = undefined, integrity: String? = undefined, keepalive:
Boolean? = undefined, window: Any? = undefined): RequestInit {\n val o = js(\"({})\")\n o[\"method\"] =
method\n o[\"headers\"] = headers\n o[\"body\"] = body\n o[\"referrer\"] = referrer\n o[\"referrerPolicy\"] =
referrerPolicy\n o[\"mode\"] = mode\n o[\"credentials\"] = credentials\n o[\"cache\"] = cache\n o[\"redirect\"]
= redirect\n o[\"integrity\"] = integrity\n o[\"keepalive\"] = keepalive\n o[\"window\"] = window\n return
o\n}\n\n/*\n * Exposes the JavaScript [Response](https://developer.mozilla.org/en/docs/Web/API/Response) to
Kotlin\n */\npublic external open class Response(body: dynamic = definedExternally, init: ResponseInit =
definedExternally) : Body {\n open val type: ResponseType\n open val url: String\n open val redirected:
Boolean\n open val status: Short\n open val ok: Boolean\n open val statusText: String\n open val headers:
Headers\n open val body: dynamic\n open val trailer: Promise<Headers>\n override val bodyUsed: Boolean\n
fun clone(): Response\n override fun arrayBuffer(): Promise<ArrayBuffer>\n override fun blob():
Promise<Blob>\n override fun formData(): Promise<FormData>\n override fun json(): Promise<Any?>\n
override fun text(): Promise<String>\n\n companion object {\n fun error(): Response\n fun redirect(url:
String, status: Short = definedExternally): Response\n }\n}\n\npublic external interface ResponseInit {\n var
status: Short? /* = 200 */\n get() = definedExternally\n set(value) = definedExternally\n var statusText:
String? /* = \"OK\" */\n get() = definedExternally\n set(value) = definedExternally\n var headers:
dynamic\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ResponseInit(status: Short? = 200,
statusText: String? = \"OK\", headers: dynamic = undefined): ResponseInit {\n val o = js(\"({})\")\n o[\"status\"]
= status\n o[\"statusText\"] = statusText\n o[\"headers\"] = headers\n return o\n}\n\n/* please, don't implement
this interface! */\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic
external interface RequestType {\n companion object\n}\n\npublic inline val RequestType.Companion.EMPTY:
RequestType get() = \"\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.AUDIO: RequestType get() =
\"audio\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.FONT:
RequestType get() = \"font\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.IMAGE: RequestType get() =
\"image\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.SCRIPT:
RequestType get() = \"script\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val

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RequestType.Companion.STYLE: RequestType get() =
    \"style\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.TRACK:
RequestType get() = \"track\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.VIDEO: RequestType get() = \"video\".asDynamic().unsafeCast<RequestType>()\n\n/*
please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface RequestDestination {\n    companion object\n}\n\npublic inline val
RequestDestination.Companion.EMPTY: RequestDestination get() =
    \"\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.DOCUMENT: RequestDestination get() =
    \"document\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.EMBED: RequestDestination get() =
    \"embed\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.FONT: RequestDestination get() =
    \"font\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.IMAGE: RequestDestination get() =
    \"image\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.MANIFEST: RequestDestination get() =
    \"manifest\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.MEDIA: RequestDestination get() =
    \"media\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.OBJECT: RequestDestination get() =
    \"object\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.REPORT: RequestDestination get() =
    \"report\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SCRIPT: RequestDestination get() =
    \"script\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SERVICEMANIFEST: RequestDestination get() =
    \"servicemanifest\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SHAREDWORKER: RequestDestination get() =
    \"sharedworker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.STYLE: RequestDestination get() =
    \"style\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.WORKER: RequestDestination get() =
    \"worker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.XSLT: RequestDestination get() =
    \"xslt\".asDynamic().unsafeCast<RequestDestination>()\n\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface RequestMode {\n    companion object\n}\n\npublic inline val RequestMode.Companion.NAVIGATE:
RequestMode get() = \"navigate\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val
RequestMode.Companion.SAME_ORIGIN: RequestMode get() = \"same-
origin\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val RequestMode.Companion.NO_CORS:
RequestMode get() = \"no-cors\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val
RequestMode.Companion.CORS: RequestMode get() = \"cors\".asDynamic().unsafeCast<RequestMode>()\n\n\n/*
please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface RequestCredentials {\n    companion object\n}\n\npublic inline val RequestCredentials.Companion.OMIT:
RequestCredentials get() = \"omit\".asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val

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RequestCredentials.Companion.SAME_ORIGIN: RequestCredentials get() = "same-
origin".asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val
RequestCredentials.Companion.INCLUDE: RequestCredentials get() =
"include".asDynamic().unsafeCast<RequestCredentials>()\n\n/* please, don't implement this interface!
*\n\n@JsName("null")\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface RequestCache {\n\n    companion object\n\n}\n\npublic inline val RequestCache.Companion.DEFAULT:
RequestCache get() = "default".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.NO_STORE: RequestCache get() = "no-
store".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val RequestCache.Companion.RELOAD:
RequestCache get() = "reload".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.NO_CACHE: RequestCache get() = "no-
cache".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.FORCE_CACHE: RequestCache get() = "force-
cache".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.ONLY_IF_CACHED: RequestCache get() = "only-if-
cached".asDynamic().unsafeCast<RequestCache>()\n\n/* please, don't implement this interface!
*\n\n@JsName("null")\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface RequestRedirect {\n\n    companion object\n\n}\n\npublic inline val RequestRedirect.Companion.FOLLOW:
RequestRedirect get() = "follow".asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val
RequestRedirect.Companion.ERROR: RequestRedirect get() =
"error".asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val RequestRedirect.Companion.MANUAL:
RequestRedirect get() = "manual".asDynamic().unsafeCast<RequestRedirect>()\n\n\n/* please, don't implement this
interface! *\n\n@JsName("null")\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic
external interface ResponseType {\n\n    companion object\n\n}\n\npublic inline val ResponseType.Companion.BASIC:
ResponseType get() = "basic".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.CORS: ResponseType get() =
"cors".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.DEFAULT:
ResponseType get() = "default".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.ERROR: ResponseType get() =
"error".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.OPAQUE:
ResponseType get() = "opaque".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.OPAQUEREDIRECT: ResponseType get() =
"opaqueredirect".asDynamic().unsafeCast<ResponseType>()"/\n\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n// See github.com/kotlin/dukat for details\n\n\npackage org.w3c.dom.mediacapture\n\n\nimport
kotlin.js.*\n\nimport org.khronos.webgl.*\n\nimport org.w3c.dom.*\n\nimport org.w3c.dom.events.*\n\n\n/**\n\n * Exposes
the JavaScript [MediaStream](https://developer.mozilla.org/en/docs/Web/API/MediaStream) to Kotlin\n\n */\n\npublic
external open class MediaStream() : EventTarget, MediaProvider {\n\n    constructor(stream: MediaStream)\n\n    constructor(tracks: Array<MediaStreamTrack>)\n\n    open val id: String\n\n    open val active: Boolean\n\n    var
onaddtrack: ((MediaStreamTrackEvent) -> dynamic)?\n\n    var onremovetrack: ((MediaStreamTrackEvent) ->
dynamic)?\n\n    fun getAudioTracks(): Array<MediaStreamTrack>\n\n    fun getVideoTracks():
Array<MediaStreamTrack>\n\n    fun getTracks(): Array<MediaStreamTrack>\n\n    fun getTrackById(trackId: String):
MediaStreamTrack?\n\n    fun addTrack(track: MediaStreamTrack)\n\n    fun removeTrack(track: MediaStreamTrack)\n\n
    fun clone(): MediaStream\n\n}\n\n\n/**\n\n * Exposes the JavaScript
[MediaStreamTrack](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrack) to Kotlin\n\n */\n\npublic
external abstract class MediaStreamTrack : EventTarget {\n\n    open val kind: String\n\n    open val id: String\n\n    open
val label: String\n\n    open var enabled: Boolean\n\n    open val muted: Boolean\n\n    open var onmute: ((Event) ->

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dynamic)?\n    open var onunmute: ((Event) -> dynamic)?\n    open val readyState: MediaStreamTrackState\n
open var onended: ((Event) -> dynamic)?\n    open var onoverconstrained: ((Event) -> dynamic)?\n    fun clone():
MediaStreamTrack\n    fun stop()\n    fun getCapabilities(): MediaTrackCapabilities\n    fun getConstraints():
MediaTrackConstraints\n    fun getSettings(): MediaTrackSettings\n    fun applyConstraints(constraints:
MediaTrackConstraints = definedExternally): Promise<Unit>\n}\n\n**\n * Exposes the JavaScript
[MediaTrackSupportedConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSupportedConstrain
ts) to Kotlin\n *\npublic external interface MediaTrackSupportedConstraints {\n    var width: Boolean? /* = true
*\n    get() = definedExternally\n    set(value) = definedExternally\n    var height: Boolean? /* = true *\n
get() = definedExternally\n    set(value) = definedExternally\n    var aspectRatio: Boolean? /* = true *\n    get()
= definedExternally\n    set(value) = definedExternally\n    var frameRate: Boolean? /* = true *\n    get() =
definedExternally\n    set(value) = definedExternally\n    var facingMode: Boolean? /* = true *\n    get() =
definedExternally\n    set(value) = definedExternally\n    var resizeMode: Boolean? /* = true *\n    get() =
definedExternally\n    set(value) = definedExternally\n    var volume: Boolean? /* = true *\n    get() =
definedExternally\n    set(value) = definedExternally\n    var sampleRate: Boolean? /* = true *\n    get() =
definedExternally\n    set(value) = definedExternally\n    var sampleSize: Boolean? /* = true *\n    get() =
definedExternally\n    set(value) = definedExternally\n    var echoCancellation: Boolean? /* = true *\n    get()
= definedExternally\n    set(value) = definedExternally\n    var autoGainControl: Boolean? /* = true *\n    get()
= definedExternally\n    set(value) = definedExternally\n    var noiseSuppression: Boolean? /* = true *\n
get() = definedExternally\n    set(value) = definedExternally\n    var latency: Boolean? /* = true *\n    get() =
definedExternally\n    set(value) = definedExternally\n    var channelCount: Boolean? /* = true *\n    get() =
definedExternally\n    set(value) = definedExternally\n    var deviceId: Boolean? /* = true *\n    get() =
definedExternally\n    set(value) = definedExternally\n    var groupId: Boolean? /* = true *\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun
MediaTrackSupportedConstraints(width: Boolean? = true, height: Boolean? = true, aspectRatio: Boolean? = true,
frameRate: Boolean? = true, facingMode: Boolean? = true, resizeMode: Boolean? = true, volume: Boolean? = true,
sampleRate: Boolean? = true, sampleSize: Boolean? = true, echoCancellation: Boolean? = true, autoGainControl:
Boolean? = true, noiseSuppression: Boolean? = true, latency: Boolean? = true, channelCount: Boolean? = true,
deviceId: Boolean? = true, groupId: Boolean? = true): MediaTrackSupportedConstraints {\n    val o = js(\"({})\")\n
o[\"width\"] = width\n    o[\"height\"] = height\n    o[\"aspectRatio\"] = aspectRatio\n    o[\"frameRate\"] =
frameRate\n    o[\"facingMode\"] = facingMode\n    o[\"resizeMode\"] = resizeMode\n    o[\"volume\"] = volume\n
o[\"sampleRate\"] = sampleRate\n    o[\"sampleSize\"] = sampleSize\n    o[\"echoCancellation\"] =
echoCancellation\n    o[\"autoGainControl\"] = autoGainControl\n    o[\"noiseSuppression\"] = noiseSuppression\n
o[\"latency\"] = latency\n    o[\"channelCount\"] = channelCount\n    o[\"deviceId\"] = deviceId\n    o[\"groupId\"] =
groupId\n    return o\n}\n\npublic external interface MediaTrackCapabilities {\n    var width: ULongRange?\n
get() = definedExternally\n    set(value) = definedExternally\n    var height: ULongRange?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var aspectRatio: DoubleRange?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var frameRate: DoubleRange?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var facingMode: Array<String>?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var resizeMode: Array<String>?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var volume: DoubleRange?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var sampleRate: ULongRange?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var sampleSize: ULongRange?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var echoCancellation: Array<Boolean>?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var autoGainControl: Array<Boolean>?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var noiseSuppression: Array<Boolean>?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var latency: DoubleRange?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var channelCount: ULongRange?\n    get() =

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definedExternally\n    set(value) = definedExternally\n    var deviceId: String?\n    get() = definedExternally\n
    set(value) = definedExternally\n    var groupId: String?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER\\")\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackCapabilities(width:
ULongRange? = undefined, height: ULongRange? = undefined, aspectRatio: DoubleRange? = undefined,
frameRate: DoubleRange? = undefined, facingMode: Array<String>? = undefined, resizeMode: Array<String>? =
undefined, volume: DoubleRange? = undefined, sampleRate: ULongRange? = undefined, sampleSize:
ULongRange? = undefined, echoCancellation: Array<Boolean>? = undefined, autoGainControl: Array<Boolean>?
= undefined, noiseSuppression: Array<Boolean>? = undefined, latency: DoubleRange? = undefined, channelCount:
ULongRange? = undefined, deviceId: String? = undefined, groupId: String? = undefined): MediaTrackCapabilities
{\n    val o = js(\\"({})\\")\n    o[\"width\"] = width\n    o[\"height\"] = height\n    o[\"aspectRatio\"] = aspectRatio\n
o[\"frameRate\"] = frameRate\n    o[\"facingMode\"] = facingMode\n    o[\"resizeMode\"] = resizeMode\n
o[\"volume\"] = volume\n    o[\"sampleRate\"] = sampleRate\n    o[\"sampleSize\"] = sampleSize\n
o[\"echoCancellation\"] = echoCancellation\n    o[\"autoGainControl\"] = autoGainControl\n
o[\"noiseSuppression\"] = noiseSuppression\n    o[\"latency\"] = latency\n    o[\"channelCount\"] = channelCount\n
o[\"deviceId\"] = deviceId\n    o[\"groupId\"] = groupId\n    return o\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackConstraints) to Kotlin\n
*\npublic external interface MediaTrackConstraints : MediaTrackConstraintSet {\n    var advanced:
Array<MediaTrackConstraintSet>?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER\\")\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackConstraints(advanced:
Array<MediaTrackConstraintSet>? = undefined, width: dynamic = undefined, height: dynamic = undefined,
aspectRatio: dynamic = undefined, frameRate: dynamic = undefined, facingMode: dynamic = undefined,
resizeMode: dynamic = undefined, volume: dynamic = undefined, sampleRate: dynamic = undefined, sampleSize:
dynamic = undefined, echoCancellation: dynamic = undefined, autoGainControl: dynamic = undefined,
noiseSuppression: dynamic = undefined, latency: dynamic = undefined, channelCount: dynamic = undefined,
deviceId: dynamic = undefined, groupId: dynamic = undefined): MediaTrackConstraints {\n    val o = js(\\"({})\\")\n
o[\"advanced\"] = advanced\n    o[\"width\"] = width\n    o[\"height\"] = height\n    o[\"aspectRatio\"] =
aspectRatio\n    o[\"frameRate\"] = frameRate\n    o[\"facingMode\"] = facingMode\n    o[\"resizeMode\"] =
resizeMode\n    o[\"volume\"] = volume\n    o[\"sampleRate\"] = sampleRate\n    o[\"sampleSize\"] = sampleSize\n
o[\"echoCancellation\"] = echoCancellation\n    o[\"autoGainControl\"] = autoGainControl\n
o[\"noiseSuppression\"] = noiseSuppression\n    o[\"latency\"] = latency\n    o[\"channelCount\"] = channelCount\n
o[\"deviceId\"] = deviceId\n    o[\"groupId\"] = groupId\n    return o\n}\n\npublic external interface
MediaTrackConstraintSet {\n    var width: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n    var height: dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n
var aspectRatio: dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n    var frameRate:
dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n    var facingMode: dynamic\n
get() = definedExternally\n    set(value) = definedExternally\n    var resizeMode: dynamic\n    get() =
definedExternally\n    set(value) = definedExternally\n    var volume: dynamic\n    get() = definedExternally\n
set(value) = definedExternally\n    var sampleRate: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n    var sampleSize: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n    var echoCancellation: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n    var autoGainControl: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n    var noiseSuppression: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n    var latency: dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n
var channelCount: dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n    var deviceId:
dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n    var groupId: dynamic\n    get()
= definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\\"INVISIBLE_REFERENCE\",

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\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackConstraintSet(width:
dynamic = undefined, height: dynamic = undefined, aspectRatio: dynamic = undefined, frameRate: dynamic =
undefined, facingMode: dynamic = undefined, resizeMode: dynamic = undefined, volume: dynamic = undefined,
sampleRate: dynamic = undefined, sampleSize: dynamic = undefined, echoCancellation: dynamic = undefined,
autoGainControl: dynamic = undefined, noiseSuppression: dynamic = undefined, latency: dynamic = undefined,
channelCount: dynamic = undefined, deviceId: dynamic = undefined, groupId: dynamic = undefined):
MediaTrackConstraintSet {\n    val o = js(\{"{ }\"})\n    o["width"] = width\n    o["height"] = height\n
o["aspectRatio"] = aspectRatio\n    o["frameRate"] = frameRate\n    o["facingMode"] = facingMode\n
o["resizeMode"] = resizeMode\n    o["volume"] = volume\n    o["sampleRate"] = sampleRate\n
o["sampleSize"] = sampleSize\n    o["echoCancellation"] = echoCancellation\n    o["autoGainControl"] =
autoGainControl\n    o["noiseSuppression"] = noiseSuppression\n    o["latency"] = latency\n
o["channelCount"] = channelCount\n    o["deviceId"] = deviceId\n    o["groupId"] = groupId\n    return
o\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackSettings](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSettings) to Kotlin\n *\npublic
external interface MediaTrackSettings {\n    var width: Int?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var height: Int?\n        get() = definedExternally\n        set(value) = definedExternally\n
    var aspectRatio: Double?\n        get() = definedExternally\n        set(value) = definedExternally\n    var frameRate:
Double?\n        get() = definedExternally\n        set(value) = definedExternally\n    var facingMode: String?\n
get() = definedExternally\n        set(value) = definedExternally\n    var resizeMode: String?\n        get() =
definedExternally\n        set(value) = definedExternally\n    var volume: Double?\n        get() = definedExternally\n
set(value) = definedExternally\n    var sampleRate: Int?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var sampleSize: Int?\n        get() = definedExternally\n        set(value) = definedExternally\n
    var echoCancellation: Boolean?\n        get() = definedExternally\n        set(value) = definedExternally\n    var
autoGainControl: Boolean?\n        get() = definedExternally\n        set(value) = definedExternally\n    var
noiseSuppression: Boolean?\n        get() = definedExternally\n        set(value) = definedExternally\n    var latency:
Double?\n        get() = definedExternally\n        set(value) = definedExternally\n    var channelCount: Int?\n
get() = definedExternally\n        set(value) = definedExternally\n    var deviceId: String?\n        get() =
definedExternally\n        set(value) = definedExternally\n    var groupId: String?\n        get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress(\ "INVISIBLE_REFERENCE" ,
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackSettings(width: Int? =
undefined, height: Int? = undefined, aspectRatio: Double? = undefined, frameRate: Double? = undefined,
facingMode: String? = undefined, resizeMode: String? = undefined, volume: Double? = undefined, sampleRate: Int?
= undefined, sampleSize: Int? = undefined, echoCancellation: Boolean? = undefined, autoGainControl: Boolean? =
undefined, noiseSuppression: Boolean? = undefined, latency: Double? = undefined, channelCount: Int? = undefined,
deviceId: String? = undefined, groupId: String? = undefined): MediaTrackSettings {\n    val o = js(\{"{ }\"})\n
o["width"] = width\n    o["height"] = height\n    o["aspectRatio"] = aspectRatio\n    o["frameRate"] =
frameRate\n    o["facingMode"] = facingMode\n    o["resizeMode"] = resizeMode\n    o["volume"] = volume\n
o["sampleRate"] = sampleRate\n    o["sampleSize"] = sampleSize\n    o["echoCancellation"] =
echoCancellation\n    o["autoGainControl"] = autoGainControl\n    o["noiseSuppression"] = noiseSuppression\n
o["latency"] = latency\n    o["channelCount"] = channelCount\n    o["deviceId"] = deviceId\n    o["groupId"] =
groupId\n    return o\n}\n\n/**\n * Exposes the JavaScript
[MediaStreamTrackEvent](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrackEvent) to Kotlin\n *\npublic
external open class MediaStreamTrackEvent(type: String, eventInitDict: MediaStreamTrackEventInit) :
Event {\n    open val track: MediaStreamTrack\n\n    companion object {\n        val NONE: Short\n        val
CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n
    }\n\n    public external interface MediaStreamTrackEventInit : EventInit {\n        var track:
MediaStreamTrack?\n    }\n\n    @Suppress(\ "INVISIBLE_REFERENCE" ,
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline fun MediaStreamTrackEventInit(track:

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MediaStreamTrack?, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
MediaStreamTrackEventInit {\n  val o = js("{}")\n  o["track"] = track\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n  return o\n}\n\npublic external open class
OverconstrainedErrorEvent(type: String, eventInitDict: OverconstrainedErrorEventInit) : Event {\n  open val error:
dynamic\n\n  companion object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val
AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface
OverconstrainedErrorEventInit : EventInit {\n  var error: dynamic /* = null */\n  get() = definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun OverconstrainedErrorEventInit(error:
dynamic = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
OverconstrainedErrorEventInit {\n  val o = js("{}")\n  o["error"] = error\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n  return o\n}\n\n/**\n * Exposes the JavaScript
[MediaDevices](https://developer.mozilla.org/en/docs/Web/API/MediaDevices) to Kotlin\n *\npublic external
abstract class MediaDevices : EventTarget {\n  open var ondevicechange: ((Event) -> dynamic)?\n  fun
enumerateDevices(): Promise<Array<MediaDeviceInfo>>\n  fun getSupportedConstraints():
MediaTrackSupportedConstraints\n  fun getUserMedia(constraints: MediaStreamConstraints = definedExternally):
Promise<MediaStream>\n}\n\n/**\n * Exposes the JavaScript
[MediaDeviceInfo](https://developer.mozilla.org/en/docs/Web/API/MediaDeviceInfo) to Kotlin\n *\npublic
external abstract class MediaDeviceInfo {\n  open val deviceId: String\n  open val kind: MediaDeviceKind\n
open val label: String\n  open val groupId: String\n  fun toJSON(): dynamic\n}\n\npublic external abstract class
InputDeviceInfo : MediaDeviceInfo {\n  fun getCapabilities(): MediaTrackCapabilities\n}\n\n/**\n * Exposes the
JavaScript [MediaStreamConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaStreamConstraints) to
Kotlin\n *\npublic external interface MediaStreamConstraints {\n  var video: dynamic /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var audio: dynamic /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun MediaStreamConstraints(video:
dynamic = false, audio: dynamic = false): MediaStreamConstraints {\n  val o = js("{}")\n  o["video"] =
video\n  o["audio"] = audio\n  return o\n}\n\npublic external interface ConstrainingPattern {\n  var
onoverconstrained: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n
fun getCapabilities(): Capabilities\n  fun getConstraints(): Constraints\n  fun getSettings(): Settings\n  fun
applyConstraints(constraints: Constraints = definedExternally): Promise<Unit>\n}\n\n/**\n * Exposes the
JavaScript [DoubleRange](https://developer.mozilla.org/en/docs/Web/API/DoubleRange) to Kotlin\n *\npublic
external interface DoubleRange {\n  var max: Double?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var min: Double?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleRange(max: Double? =
undefined, min: Double? = undefined): DoubleRange {\n  val o = js("{}")\n  o["max"] = max\n  o["min"] =
min\n  return o\n}\n\npublic external interface ConstrainDoubleRange : DoubleRange {\n  var exact: Double?\n
get() = definedExternally\n  set(value) = definedExternally\n  var ideal: Double?\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainDoubleRange(exact: Double?
= undefined, ideal: Double? = undefined, max: Double? = undefined, min: Double? = undefined):
ConstrainDoubleRange {\n  val o = js("{}")\n  o["exact"] = exact\n  o["ideal"] = ideal\n  o["max"] =
max\n  o["min"] = min\n  return o\n}\n\npublic external interface ULongRange {\n  var max: Int?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var min: Int?\n  get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ULongRange(max: Int? = undefined,
min: Int? = undefined): ULongRange {\n  val o = js("{}")\n  o["max"] = max\n  o["min"] = min\n  return

```



```

o\n}\n\npublic external interface ConstrainULongRange : ULongRange {\n  var exact: Int?\n    get() =
definedExternally\n    set(value) = definedExternally\n  var ideal: Int?\n    get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainULongRange(exact: Int? =
undefined, ideal: Int? = undefined, max: Int? = undefined, min: Int? = undefined): ConstrainULongRange {\n  val o
= js("{}")\n  o["exact"] = exact\n  o["ideal"] = ideal\n  o["max"] = max\n  o["min"] = min\n  return
o\n}\n\n/*\n * Exposes the JavaScript
[ConstrainBooleanParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainBooleanParameters) to
Kotlin\n *\npublic external interface ConstrainBooleanParameters {\n  var exact: Boolean?\n    get() =
definedExternally\n    set(value) = definedExternally\n  var ideal: Boolean?\n    get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainBooleanParameters(exact:
Boolean? = undefined, ideal: Boolean? = undefined): ConstrainBooleanParameters {\n  val o = js("{}")\n
o["exact"] = exact\n  o["ideal"] = ideal\n  return o\n}\n\n/*\n * Exposes the JavaScript
[ConstrainDOMStringParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainDOMStringParameters)
to Kotlin\n *\npublic external interface ConstrainDOMStringParameters {\n  var exact: dynamic\n    get() =
definedExternally\n    set(value) = definedExternally\n  var ideal: dynamic\n    get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun
ConstrainDOMStringParameters(exact: dynamic = undefined, ideal: dynamic = undefined):
ConstrainDOMStringParameters {\n  val o = js("{}")\n  o["exact"] = exact\n  o["ideal"] = ideal\n  return
o\n}\n\npublic external interface Capabilities\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun Capabilities(): Capabilities {\n  val o
= js("{}")\n  return o\n}\n\npublic external interface Settings\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun Settings(): Settings {\n  val o =
js("{}")\n  return o\n}\n\npublic external interface ConstraintSet\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ConstraintSet(): ConstraintSet {\n
val o = js("{}")\n  return o\n}\n\npublic external interface Constraints : ConstraintSet {\n  var advanced:
Array<ConstraintSet>?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun Constraints(advanced:
Array<ConstraintSet>? = undefined): Constraints {\n  val o = js("{}")\n  o["advanced"] = advanced\n
return o\n}\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaStreamTrackState {\n  companion object\n}\n\npublic inline val
MediaStreamTrackState.Companion.LIVE: MediaStreamTrackState get() =
"live".asDynamic().unsafeCast<MediaStreamTrackState>()\n\npublic inline val
MediaStreamTrackState.Companion.ENDED: MediaStreamTrackState get() =
"ended".asDynamic().unsafeCast<MediaStreamTrackState>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface VideoFacingModeEnum {\n  companion object\n}\n\npublic inline val
VideoFacingModeEnum.Companion.USER: VideoFacingModeEnum get() =
"user".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.ENVIRONMENT: VideoFacingModeEnum get() =
"environment".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.LEFT: VideoFacingModeEnum get() =
"left".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.RIGHT: VideoFacingModeEnum get() =

```

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\"right\".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface VideoResizeModeEnum {\n    companion object\n}\n\npublic inline val
VideoResizeModeEnum.Companion.NONE: VideoResizeModeEnum get() =
\"none\".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\npublic inline val
VideoResizeModeEnum.Companion.CROP_AND_SCALE: VideoResizeModeEnum get() = \"crop-and-
scale\".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface MediaDeviceKind {\n    companion object\n}\n\npublic inline val
MediaDeviceKind.Companion.AUDIOINPUT: MediaDeviceKind get() =
\"audioinput\".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.AUDIOOUTPUT: MediaDeviceKind get() =
\"audiooutput\".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.VIDEOINPUT: MediaDeviceKind get() =
\"videoinput\".asDynamic().unsafeCast<MediaDeviceKind>())\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.mediasource\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\n/**\n * Exposes
the JavaScript [MediaSource](https://developer.mozilla.org/en/docs/Web/API/MediaSource) to Kotlin\n */\n\npublic
external open class MediaSource : EventTarget, MediaProvider {\n    open val sourceBuffers: SourceBufferList\n
open val activeSourceBuffers: SourceBufferList\n    open val readyState: ReadyState\n    var duration: Double\n
var onsourceopen: ((Event) -> dynamic)?\n    var onsourceended: ((Event) -> dynamic)?\n    var onsourceclose:
((Event) -> dynamic)?\n    fun addSourceBuffer(type: String): SourceBuffer\n    fun
removeSourceBuffer(sourceBuffer: SourceBuffer)\n    fun endOfStream(error: EndOfStreamError =
definedExternally)\n    fun setLiveSeekableRange(start: Double, end: Double)\n    fun clearLiveSeekableRange()\n\n
companion object {\n    fun isTypeSupported(type: String): Boolean\n    }\n}\n\n/**\n * Exposes the JavaScript
[SourceBuffer](https://developer.mozilla.org/en/docs/Web/API/SourceBuffer) to Kotlin\n */\n\npublic external
abstract class SourceBuffer : EventTarget {\n    open var mode: AppendMode\n    open val updating: Boolean\n
open val buffered: TimeRanges\n    open var timestampOffset: Double\n    open val audioTracks: AudioTrackList\n
open val videoTracks: VideoTrackList\n    open val textTracks: TextTrackList\n    open var appendWindowStart:
Double\n    open var appendWindowEnd: Double\n    open var onupdatestart: ((Event) -> dynamic)?\n    open var
onupdate: ((Event) -> dynamic)?\n    open var onupdateend: ((Event) -> dynamic)?\n    open var onerror: ((Event) ->
dynamic)?\n    open var onabort: ((Event) -> dynamic)?\n    fun appendBuffer(data: dynamic)\n    fun abort()\n    fun
remove(start: Double, end: Double)\n}\n\n/**\n * Exposes the JavaScript
[SourceBufferList](https://developer.mozilla.org/en/docs/Web/API/SourceBufferList) to Kotlin\n */\n\npublic
external abstract class SourceBufferList : EventTarget {\n    open val length: Int\n    open var onaddsourcebuffer:
((Event) -> dynamic)?\n    open var onremovesourcebuffer: ((Event) ->
dynamic)?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun SourceBufferList.get(index:
Int): SourceBuffer? = asDynamic()[index]\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface ReadyState {\n    companion object\n}\n\npublic inline val ReadyState.Companion.CLOSED: ReadyState
get() = \"closed\".asDynamic().unsafeCast<ReadyState>()\n\npublic inline val ReadyState.Companion.OPEN:
ReadyState get() = \"open\".asDynamic().unsafeCast<ReadyState>()\n\npublic inline val
ReadyState.Companion.ENDED: ReadyState get() = \"ended\".asDynamic().unsafeCast<ReadyState>()\n\n/*
please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external

```

```

interface EndOfStreamError {\n  companion object\n}\n\npublic inline val
EndOfStreamError.Companion.NETWORK: EndOfStreamError get() =
\"network\".asDynamic().unsafeCast<EndOfStreamError>()\n\npublic inline val
EndOfStreamError.Companion.DECODE: EndOfStreamError get() =
\"decode\".asDynamic().unsafeCast<EndOfStreamError>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface AppendMode {\n  companion object\n}\n\npublic inline val AppendMode.Companion.SEGMENTS:
AppendMode get() = \"segments\".asDynamic().unsafeCast<AppendMode>()\n\npublic inline val
AppendMode.Companion.SEQUENCE: AppendMode get() =
\"sequence\".asDynamic().unsafeCast<AppendMode>()\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n@n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n@n//
See github.com/kotlin/dukat for details\n@npackage org.w3c.dom.pointerevents\n@nimport kotlin.js.*\n@nimport
org.khronos.webgl.*\n@nimport org.w3c.dom.*\n@nimport org.w3c.dom.events.*\n\npublic external interface
PointerEventInit : MouseEventInit {\n  var pointerId: Int? /* = 0 */\n    get() = definedExternally\n  set(value) = definedExternally\n  var width: Double? /* = 1.0 */\n    get() = definedExternally\n  set(value) =
definedExternally\n  var height: Double? /* = 1.0 */\n    get() = definedExternally\n  set(value) =
definedExternally\n  var pressure: Float? /* = 0f */\n    get() = definedExternally\n  set(value) =
definedExternally\n  var tangentialPressure: Float? /* = 0f */\n    get() = definedExternally\n  set(value) =
definedExternally\n  var tiltX: Int? /* = 0 */\n    get() = definedExternally\n  set(value) = definedExternally\n
  var tiltY: Int? /* = 0 */\n    get() = definedExternally\n  set(value) = definedExternally\n  var twist: Int? /* =
0 */\n    get() = definedExternally\n  set(value) = definedExternally\n  var pointerType: String? /* = \"\" */\n
  get() = definedExternally\n  set(value) = definedExternally\n  var isPrimary: Boolean? /* = false */\n
  get() = definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun PointerEventInit(pointerId: Int? = 0,
width: Double? = 1.0, height: Double? = 1.0, pressure: Float? = 0f, tangentialPressure: Float? = 0f, tiltX: Int? = 0,
tiltY: Int? = 0, twist: Int? = 0, pointerType: String? = \"\", isPrimary: Boolean? = false, screenX: Int? = 0, screenY:
Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? =
null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false,
metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn:
Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock:
Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol:
Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PointerEventInit {\n  val o =
js(\"({})\")\n  o[\"pointerId\"] = pointerId\n  o[\"width\"] = width\n  o[\"height\"] = height\n  o[\"pressure\"] =
pressure\n  o[\"tangentialPressure\"] = tangentialPressure\n  o[\"tiltX\"] = tiltX\n  o[\"tiltY\"] = tiltY\n
  o[\"twist\"] = twist\n  o[\"pointerType\"] = pointerType\n  o[\"isPrimary\"] = isPrimary\n  o[\"screenX\"] =
screenX\n  o[\"screenY\"] = screenY\n  o[\"clientX\"] = clientX\n  o[\"clientY\"] = clientY\n  o[\"button\"] =
button\n  o[\"buttons\"] = buttons\n  o[\"relatedTarget\"] = relatedTarget\n  o[\"region\"] = region\n
  o[\"ctrlKey\"] = ctrlKey\n  o[\"shiftKey\"] = shiftKey\n  o[\"altKey\"] = altKey\n  o[\"metaKey\"] = metaKey\n
  o[\"modifierAltGraph\"] = modifierAltGraph\n  o[\"modifierCapsLock\"] = modifierCapsLock\n
  o[\"modifierFn\"] = modifierFn\n  o[\"modifierFnLock\"] = modifierFnLock\n  o[\"modifierHyper\"] =
modifierHyper\n  o[\"modifierNumLock\"] = modifierNumLock\n  o[\"modifierScrollLock\"] =
modifierScrollLock\n  o[\"modifierSuper\"] = modifierSuper\n  o[\"modifierSymbol\"] = modifierSymbol\n
  o[\"modifierSymbolLock\"] = modifierSymbolLock\n  o[\"view\"] = view\n  o[\"detail\"] = detail\n
  o[\"bubbles\"] = bubbles\n  o[\"cancelable\"] = cancelable\n  o[\"composed\"] = composed\n  return
o\n}\n\n/**\n * Exposes the JavaScript
[PointerEvent](https://developer.mozilla.org/en/docs/Web/API/PointerEvent) to Kotlin\n *\n@npublic external open

```

```

class PointerEvent(type: String, eventInitDict: PointerEventInit = definedExternally) : MouseEvent {
    open val pointerId: Int
    open val width: Double
    open val height: Double
    open val pressure: Float
    open val tangentialPressure: Float
    open val tiltX: Int
    open val tiltY: Int
    open val twist: Int
    open val pointerType: String
    open val isPrimary: Boolean
    companion object {
        val NONE: Short
        val CAPTURING_PHASE: Short
        val AT_TARGET: Short
        val BUBBLING_PHASE: Short
    }
}
/* Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!
See github.com/kotlin/dukat for details
package org.w3c.dom.svg
import kotlin.js.*
import org.khronos.webgl.*
import org.w3c.dom.*
import org.w3c.dom.css.*
/** Exposes the JavaScript [SVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGElement) to Kotlin
 */
public external abstract class SVGElement : Element, ElementCSSInlineStyle, GlobalEventHandlers, SVGElementInstance {
    open val dataset: DOMStringMap
    open val ownerSVGElement: SVGSVGElement?
    open val viewportElement: SVGElement?
    open var tabIndex: Int
    fun focus()
    fun blur()
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
    }
}
public external interface SVGBoundingBoxOptions {
    var fill: Boolean? /* = true */
    fun get() = definedExternally
    set(value) = definedExternally
    var stroke: Boolean? /* = false */
    fun get() = definedExternally
    set(value) = definedExternally
    var markers: Boolean? /* = false */
    fun get() = definedExternally
    set(value) = definedExternally
    var clipped: Boolean? /* = false */
    fun get() = definedExternally
    set(value) = definedExternally
}
@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun SVGBoundingBoxOptions(fill: Boolean? = true, stroke: Boolean? = false, markers: Boolean? = false, clipped: Boolean? = false): SVGBoundingBoxOptions {
    val o = js("{}")
    o["fill"] = fill
    o["stroke"] = stroke
    o["markers"] = markers
    o["clipped"] = clipped
    return o
}
/** Exposes the JavaScript [SVGGraphicsElement](https://developer.mozilla.org/en/docs/Web/API/SVGGraphicsElement) to Kotlin
 */
public external abstract class SVGGraphicsElement : SVGElement, SVGTests {
    open val transform: SVGAnimatedTransformList
    fun getBBox(options: SVGBoundingBoxOptions = definedExternally): DOMRect
    fun getCTM(): DOMMatrix?
    fun getScreenCTM(): DOMMatrix?
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
    }
}
/** Exposes the JavaScript [SVGGeometryElement](https://developer.mozilla.org/en/docs/Web/API/SVGGeometryElement) to Kotlin
 */
public external abstract class SVGGeometryElement : SVGGraphicsElement {
    open val pathLength: SVGAnimatedNumber
    fun isPointInFill(point: DOMPoint): Boolean
    fun isPointInStroke(point: DOMPoint): Boolean
}

```

```

Boolean\n fun getTotalLength(): Float\n fun getPointAtLength(distance: Float): DOMPoint\n\n companion
object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE:
Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGNumber](https://developer.mozilla.org/en/docs/Web/API/SVGNumber) to Kotlin\n */\npublic external
abstract class SVGNumber {\n open var value: Float\n}\n\n/**\n * Exposes the JavaScript
[SVGLength](https://developer.mozilla.org/en/docs/Web/API/SVGLength) to Kotlin\n */\npublic external abstract
class SVGLength {\n open val unitType: Short\n open var value: Float\n open var valueInSpecifiedUnits:
Float\n open var valueAsString: String\n fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits:
Float)\n fun convertToSpecifiedUnits(unitType: Short)\n\n companion object {\n val
SVG_LENGTHTYPE_UNKNOWN: Short\n val SVG_LENGTHTYPE_NUMBER: Short\n val
SVG_LENGTHTYPE_PERCENTAGE: Short\n val SVG_LENGTHTYPE_EMS: Short\n val
SVG_LENGTHTYPE_EXS: Short\n val SVG_LENGTHTYPE_PX: Short\n val
SVG_LENGTHTYPE_CM: Short\n val SVG_LENGTHTYPE_MM: Short\n val
SVG_LENGTHTYPE_IN: Short\n val SVG_LENGTHTYPE_PT: Short\n val SVG_LENGTHTYPE_PC:
Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAngle) to Kotlin\n */\npublic external abstract
class SVGAngle {\n open val unitType: Short\n open var value: Float\n open var valueInSpecifiedUnits:
Float\n open var valueAsString: String\n fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits:
Float)\n fun convertToSpecifiedUnits(unitType: Short)\n\n companion object {\n val
SVG_ANGLETYPE_UNKNOWN: Short\n val SVG_ANGLETYPE_UNSPECIFIED: Short\n val
SVG_ANGLETYPE_DEG: Short\n val SVG_ANGLETYPE_RAD: Short\n val
SVG_ANGLETYPE_GRAD: Short\n }\n}\n\npublic external abstract class SVGNameList {\n open val length:
Int\n open val numberOfItems: Int\n fun clear()\n fun initialize(newItem: dynamic): dynamic\n fun
insertItemBefore(newItem: dynamic, index: Int): dynamic\n fun replaceItem(newItem: dynamic, index: Int):
dynamic\n fun removeItem(index: Int): dynamic\n fun appendItem(newItem: dynamic): dynamic\n fun
getItem(index: Int): dynamic\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNameList.get(index: Int):
dynamic = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNameList.set(index: Int,
newItem: dynamic) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGNumberList) to Kotlin\n */\npublic external
abstract class SVGNumberList {\n open val length: Int\n open val numberOfItems: Int\n fun clear()\n fun
initialize(newItem: SVGNumber): SVGNumber\n fun insertItemBefore(newItem: SVGNumber, index: Int):
SVGNumber\n fun replaceItem(newItem: SVGNumber, index: Int): SVGNumber\n fun removeItem(index: Int):
SVGNumber\n fun appendItem(newItem: SVGNumber): SVGNumber\n fun getItem(index: Int):
SVGNumber\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNumberList.get(index:
Int): SVGNumber? = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNumberList.set(index:
Int, newItem: SVGNumber) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGLengthList) to Kotlin\n */\npublic external

```

```

abstract class SVGLengthList {
    open val length: Int
    open val numberOfItems: Int
    fun clear()
    fun initialize(newItem: SVGLength): SVGLength
    fun insertItemBefore(newItem: SVGLength, index: Int): SVGLength
    fun replaceItem(newItem: SVGLength, index: Int): SVGLength
    fun removeItem(index: Int): SVGLength
    fun appendItem(newItem: SVGLength): SVGLength
    fun getItem(index: Int): SVGLength
}

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun SVGLengthList.get(index: Int): SVGLength? = asDynamic()[index]

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun SVGLengthList.set(index: Int, newItem: SVGLength) { asDynamic()[index] = newItem }

/** Exposes the JavaScript [SVGAnimatedBoolean](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedBoolean) to Kotlin */
public external abstract class SVGAnimatedBoolean {
    open var baseVal: Boolean
    open val animVal: Boolean
}

/** Exposes the JavaScript [SVGAnimatedEnumeration](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedEnumeration) to Kotlin */
public external abstract class SVGAnimatedEnumeration {
    open var baseVal: Short
    open val animVal: Short
}

/** Exposes the JavaScript [SVGAnimatedInteger](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedInteger) to Kotlin */
public external abstract class SVGAnimatedInteger {
    open var baseVal: Int
    open val animVal: Int
}

/** Exposes the JavaScript [SVGAnimatedNumber](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumber) to Kotlin */
public external abstract class SVGAnimatedNumber {
    open var baseVal: Float
    open val animVal: Float
}

/** Exposes the JavaScript [SVGAnimatedLength](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLength) to Kotlin */
public external abstract class SVGAnimatedLength {
    open val baseVal: SVGLength
    open val animVal: SVGLength
}

/** Exposes the JavaScript [SVGAnimatedAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedAngle) to Kotlin */
public external abstract class SVGAnimatedAngle {
    open val baseVal: SVGAngle
    open val animVal: SVGAngle
}

/** Exposes the JavaScript [SVGAnimatedString](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedString) to Kotlin */
public external abstract class SVGAnimatedString {
    open var baseVal: String
    open val animVal: String
}

/** Exposes the JavaScript [SVGAnimatedRect](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedRect) to Kotlin */
public external abstract class SVGAnimatedRect {
    open val baseVal: DOMRect
    open val animVal: DOMRectReadOnly
}

/** Exposes the JavaScript [SVGAnimatedNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumberList) to Kotlin */
public external abstract class SVGAnimatedNumberList {
    open val baseVal: SVGNumberList
    open val animVal: SVGNumberList
}

/** Exposes the JavaScript [SVGAnimatedLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLengthList) to Kotlin */
public external abstract class SVGAnimatedLengthList {
    open val baseVal: SVGLengthList
    open val animVal: SVGLengthList
}

/** Exposes the JavaScript [SVGStringList](https://developer.mozilla.org/en/docs/Web/API/SVGStringList) to Kotlin */
public external abstract class SVGStringList {
    open val length: Int
    open val numberOfItems: Int
    fun clear()
    fun initialize(newItem: String): String
    fun insertItemBefore(newItem: String, index: Int): String
    fun replaceItem(newItem: String, index: Int): String
    fun removeItem(index: Int): String
    fun appendItem(newItem: String): String
    fun getItem(index: Int): String
}

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun SVGStringList.get(index: Int): String? = asDynamic()[index]

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun SVGStringList.set(index: Int, newItem: String) { asDynamic()[index] = newItem }

/** Exposes the JavaScript

```

```

[SVGUnitTypes](https://developer.mozilla.org/en/docs/Web/API/SVGUnitTypes) to Kotlin\n
*\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface SVGUnitTypes
{\n    companion object {\n        val SVG_UNIT_TYPE_UNKNOWN: Short\n        val
SVG_UNIT_TYPE_USERSPACEONUSE: Short\n        val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short\n    }\n}\n\n**\n * Exposes the JavaScript
[SVGTTests](https://developer.mozilla.org/en/docs/Web/API/SVGTTests) to Kotlin\n *\npublic external interface
SVGTTests {\n    val requiredExtensions: SVGStringList\n    val systemLanguage: SVGStringList\n}\n\npublic
external interface SVGFitToViewBox {\n    val viewBox: SVGAnimatedRect\n    val preserveAspectRatio:
SVGAnimatedPreserveAspectRatio\n}\n\n**\n * Exposes the JavaScript
[SVGZoomAndPan](https://developer.mozilla.org/en/docs/Web/API/SVGZoomAndPan) to Kotlin\n
*\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface
SVGZoomAndPan {\n    var zoomAndPan: Short\n\n    companion object {\n        val
SVG_ZOOMANDPAN_UNKNOWN: Short\n        val SVG_ZOOMANDPAN_DISABLE: Short\n        val
SVG_ZOOMANDPAN_MAGNIFY: Short\n    }\n}\n\n**\n * Exposes the JavaScript
[SVGURIReference](https://developer.mozilla.org/en/docs/Web/API/SVGURIReference) to Kotlin\n *\npublic
external interface SVGURIReference {\n    val href: SVGAnimatedString\n}\n\n**\n * Exposes the JavaScript
[SVGSVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGSVGElement) to Kotlin\n *\npublic
external abstract class SVGSVGElement : SVGGraphicsElement, SVGFitToViewBox, SVGZoomAndPan,
WindowEventHandlers {\n    open val x: SVGAnimatedLength\n    open val y: SVGAnimatedLength\n    open val
width: SVGAnimatedLength\n    open val height: SVGAnimatedLength\n    open var currentScale: Float\n    open
val currentTranslate: DOMPointReadOnly\n    fun getIntersectionList(rect: DOMRectReadOnly, referenceElement:
SVGElement?): NodeList\n    fun getEnclosureList(rect: DOMRectReadOnly, referenceElement: SVGElement?):
NodeList\n    fun checkIntersection(element: SVGElement, rect: DOMRectReadOnly): Boolean\n    fun
checkEnclosure(element: SVGElement, rect: DOMRectReadOnly): Boolean\n    fun deselectAll()\n    fun
createSVGNumber(): SVGNumber\n    fun createSVGLength(): SVGLength\n    fun createSVGAngle():
SVGAngle\n    fun createSVGPoint(): DOMPoint\n    fun createSVGMatrix(): DOMMatrix\n    fun
createSVGRect(): DOMRect\n    fun createSVGTransform(): SVGTransform\n    fun
createSVGTransformFromMatrix(matrix: DOMMatrixReadOnly): SVGTransform\n    fun
getElementById(elementId: String): Element\n    fun suspendRedraw(maxWaitMilliseconds: Int): Int\n    fun
unsuspendRedraw(suspendHandleID: Int)\n    fun unsuspendRedrawAll()\n    fun forceRedraw()\n\n    companion
object {\n        val SVG_ZOOMANDPAN_UNKNOWN: Short\n        val SVG_ZOOMANDPAN_DISABLE:
Short\n        val SVG_ZOOMANDPAN_MAGNIFY: Short\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n**\n * Exposes the JavaScript
[SVGGElement](https://developer.mozilla.org/en/docs/Web/API/SVGGElement) to Kotlin\n *\npublic external
abstract class SVGGElement : SVGGraphicsElement {\n    companion object {\n        val ELEMENT_NODE:
Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE:
Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val

```

```

DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
SVGUnknownElement : SVGGraphicsElement {\n    companion object {\n        val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGDefsElement](https://developer.mozilla.org/en/docs/Web/API/SVGDefsElement) to Kotlin\n */\npublic
external abstract class SVGDefsElement : SVGGraphicsElement {\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGDescElement](https://developer.mozilla.org/en/docs/Web/API/SVGDescElement) to Kotlin\n */\npublic
external abstract class SVGDescElement : SVGElement {\n    companion object {\n        val ELEMENT_NODE:
Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE:
Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGMetadataElement](https://developer.mozilla.org/en/docs/Web/API/SVGMetadataElement) to Kotlin\n
*/\npublic external abstract class SVGMetadataElement : SVGElement {\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGTITLEElement](https://developer.mozilla.org/en/docs/Web/API/SVGTITLEElement) to Kotlin\n */\npublic

```


Exposes the JavaScript [SVGSwitchElement](https://developer.mozilla.org/en/docs/Web/API/SVGSwitchElement) to Kotlin

```

public external abstract class SVGSwitchElement : SVGGraphicsElement {
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
    }
}

public external interface GetSVGDocument {
    fun getSVGDocument(): Document
}

public external abstract class SVGStyleElement : SVGElement, LinkStyle {
    open var type: String
    open var media: String
    open var title: String
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
    }
}

public external abstract class SVGTransform {
    open val type: Short
    open val matrix: DOMMatrix
    open val angle: Float
    fun setMatrix(matrix: DOMMatrixReadOnly)
    fun setTranslate(tx: Float, ty: Float)
    fun setScale(sx: Float, sy: Float)
    fun setRotate(angle: Float, cx: Float, cy: Float)
    fun setSkewX(angle: Float)
    fun setSkewY(angle: Float)
    companion object {
        val SVG_TRANSFORM_UNKNOWN: Short
        val SVG_TRANSFORM_MATRIX: Short
        val SVG_TRANSFORM_TRANSLATE: Short
        val SVG_TRANSFORM_SCALE: Short
        val SVG_TRANSFORM_ROTATE: Short
        val SVG_TRANSFORM_SKEWX: Short
        val SVG_TRANSFORM_SKEWY: Short
    }
}

public external abstract class SVGTransformList {
    open val length: Int
    open val numberOfItems: Int
    fun clear()
    fun initialize(newItem: SVGTransform): SVGTransform
    fun insertItemBefore(newItem: SVGTransform, index: Int): SVGTransform
    fun replaceItem(newItem: SVGTransform, index: Int): SVGTransform
    fun removeItem(index: Int): SVGTransform
    fun appendItem(newItem: SVGTransform): SVGTransform
    fun createSVGTransformFromMatrix(matrix: DOMMatrixReadOnly): SVGTransform
    fun consolidate(): SVGTransform?
    fun getItem(index: Int): SVGTransform
}

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun SVGTransformList.get(index: Int): SVGTransform? = asDynamic()[index]

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun SVGTransformList.set(index: Int, newItem: SVGTransform) { asDynamic()[index] = newItem }

public external abstract class SVGAnimatedTransformList {
    open val baseVal: SVGTransformList
    open val animVal: SVGTransformList
}

public external abstract class SVGPreserveAspectRatio {
}

```

Exposes the JavaScript [SVGAnimatedTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedTransformList) to Kotlin

Exposes the JavaScript [SVGPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGPreserveAspectRatio) to Kotlin

```

*\npublic external abstract class SVGPreserveAspectRatio {\n  open var align: Short\n  open var meetOrSlice: Short\n\n  companion object {\n    val SVG_PRESERVEASPECTRATIO_UNKNOWN: Short\n    val SVG_PRESERVEASPECTRATIO_NONE: Short\n    val SVG_PRESERVEASPECTRATIO_XMINYMIN: Short\n    val SVG_PRESERVEASPECTRATIO_XMIDYMIN: Short\n    val SVG_PRESERVEASPECTRATIO_XMAXYMIN: Short\n    val SVG_PRESERVEASPECTRATIO_XMINYMID: Short\n    val SVG_PRESERVEASPECTRATIO_XMIDYMID: Short\n    val SVG_PRESERVEASPECTRATIO_XMAXYMID: Short\n    val SVG_PRESERVEASPECTRATIO_XMINYMAX: Short\n    val SVG_PRESERVEASPECTRATIO_XMIDYMAX: Short\n    val SVG_PRESERVEASPECTRATIO_XMAXYMAX: Short\n    val SVG_MEETORSLICE_UNKNOWN: Short\n    val SVG_MEETORSLICE_MEET: Short\n    val SVG_MEETORSLICE_SLICE: Short\n  }\n}\n\n**\n *

```

Exposes the JavaScript

[SVGAnimatedPreserveAspectRatio](<https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPreserveAspectRatio>) to Kotlin

```

*\npublic external abstract class SVGAnimatedPreserveAspectRatio {\n  open val baseVal: SVGPreserveAspectRatio\n  open val animVal: SVGPreserveAspectRatio\n}\n\n**\n * Exposes the JavaScript

```

[SVGPathElement](<https://developer.mozilla.org/en/docs/Web/API/SVGPathElement>) to Kotlin

```

*\npublic external abstract class SVGPathElement : SVGGeometryElement {\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY: Short\n  }\n}\n\n**\n * Exposes the JavaScript

```

```

*\npublic external abstract class SVGRectElement : SVGGeometryElement {\n  open val x: SVGAnimatedLength\n  open val y: SVGAnimatedLength\n  open val width: SVGAnimatedLength\n  open val height: SVGAnimatedLength\n  open val rx: SVGAnimatedLength\n  open val ry: SVGAnimatedLength\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY: Short\n  }\n}\n\n**\n * Exposes the JavaScript

```

[SVGCircleElement](<https://developer.mozilla.org/en/docs/Web/API/SVGCircleElement>) to Kotlin

```

*\npublic external abstract class SVGCircleElement : SVGGeometryElement {\n  open val cx: SVGAnimatedLength\n  open val cy: SVGAnimatedLength\n  open val r: SVGAnimatedLength\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n  }\n}\n\n**\n * Exposes the JavaScript

```

```

DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGEllipseElement](https://developer.mozilla.org/en/docs/Web/API/SVGEllipseElement) to Kotlin \n * \n public
external abstract class SVGEllipseElement : SVGGeometryElement { \n    open val cx: SVGAnimatedLength \n
open val cy: SVGAnimatedLength \n    open val rx: SVGAnimatedLength \n    open val ry: SVGAnimatedLength \n \n
companion object { \n        val ELEMENT_NODE: Short \n        val ATTRIBUTE_NODE: Short \n        val
TEXT_NODE: Short \n        val CDATA_SECTION_NODE: Short \n        val ENTITY_REFERENCE_NODE:
Short \n        val ENTITY_NODE: Short \n        val PROCESSING_INSTRUCTION_NODE: Short \n        val
COMMENT_NODE: Short \n        val DOCUMENT_NODE: Short \n        val DOCUMENT_TYPE_NODE: Short \n
        val DOCUMENT_FRAGMENT_NODE: Short \n        val NOTATION_NODE: Short \n        val
DOCUMENT_POSITION_DISCONNECTED: Short \n        val DOCUMENT_POSITION_PRECEDING: Short \n
        val DOCUMENT_POSITION_FOLLOWING: Short \n        val DOCUMENT_POSITION_CONTAINS: Short \n
        val DOCUMENT_POSITION_CONTAINED_BY: Short \n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGLineElement](https://developer.mozilla.org/en/docs/Web/API/SVGLineElement) to Kotlin \n * \n public
external abstract class SVGLineElement : SVGGeometryElement { \n    open val x1: SVGAnimatedLength \n    open
val y1: SVGAnimatedLength \n    open val x2: SVGAnimatedLength \n    open val y2: SVGAnimatedLength \n \n
companion object { \n        val ELEMENT_NODE: Short \n        val ATTRIBUTE_NODE: Short \n        val
TEXT_NODE: Short \n        val CDATA_SECTION_NODE: Short \n        val ENTITY_REFERENCE_NODE:
Short \n        val ENTITY_NODE: Short \n        val PROCESSING_INSTRUCTION_NODE: Short \n        val
COMMENT_NODE: Short \n        val DOCUMENT_NODE: Short \n        val DOCUMENT_TYPE_NODE: Short \n
        val DOCUMENT_FRAGMENT_NODE: Short \n        val NOTATION_NODE: Short \n        val
DOCUMENT_POSITION_DISCONNECTED: Short \n        val DOCUMENT_POSITION_PRECEDING: Short \n
        val DOCUMENT_POSITION_FOLLOWING: Short \n        val DOCUMENT_POSITION_CONTAINS: Short \n
        val DOCUMENT_POSITION_CONTAINED_BY: Short \n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGMeshElement](https://developer.mozilla.org/en/docs/Web/API/SVGMeshElement) to Kotlin \n * \n public
external abstract class SVGMeshElement : SVGGeometryElement, SVGURIReference { \n    companion object { \n
        val ELEMENT_NODE: Short \n        val ATTRIBUTE_NODE: Short \n        val TEXT_NODE: Short \n        val
CDATA_SECTION_NODE: Short \n        val ENTITY_REFERENCE_NODE: Short \n        val ENTITY_NODE:
Short \n        val PROCESSING_INSTRUCTION_NODE: Short \n        val COMMENT_NODE: Short \n        val
DOCUMENT_NODE: Short \n        val DOCUMENT_TYPE_NODE: Short \n        val
DOCUMENT_FRAGMENT_NODE: Short \n        val NOTATION_NODE: Short \n        val
DOCUMENT_POSITION_DISCONNECTED: Short \n        val DOCUMENT_POSITION_PRECEDING: Short \n
        val DOCUMENT_POSITION_FOLLOWING: Short \n        val DOCUMENT_POSITION_CONTAINS: Short \n
        val DOCUMENT_POSITION_CONTAINED_BY: Short \n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGAnimatedPoints](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPoints) to Kotlin \n * \n public
external interface SVGAnimatedPoints { \n    val points: SVGPointList \n    val animatedPoints:
SVGPointList \n} \n \n public external abstract class SVGPointList { \n    open val length: Int \n    open val
numberOfItems: Int \n    fun clear() \n    fun initialize(newItem: DOMPoint): DOMPoint \n    fun
insertItemBefore(newItem: DOMPoint, index: Int): DOMPoint \n    fun replaceItem(newItem: DOMPoint, index:
Int): DOMPoint \n    fun removeItem(index: Int): DOMPoint \n    fun appendItem(newItem: DOMPoint):
DOMPoint \n    fun getItem(index: Int): DOMPoint \n} \n \n @Suppress(\ "INVISIBLE_REFERENCE\ ",
\ "INVISIBLE_MEMBER\ ") \n @kotlin.internal.InlineOnly \n public inline operator fun SVGPointList.get(index: Int):
DOMPoint? = asDynamic()[index] \n \n @Suppress(\ "INVISIBLE_REFERENCE\ ",

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\ "INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGPointList.set(index: Int,
newItem: DOMPoint) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGPolylineElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolylineElement) to Kotlin\n
*\npublic external abstract class SVGPolylineElement : SVGGeometryElement, SVGAnimatedPoints {\n
companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val
TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGPolygonElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolygonElement) to Kotlin\n
*\npublic external abstract class SVGPolygonElement : SVGGeometryElement, SVGAnimatedPoints {\n
companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val
TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGTextContentElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextContentElement) to Kotlin\n
*\npublic external abstract class SVGTextContentElement : SVGGraphicsElement {\n    open val textLength:
SVGAnimatedLength\n    open val lengthAdjust: SVGAnimatedEnumeration\n    fun getNumberOfChars(): Int\n
fun getComputedTextLength(): Float\n    fun getSubStringLength(charnum: Int, nchars: Int): Float\n    fun
getStartPositionOfChar(charnum: Int): DOMPoint\n    fun getEndPositionOfChar(charnum: Int): DOMPoint\n    fun
getExtentOfChar(charnum: Int): DOMRect\n    fun getRotationOfChar(charnum: Int): Float\n    fun
getCharNumAtPosition(point: DOMPoint): Int\n    fun selectSubString(charnum: Int, nchars: Int)\n\n    companion
object {\n        val LENGTHADJUST_UNKNOWN: Short\n        val LENGTHADJUST_SPACING: Short\n
        val LENGTHADJUST_SPACINGANDGLYPHS: Short\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\n/**\n * Exposes the JavaScript
[SVGTextPositioningElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPositioningElement) to
Kotlin\n
*\npublic external abstract class SVGTextPositioningElement : SVGTextContentElement {\n    open val x:
SVGAnimatedLengthList\n    open val y: SVGAnimatedLengthList\n    open val dx: SVGAnimatedLengthList\n
open val dy: SVGAnimatedLengthList\n    open val rotate: SVGAnimatedNumberList\n\n    companion object {\n
        val LENGTHADJUST_UNKNOWN: Short\n        val LENGTHADJUST_SPACING: Short\n        val
LENGTHADJUST_SPACINGANDGLYPHS: Short\n        val ELEMENT_NODE: Short\n        val

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ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGTextElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextElement) to Kotlin \n * \n public
external abstract class SVGTextElement : SVGTextPositioningElement { \n    companion object { \n    val
LENGTHADJUST_UNKNOWN: Short\n    val LENGTHADJUST_SPACING: Short\n    val
LENGTHADJUST_SPACINGANDGLYPHS: Short\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGTSpanElement](https://developer.mozilla.org/en/docs/Web/API/SVGTSpanElement) to Kotlin \n * \n public
external abstract class SVGTSpanElement : SVGTextPositioningElement { \n    companion object { \n    val
LENGTHADJUST_UNKNOWN: Short\n    val LENGTHADJUST_SPACING: Short\n    val
LENGTHADJUST_SPACINGANDGLYPHS: Short\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGTextPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPathElement) to Kotlin \n
* \n public external abstract class SVGTextPathElement : SVGTextContentElement, SVGURIReference { \n    open
val startOffset: SVGAnimatedLength \n    open val method: SVGAnimatedEnumeration \n    open val spacing:
SVGAnimatedEnumeration \n \n    companion object { \n    val TEXTPATH_METHODTYPE_UNKNOWN:
Short\n    val TEXTPATH_METHODTYPE_ALIGN: Short\n    val
TEXTPATH_METHODTYPE_STRETCH: Short\n    val TEXTPATH_SPACINGTYPE_UNKNOWN: Short\n
    val TEXTPATH_SPACINGTYPE_AUTO: Short\n    val TEXTPATH_SPACINGTYPE_EXACT: Short\n
    val LENGTHADJUST_UNKNOWN: Short\n    val LENGTHADJUST_SPACING: Short\n    val
LENGTHADJUST_SPACINGANDGLYPHS: Short\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val

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DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[SVGImageElement](https://developer.mozilla.org/en/docs/Web/API/SVGImageElement) to Kotlin\n */\npublic
external abstract class SVGImageElement : SVGGraphicsElement, SVGURIReference,
HTMLOrSVGImageElement {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open
val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n open val preserveAspectRatio:
SVGAnimatedPreserveAspectRatio\n open var crossOrigin: String?\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[SVGForeignObjectElement](https://developer.mozilla.org/en/docs/Web/API/SVGForeignObjectElement) to
Kotlin\n */\npublic external abstract class SVGForeignObjectElement : SVGGraphicsElement {\n open val x:
SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val
height: SVGAnimatedLength\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\npublic external abstract class
SVGMarkerElement : SVGElement, SVGFitToViewBox {\n open val refX: SVGAnimatedLength\n open val
refY: SVGAnimatedLength\n open val markerUnits: SVGAnimatedEnumeration\n open val markerWidth:
SVGAnimatedLength\n open val markerHeight: SVGAnimatedLength\n open val orientType:
SVGAnimatedEnumeration\n open val orientAngle: SVGAnimatedAngle\n open var orient: String\n fun
setOrientToAuto()\n fun setOrientToAngle(angle: SVGAngle)\n\n companion object {\n val
SVG_MARKERUNITS_UNKNOWN: Short\n val SVG_MARKERUNITS_USERSPACEONUSE: Short\n
val SVG_MARKERUNITS_STROKewidth: Short\n val SVG_MARKER_ORIENT_UNKNOWN: Short\n
val SVG_MARKER_ORIENT_AUTO: Short\n val SVG_MARKER_ORIENT_ANGLE: Short\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val


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SVGAnimatedLength\n  open val fy: SVGAnimatedLength\n  open val fr: SVGAnimatedLength\n\n  companion
object {\n    val SVG_SPREADMETHOD_UNKNOWN: Short\n    val SVG_SPREADMETHOD_PAD:
Short\n    val SVG_SPREADMETHOD_REFLECT: Short\n    val SVG_SPREADMETHOD_REPEAT:
Short\n    val SVG_UNIT_TYPE_UNKNOWN: Short\n    val SVG_UNIT_TYPE_USERSPACEONUSE:
Short\n    val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n    val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external abstract class
SVGMeshGradientElement : SVGGradientElement {\n  companion object {\n    val
SVG_SPREADMETHOD_UNKNOWN: Short\n    val SVG_SPREADMETHOD_PAD: Short\n    val
SVG_SPREADMETHOD_REFLECT: Short\n    val SVG_SPREADMETHOD_REPEAT: Short\n    val
SVG_UNIT_TYPE_UNKNOWN: Short\n    val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n    val
SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external abstract class
SVGMeshrowElement : SVGElement {\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external abstract class
SVGMeshpatchElement : SVGElement {\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript

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external abstract class SVGCursorElement : SVGElement, SVGURIReference {\n  open val x:
SVGAnimatedLength\n  open val y: SVGAnimatedLength\n\n  companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n\n  /**\n   * Exposes the JavaScript
[SVGScriptElement](https://developer.mozilla.org/en/docs/Web/API/SVGScriptElement) to Kotlin\n
*/\npublic
external abstract class SVGScriptElement : SVGElement, SVGURIReference, HTMLOrSVGScriptElement {\n
open var type: String\n  open var crossOrigin: String?\n\n  companion object {\n    val ELEMENT_NODE:
Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE:
Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n\n  /**\n   * Exposes the JavaScript
[SVGAElement](https://developer.mozilla.org/en/docs/Web/API/SVGAElement) to Kotlin\n
*/\npublic external
abstract class SVGAElement : SVGGraphicsElement, SVGURIReference {\n  open val target:
SVGAnimatedString\n  open val download: SVGAnimatedString\n  open val rel: SVGAnimatedString\n  open
val relList: SVGAnimatedString\n  open val hreflang: SVGAnimatedString\n  open val type:
SVGAnimatedString\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n\n  /**\n   * Exposes the JavaScript
[SVGViewElement](https://developer.mozilla.org/en/docs/Web/API/SVGViewElement) to Kotlin\n
*/\npublic external
abstract class SVGViewElement : SVGElement, SVGFitToViewBox, SVGZoomAndPan {\n  companion
object {\n    val SVG_ZOOMANDPAN_UNKNOWN: Short\n    val SVG_ZOOMANDPAN_DISABLE:
Short\n    val SVG_ZOOMANDPAN_MAGNIFY: Short\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n

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val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }n}", /*\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-
GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.files\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\nimport
org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [Blob](https://developer.mozilla.org/en/docs/Web/API/Blob) to
Kotlin\n */\n\npublic external open class Blob(blobParts: Array<dynamic> = definedExternally, options:
BlobPropertyBag = definedExternally) : MediaPlayer, ImageBitmapSource {\n    open val size: Number\n    open
val type: String\n    open val isClosed: Boolean\n    fun slice(start: Int = definedExternally, end: Int =
definedExternally, contentType: String = definedExternally): Blob\n    fun close()\n}\n\npublic external interface
BlobPropertyBag {\n    var type: String? /* = \"\" */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun BlobPropertyBag(type: String? = \"\"):
BlobPropertyBag {\n    val o = js(\"({})\")\n    o[\"type\"] = type\n    return o\n}\n\n/**\n * Exposes the JavaScript
[File](https://developer.mozilla.org/en/docs/Web/API/File) to Kotlin\n */\n\npublic external open class File(fileBits:
Array<dynamic>, fileName: String, options: FilePropertyBag = definedExternally) : Blob {\n    open val name:
String\n    open val lastModified: Int\n}\n\npublic external interface FilePropertyBag : BlobPropertyBag {\n    var
lastModified: Int?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun FilePropertyBag(lastModified: Int? =
undefined, type: String? = \"\"): FilePropertyBag {\n    val o = js(\"({})\")\n    o[\"lastModified\"] = lastModified\n
o[\"type\"] = type\n    return o\n}\n\n/**\n * Exposes the JavaScript
[FileList](https://developer.mozilla.org/en/docs/Web/API/FileList) to Kotlin\n */\n\npublic external abstract class
FileList : ItemArrayLike<File> {\n    override fun item(index: Int):
File?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun FileList.get(index: Int): File?
= asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[FileReader](https://developer.mozilla.org/en/docs/Web/API/FileReader) to Kotlin\n */\n\npublic external open class
FileReader : EventTarget {\n    open val readyState: Short\n    open val result: dynamic\n    open val error:
dynamic\n    var onloadstart: ((ProgressEvent) -> dynamic)?\n    var onprogress: ((ProgressEvent) -> dynamic)?\n
var onload: ((Event) -> dynamic)?\n    var onabort: ((Event) -> dynamic)?\n    var onerror: ((Event) ->
dynamic)?\n    var onloadend: ((Event) -> dynamic)?\n    fun readAsArrayBuffer(blob: Blob)\n    fun readAsBinaryString(blob:
Blob)\n    fun readAsText(blob: Blob, label: String = definedExternally)\n    fun readAsDataURL(blob: Blob)\n
fun abort()\n\n    companion object {\n        val EMPTY: Short\n        val LOADING: Short\n        val DONE:
Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[FileReaderSync](https://developer.mozilla.org/en/docs/Web/API/FileReaderSync) to Kotlin\n */\n\npublic external
open class FileReaderSync {\n    fun readAsArrayBuffer(blob: Blob): ArrayBuffer\n    fun readAsBinaryString(blob:
Blob): String\n    fun readAsText(blob: Blob, label: String = definedExternally): String\n    fun
readAsDataURL(blob: Blob): String\n}", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See
github.com/kotlin/dukat for details\n\npackage org.w3c.notifications\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.events.*\nimport org.w3c.workers.*\n\n/**\n * Exposes the JavaScript
[Notification](https://developer.mozilla.org/en/docs/Web/API/Notification) to Kotlin\n */\n\npublic external open
class Notification(title: String, options: NotificationOptions = definedExternally) : EventTarget {\n    var onclick:
((MouseEvent) -> dynamic)?\n    var onerror: ((Event) -> dynamic)?\n    open val title: String\n    open val dir:
NotificationDirection\n    open val lang: String\n    open val body: String\n    open val tag: String\n    open val

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image: String\n open val icon: String\n open val badge: String\n open val sound: String\n open val vibrate:
Array<out Int>\n open val timestamp: Number\n open val renotify: Boolean\n open val silent: Boolean\n
open val noscreen: Boolean\n open val requireInteraction: Boolean\n open val sticky: Boolean\n open val data:
Any?\n open val actions: Array<out NotificationAction>\n fun close()\n\n companion object {\n val
permission: NotificationPermission\n val maxActions: Int\n fun requestPermission(deprecatedCallback:
(NotificationPermission) -> Unit = definedExternally): Promise<NotificationPermission>\n }\n\n\npublic
external interface NotificationOptions {\n var dir: NotificationDirection? /* = NotificationDirection.AUTO */\n
get() = definedExternally\n set(value) = definedExternally\n var lang: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n var body: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n var tag: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n var image: String?\n get() = definedExternally\n
set(value) = definedExternally\n var icon: String?\n get() = definedExternally\n set(value) =
definedExternally\n var badge: String?\n get() = definedExternally\n set(value) = definedExternally\n
var sound: String?\n get() = definedExternally\n set(value) = definedExternally\n var vibrate: dynamic\n
get() = definedExternally\n set(value) = definedExternally\n var timestamp: Number?\n get() =
definedExternally\n set(value) = definedExternally\n var renotify: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var silent: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var noscreen: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var requireInteraction: Boolean? /* = false */\n get()
= definedExternally\n set(value) = definedExternally\n var sticky: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var data: Any? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n var actions: Array<NotificationAction>? /* = arrayOf()
*/\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun NotificationOptions(dir:
NotificationDirection? = NotificationDirection.AUTO, lang: String? = \"\", body: String? = \"\", tag: String? = \"\",
image: String? = undefined, icon: String? = undefined, badge: String? = undefined, sound: String? = undefined,
vibrate: dynamic = undefined, timestamp: Number? = undefined, renotify: Boolean? = false, silent: Boolean? =
false, noscreen: Boolean? = false, requireInteraction: Boolean? = false, sticky: Boolean? = false, data: Any? = null,
actions: Array<NotificationAction>? = arrayOf()): NotificationOptions {\n val o = js(\"({})\")\n o[\"dir\"] = dir\n
o[\"lang\"] = lang\n o[\"body\"] = body\n o[\"tag\"] = tag\n o[\"image\"] = image\n o[\"icon\"] = icon\n
o[\"badge\"] = badge\n o[\"sound\"] = sound\n o[\"vibrate\"] = vibrate\n o[\"timestamp\"] = timestamp\n
o[\"renotify\"] = renotify\n o[\"silent\"] = silent\n o[\"noscreen\"] = noscreen\n o[\"requireInteraction\"] =
requireInteraction\n o[\"sticky\"] = sticky\n o[\"data\"] = data\n o[\"actions\"] = actions\n return
o\n}\n\n\npublic external interface NotificationAction {\n var action: String?\n var title: String?\n var icon:
String?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun NotificationAction(action: String?,
title: String?, icon: String? = undefined): NotificationAction {\n val o = js(\"({})\")\n o[\"action\"] = action\n
o[\"title\"] = title\n o[\"icon\"] = icon\n return o\n}\n\n\npublic external interface GetNotificationOptions {\n var
tag: String? /* = "" */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun GetNotificationOptions(tag: String? =
\" \"): GetNotificationOptions {\n val o = js(\"({})\")\n o[\"tag\"] = tag\n return o\n}\n\n\n/**\n * Exposes the
JavaScript [NotificationEvent](https://developer.mozilla.org/en/docs/Web/API/NotificationEvent) to Kotlin\n
*/\n\n\npublic external open class NotificationEvent(type: String, eventInitDict: NotificationEventInit) :
ExtendableEvent {\n open val notification: Notification\n open val action: String\n\n companion object {\n
val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val

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BUBBLING_PHASE: Short\n } \n\npublic external interface NotificationEventInit : ExtendableEventInit {\n
var notification: Notification?\n var action: String? /* = \"\" *\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun NotificationEventInit(notification:
Notification?, action: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): NotificationEventInit {\n val o = js(\"({})\")\n o[\"notification\"] = notification\n o[\"action\"] =
action\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return
o\n}\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface NotificationPermission {\n companion object\n}\n\npublic inline val
NotificationPermission.Companion.DEFAULT: NotificationPermission get() =
\"default\".asDynamic().unsafeCast<NotificationPermission>()\n\npublic inline val
NotificationPermission.Companion.DENIED: NotificationPermission get() =
\"denied\".asDynamic().unsafeCast<NotificationPermission>()\n\npublic inline val
NotificationPermission.Companion.GRANTED: NotificationPermission get() =
\"granted\".asDynamic().unsafeCast<NotificationPermission>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface NotificationDirection {\n companion object\n}\n\npublic inline val
NotificationDirection.Companion.AUTO: NotificationDirection get() =
\"auto\".asDynamic().unsafeCast<NotificationDirection>()\n\npublic inline val
NotificationDirection.Companion.LTR: NotificationDirection get() =
\"ltr\".asDynamic().unsafeCast<NotificationDirection>()\n\npublic inline val
NotificationDirection.Companion.RTL: NotificationDirection get() =
\"rtl\".asDynamic().unsafeCast<NotificationDirection>()\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n//
See github.com/kotlin/dukat for details\n\npackage org.w3c.workers\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\nimport org.w3c.fetch.*\nimport
org.w3c.notifications.*\n\n/**\n * Exposes the JavaScript
[ServiceWorker](https://developer.mozilla.org/en/docs/Web/API/ServiceWorker) to Kotlin\n *\n\npublic external
abstract class ServiceWorker : EventTarget, AbstractWorker, UnionMessagePortOrServiceWorker,
UnionClientOrMessagePortOrServiceWorker {\n open val scriptURL: String\n open val state:
ServiceWorkerState\n open var onstatechange: ((Event) -> dynamic)?\n fun postMessage(message: Any?,
transfer: Array<dynamic> = definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerRegistration](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerRegistration) to
Kotlin\n *\n\npublic external abstract class ServiceWorkerRegistration : EventTarget {\n open val installing:
ServiceWorker?\n open val waiting: ServiceWorker?\n open val active: ServiceWorker?\n open val scope:
String\n open var onupdatefound: ((Event) -> dynamic)?\n open val APISpace: dynamic\n fun update():
Promise<Unit>\n fun unregister(): Promise<Boolean>\n fun showNotification(title: String, options:
NotificationOptions = definedExternally): Promise<Unit>\n fun getNotifications(filter: GetNotificationOptions =
definedExternally): Promise<Array<Notification>>\n fun methodName(): Promise<dynamic>\n}\n\n/**\n *
Exposes the JavaScript
[ServiceWorkerContainer](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerContainer) to Kotlin\n
*\n\npublic external abstract class ServiceWorkerContainer : EventTarget {\n open val controller:
ServiceWorker?\n open val ready: Promise<ServiceWorkerRegistration>\n open var oncontrollerchange:
((Event) -> dynamic)?\n open var onmessage: ((MessageEvent) -> dynamic)?\n fun register(scriptURL: String,
options: RegistrationOptions = definedExternally): Promise<ServiceWorkerRegistration>\n fun
getRegistration(clientURL: String = definedExternally): Promise<Any?>\n fun getRegistrations():

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Promise<Array<ServiceWorkerRegistration>>\n fun startMessages()\n\npublic external interface
RegistrationOptions {\n var scope: String?\n get() = definedExternally\n set(value) = definedExternally\n
var type: WorkerType? /* = WorkerType.CLASSIC */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun RegistrationOptions(scope: String? =
undefined, type: WorkerType? = WorkerType.CLASSIC): RegistrationOptions {\n val o = js(\"({})\")\n
o[\"scope\"] = scope\n o[\"type\"] = type\n return o\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerMessageEvent) to
Kotlin\n */\npublic external open class ServiceWorkerMessageEvent(type: String, eventInitDict:
ServiceWorkerMessageEventInit = definedExternally) : Event {\n open val data: Any?\n open val origin:
String\n open val lastEventId: String\n open val source: UnionMessagePortOrServiceWorker?\n open val
ports: Array<out MessagePort>?\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface ServiceWorkerMessageEventInit : EventInit {\n var data: Any?\n get() =
definedExternally\n set(value) = definedExternally\n var origin: String?\n get() = definedExternally\n
set(value) = definedExternally\n var lastEventId: String?\n get() = definedExternally\n set(value) =
definedExternally\n var source: UnionMessagePortOrServiceWorker?\n get() = definedExternally\n
set(value) = definedExternally\n var ports: Array<MessagePort>?\n get() = definedExternally\n set(value)
= definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ServiceWorkerMessageEventInit(data:
Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source:
UnionMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>? = undefined, bubbles: Boolean? =
false, cancelable: Boolean? = false, composed: Boolean? = false): ServiceWorkerMessageEventInit {\n val o =
js(\"({})\")\n o[\"data\"] = data\n o[\"origin\"] = origin\n o[\"lastEventId\"] = lastEventId\n o[\"source\"] =
source\n o[\"ports\"] = ports\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] =
composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerGlobalScope) to
Kotlin\n */\npublic external abstract class ServiceWorkerGlobalScope : WorkerGlobalScope {\n open val clients:
Clients\n open val registration: ServiceWorkerRegistration\n open var oninstall: ((Event) -> dynamic)?\n open
var onactivate: ((Event) -> dynamic)?\n open var onfetch: ((FetchEvent) -> dynamic)?\n open var
onforeignfetch: ((Event) -> dynamic)?\n open var onmessage: ((MessageEvent) -> dynamic)?\n open var
onnotificationclick: ((NotificationEvent) -> dynamic)?\n open var onnotificationclose: ((NotificationEvent) ->
dynamic)?\n open var onfunctionalevent: ((Event) -> dynamic)?\n fun skipWaiting():
Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript
[Client](https://developer.mozilla.org/en/docs/Web/API/Client) to Kotlin\n */\npublic external abstract class Client :
UnionClientOrMessagePortOrServiceWorker {\n open val url: String\n open val frameType: FrameType\n
open val id: String\n fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\n/**\n
* Exposes the JavaScript [WindowClient](https://developer.mozilla.org/en/docs/Web/API/WindowClient) to
Kotlin\n */\npublic external abstract class WindowClient : Client {\n open val visibilityState: dynamic\n open
val focused: Boolean\n fun focus(): Promise<WindowClient>\n fun navigate(url: String):
Promise<WindowClient>\n}\n\n/**\n * Exposes the JavaScript
[Clients](https://developer.mozilla.org/en/docs/Web/API/Clients) to Kotlin\n */\npublic external abstract class
Clients {\n fun get(id: String): Promise<Any?>\n fun matchAll(options: ClientQueryOptions =
definedExternally): Promise<Array<Client>>\n fun openWindow(url: String): Promise<WindowClient?>\n fun
claim(): Promise<Unit>\n}\n\npublic external interface ClientQueryOptions {\n var includeUncontrolled:
Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var type:
ClientType? /* = ClientType.WINDOW */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",

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\ "INVISIBLE_MEMBER" )\n @kotlin.internal.InlineOnly\n public inline fun
ClientQueryOptions(includeUncontrolled: Boolean? = false, type: ClientType? = ClientType.WINDOW):
ClientQueryOptions {\n val o = js("{}")\n o["includeUncontrolled"] = includeUncontrolled\n o["type"] =
type\n return o\n}\n\n * Exposes the JavaScript
[ExtendableEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableEvent) to Kotlin\n *\n public external
open class ExtendableEvent(type: String, eventInitDict: ExtendableEventInit = definedExternally) : Event {\n fun
waitUntil(f: Promise<Any?>)\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE:
Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\n public external interface
ExtendableEventInit : EventInit\n\n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n @kotlin.internal.InlineOnly\n public inline fun ExtendableEventInit(bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableEventInit {\n val o =
js("{}")\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n
return o\n}\n\n * Exposes the JavaScript
[InstallEvent](https://developer.mozilla.org/en/docs/Web/API/InstallEvent) to Kotlin\n *\n public external open
class InstallEvent(type: String, eventInitDict: ExtendableEventInit = definedExternally) : ExtendableEvent {\n fun
registerForeignFetch(options: ForeignFetchOptions)\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\n public external interface ForeignFetchOptions {\n var scopes: Array<String>?\n var origins:
Array<String>?\n}\n\n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n @kotlin.internal.InlineOnly\n public inline fun ForeignFetchOptions(scopes:
Array<String>?, origins: Array<String>?): ForeignFetchOptions {\n val o = js("{}")\n o["scopes"] =
scopes\n o["origins"] = origins\n return o\n}\n\n * Exposes the JavaScript
[FetchEvent](https://developer.mozilla.org/en/docs/Web/API/FetchEvent) to Kotlin\n *\n public external open class
FetchEvent(type: String, eventInitDict: FetchEventInit) : ExtendableEvent {\n open val request: Request\n open
val clientId: String?\n open val isReload: Boolean\n fun respondWith(r: Promise<Response>)\n\n companion
object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\n public external interface FetchEventInit : ExtendableEventInit {\n var
request: Request?\n var clientId: String? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n var isReload: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n @kotlin.internal.InlineOnly\n public inline fun FetchEventInit(request: Request?,
clientId: String? = null, isReload: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): FetchEventInit {\n val o = js("{}")\n o["request"] = request\n o["clientId"]
= clientId\n o["isReload"] = isReload\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n
o["composed"] = composed\n return o\n}\n\n public external open class ForeignFetchEvent(type: String,
eventInitDict: ForeignFetchEventInit) : ExtendableEvent {\n open val request: Request\n open val origin:
String\n fun respondWith(r: Promise<ForeignFetchResponse>)\n\n companion object {\n val NONE:
Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
Short\n }\n}\n\n public external interface ForeignFetchEventInit : ExtendableEventInit {\n var request:
Request?\n var origin: String? /* = "null" */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n @kotlin.internal.InlineOnly\n public inline fun ForeignFetchEventInit(request:
Request?, origin: String? = "null", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): ForeignFetchEventInit {\n val o = js("{}")\n o["request"] = request\n o["origin"] = origin\n
o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return
o\n}\n\n public external interface ForeignFetchResponse {\n var response: Response?\n var origin: String?\n
get() = definedExternally\n set(value) = definedExternally\n var headers: Array<String>?\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n @Suppress("INVISIBLE_REFERENCE",

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\ "INVISIBLE_MEMBER" ) \n @kotlin.internal.InlineOnly \n public inline fun ForeignFetchResponse(response:
Response?, origin: String? = undefined, headers: Array<String>? = undefined): ForeignFetchResponse { \n val o =
js("{}") \n o["response"] = response \n o["origin"] = origin \n o["headers"] = headers \n return
o \n } \n \n /** \n * Exposes the JavaScript
[ExtendableMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableMessageEvent) to Kotlin \n
* \n \n public external open class ExtendableMessageEvent(type: String, eventInitDict: ExtendableMessageEventInit =
definedExternally) : ExtendableEvent { \n open val data: Any? \n open val origin: String \n open val lastEventId:
String \n open val source: UnionClientOrMessagePortOrServiceWorker? \n open val ports: Array<out
MessagePort>? \n \n companion object { \n val NONE: Short \n val CAPTURING_PHASE: Short \n val
AT_TARGET: Short \n val BUBBLING_PHASE: Short \n } \n } \n \n public external interface
ExtendableMessageEventInit : ExtendableEventInit { \n var data: Any? \n get() = definedExternally \n
set(value) = definedExternally \n var origin: String? \n get() = definedExternally \n set(value) =
definedExternally \n var lastEventId: String? \n get() = definedExternally \n set(value) =
definedExternally \n var source: UnionClientOrMessagePortOrServiceWorker? \n get() = definedExternally \n
set(value) = definedExternally \n var ports: Array<MessagePort>? \n get() = definedExternally \n
set(value) = definedExternally \n } \n \n @Suppress("INVISIBLE_REFERENCE",
\ "INVISIBLE_MEMBER" ) \n @kotlin.internal.InlineOnly \n public inline fun ExtendableMessageEventInit(data:
Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source:
UnionClientOrMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>? = undefined, bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableMessageEventInit { \n
val o = js("{}") \n o["data"] = data \n o["origin"] = origin \n o["lastEventId"] = lastEventId \n
o["source"] = source \n o["ports"] = ports \n o["bubbles"] = bubbles \n o["cancelable"] = cancelable \n
o["composed"] = composed \n return o \n } \n \n /** \n * Exposes the JavaScript
[Cache](https://developer.mozilla.org/en/docs/Web/API/Cache) to Kotlin \n * \n \n public external abstract class Cache
{ \n fun match(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Any?> \n fun
matchAll(request: dynamic = definedExternally, options: CacheQueryOptions = definedExternally):
Promise<Array<Response>> \n fun add(request: dynamic): Promise<Unit> \n fun addAll(requests:
Array<dynamic>): Promise<Unit> \n fun put(request: dynamic, response: Response): Promise<Unit> \n fun
delete(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Boolean> \n fun
keys(request: dynamic = definedExternally, options: CacheQueryOptions = definedExternally):
Promise<Array<Request>> \n } \n \n public external interface CacheQueryOptions { \n var ignoreSearch: Boolean? /*
= false */ \n get() = definedExternally \n set(value) = definedExternally \n var ignoreMethod: Boolean? /* =
false */ \n get() = definedExternally \n set(value) = definedExternally \n var ignoreVary: Boolean? /* =
false */ \n get() = definedExternally \n set(value) = definedExternally \n var cacheName: String? \n
get() = definedExternally \n set(value) = definedExternally \n } \n \n @Suppress("INVISIBLE_REFERENCE",
\ "INVISIBLE_MEMBER" ) \n @kotlin.internal.InlineOnly \n public inline fun CacheQueryOptions(ignoreSearch:
Boolean? = false, ignoreMethod: Boolean? = false, ignoreVary: Boolean? = false, cacheName: String? = undefined):
CacheQueryOptions { \n val o = js("{}") \n o["ignoreSearch"] = ignoreSearch \n o["ignoreMethod"] =
ignoreMethod \n o["ignoreVary"] = ignoreVary \n o["cacheName"] = cacheName \n return o \n } \n \n public
external interface CacheBatchOperation { \n var type: String? \n get() = definedExternally \n set(value) =
definedExternally \n var request: Request? \n get() = definedExternally \n set(value) = definedExternally \n
var response: Response? \n get() = definedExternally \n set(value) = definedExternally \n var options:
CacheQueryOptions? \n get() = definedExternally \n set(value) =
definedExternally \n } \n \n @Suppress("INVISIBLE_REFERENCE",
\ "INVISIBLE_MEMBER" ) \n @kotlin.internal.InlineOnly \n public inline fun CacheBatchOperation(type: String? =
undefined, request: Request? = undefined, response: Response? = undefined, options: CacheQueryOptions? =
undefined): CacheBatchOperation { \n val o = js("{}") \n o["type"] = type \n o["request"] = request \n
o["response"] = response \n o["options"] = options \n return o \n } \n \n /** \n * Exposes the JavaScript

```

```

[CacheStorage](https://developer.mozilla.org/en/docs/Web/API/CacheStorage) to Kotlin\n *\npublic external
abstract class CacheStorage {\n fun match(request: dynamic, options: CacheQueryOptions = definedExternally):
Promise<Any?>\n fun has(cacheName: String): Promise<Boolean>\n fun open(cacheName: String):
Promise<Cache>\n fun delete(cacheName: String): Promise<Boolean>\n fun keys():
Promise<Array<String>>\n}\n\npublic external open class FunctionalEvent : ExtendableEvent {\n companion
object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic external interface UnionMessagePortOrServiceWorker\n\npublic
external interface UnionClientOrMessagePortOrServiceWorker\n\n/* please, don't implement this interface!
*\n\n@JsName("null")\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface ServiceWorkerState {\n companion object\n}\n\npublic inline val
ServiceWorkerState.Companion.INSTALLING: ServiceWorkerState get() =
"installing".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.INSTALLED: ServiceWorkerState get() =
"installed".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.ACTIVATING: ServiceWorkerState get() =
"activating".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.ACTIVATED: ServiceWorkerState get() =
"activated".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.REDUNDANT: ServiceWorkerState get() =
"redundant".asDynamic().unsafeCast<ServiceWorkerState>()\n\n/* please, don't implement this interface!
*\n\n@JsName("null")\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface FrameType {\n companion object\n}\n\npublic inline val FrameType.Companion.AUXILIARY:
FrameType get() = "auxiliary".asDynamic().unsafeCast<FrameType>()\n\npublic inline val
FrameType.Companion.TOP_LEVEL: FrameType get() = "top-
level".asDynamic().unsafeCast<FrameType>()\n\npublic inline val FrameType.Companion.NESTED: FrameType
get() = "nested".asDynamic().unsafeCast<FrameType>()\n\npublic inline val FrameType.Companion.NONE:
FrameType get() = "none".asDynamic().unsafeCast<FrameType>()\n\n/* please, don't implement this interface!
*\n\n@JsName("null")\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface ClientType {\n companion object\n}\n\npublic inline val ClientType.Companion.WINDOW: ClientType
get() = "window".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.WORKER:
ClientType get() = "worker".asDynamic().unsafeCast<ClientType>()\n\npublic inline val
ClientType.Companion.SHAREDWORKER: ClientType get() =
"sharedworker".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.ALL:
ClientType get() = "all".asDynamic().unsafeCast<ClientType>()"}\n\n/* Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n\n/* Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n\n/*\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.xhr\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\nimport org.w3c.files.*\n\n/**\n *
Exposes the JavaScript
[XMLHttpRequestEventTarget](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequestEventTarget) to
Kotlin\n *\n\npublic external abstract class XMLHttpRequestEventTarget : EventTarget {\n open var onloadstart:
((ProgressEvent) -> dynamic)?\n open var onprogress: ((ProgressEvent) -> dynamic)?\n open var onabort:
((Event) -> dynamic)?\n open var onerror: ((Event) -> dynamic)?\n open var onload: ((Event) -> dynamic)?\n
open var ontimeout: ((Event) -> dynamic)?\n open var onloadend: ((Event) -> dynamic)?\n}\n\npublic external
abstract class XMLHttpRequestUpload : XMLHttpRequestEventTarget\n\n/**\n * Exposes the JavaScript
[XMLHttpRequest](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequest) to Kotlin\n *\n\npublic
external open class XMLHttpRequest : XMLHttpRequestEventTarget {\n var onreadystatechange: ((Event) ->
dynamic)?\n open val readyState: Short\n var timeout: Int\n var withCredentials: Boolean\n open val upload:

```

```

XMLHttpRequestUpload\n  open val responseURL: String\n  open val status: Short\n  open val statusText:
String\n  var responseType: XMLHttpRequestResponseType\n  open val response: Any?\n  open val
responseText: String\n  open val responseXML: Document?\n  fun open(method: String, url: String)\n  fun
open(method: String, url: String, async: Boolean, username: String? = definedExternally, password: String? =
definedExternally)\n  fun setRequestHeader(name: String, value: String)\n  fun send(body: dynamic =
definedExternally)\n  fun abort()\n  fun getResponseHeader(name: String): String?\n  fun
getAllResponseHeaders(): String\n  fun overrideMimeType(mime: String)\n\n  companion object {\n    val
UNSENT: Short\n    val OPENED: Short\n    val HEADERS_RECEIVED: Short\n    val LOADING:
Short\n    val DONE: Short\n  }\n\n  /**\n   * Exposes the JavaScript
[FormData](https://developer.mozilla.org/en/docs/Web/API/FormData) to Kotlin\n   */\n  public external open class
FormData(form: HTMLFormElement = definedExternally) {\n    fun append(name: String, value: String)\n    fun
append(name: String, value: Blob, filename: String = definedExternally)\n    fun delete(name: String)\n    fun
get(name: String): dynamic\n    fun getAll(name: String): Array<dynamic>\n    fun has(name: String): Boolean\n    fun
set(name: String, value: String)\n    fun set(name: String, value: Blob, filename: String =
definedExternally)\n  }\n\n  /**\n   * Exposes the JavaScript
[ProgressEvent](https://developer.mozilla.org/en/docs/Web/API/ProgressEvent) to Kotlin\n   */\n  public external open
class ProgressEvent(type: String, eventInitDict: ProgressEventInit = definedExternally) : Event {\n    open val
lengthComputable: Boolean\n    open val loaded: Number\n    open val total: Number\n\n    companion object {\n
      val NONE: Short\n      val CAPTURING_PHASE: Short\n      val AT_TARGET: Short\n      val
BUBBLING_PHASE: Short\n    }\n\n    public external interface ProgressEventInit : EventInit {\n      var
lengthComputable: Boolean? /* = false */\n      get() = definedExternally\n      set(value) = definedExternally\n
      var loaded: Number? /* = 0 */\n      get() = definedExternally\n      set(value) = definedExternally\n
      var total:
Number? /* = 0 */\n      get() = definedExternally\n      set(value) =
definedExternally\n    }\n\n    @Suppress(\\"INVISIBLE_REFERENCE\\",
\\"INVISIBLE_MEMBER\\")\n    @kotlin.internal.InlineOnly\n    public inline fun ProgressEventInit(lengthComputable:
Boolean? = false, loaded: Number? = 0, total: Number? = 0, bubbles: Boolean? = false, cancelable: Boolean? =
false, composed: Boolean? = false): ProgressEventInit {\n      val o = js(\\"{\}\")\n      o[\\"lengthComputable\\"] =
lengthComputable\n      o[\\"loaded\\"] = loaded\n      o[\\"total\\"] = total\n      o[\\"bubbles\\"] = bubbles\n
      o[\\"cancelable\\"] = cancelable\n      o[\\"composed\\"] = composed\n      return o\n    }\n\n    /** please, don't implement this
interface! */\n    @JsName(\\"null\\")\n    @Suppress(\\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\\")\n    public
external interface XMLHttpRequestResponseType {\n      companion object\n    }\n\n    public inline val
XMLHttpRequestResponseType.Companion.EMPTY: XMLHttpRequestResponseType get() =
\\"\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\n    public inline val
XMLHttpRequestResponseType.Companion.ARRAYBUFFER: XMLHttpRequestResponseType get() =
\\"arraybuffer\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\n    public inline val
XMLHttpRequestResponseType.Companion.BLOB: XMLHttpRequestResponseType get() =
\\"blob\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\n    public inline val
XMLHttpRequestResponseType.Companion.DOCUMENT: XMLHttpRequestResponseType get() =
\\"document\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\n    public inline val
XMLHttpRequestResponseType.Companion.JSON: XMLHttpRequestResponseType get() =
\\"json\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\n    public inline val
XMLHttpRequestResponseType.Companion.TEXT: XMLHttpRequestResponseType get() =
\\"text\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n  }, /*\n   * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n   * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n   */\n  package kotlin\n  import
kotlin.annotation.AnnotationRetention.BINARY\n  import kotlin.annotation.AnnotationRetention.SOURCE\n  import
kotlin.annotation.AnnotationTarget.*\n  import kotlin.internal.RequireKotlin\n  import
kotlin.internal.RequireKotlinVersionKind\n  import kotlin.reflect.KClass\n\n  /**\n   * Signals that the annotated

```

annotation class is a marker of an experimental API.
 * Any declaration annotated with that marker is considered an experimental declaration
 * and its call sites should accept the experimental aspect of it either by using [UseExperimental],
 * or by being annotated with that marker themselves, effectively causing further propagation of that experimental aspect.
 * This class is deprecated in favor of a more general approach provided by [RequiresOptIn]/[OptIn].

```

*\/n@Target(ANNOTATION_CLASS)\n@Retention(BINARY)\n@SinceKotlin("1.2")\n@RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n@Deprecated("Please use RequiresOptIn instead.")\npublic annotation class Experimental(val level: Level = Level.ERROR) {\n    /**\n     * Severity of the diagnostic that should be reported on usages of experimental API which did not explicitly accept the experimental aspect\n     * of that API either by using [UseExperimental] or by being annotated with the corresponding marker annotation.\n     */\n    public enum class Level {\n        /** Specifies that a warning should be reported on incorrect usages of this experimental API. */\n        WARNING,\n        /** Specifies that an error should be reported on incorrect usages of this experimental API. */\n        ERROR,\n        ...
    }\n}
*\/n**\n * Allows to use experimental API denoted by the given markers in the annotated file, declaration, or expression.\n * If a declaration is annotated with [UseExperimental], its usages are **not** required to opt-in to that experimental API.\n * This class is deprecated in favor of a more general approach provided by [RequiresOptIn]/[OptIn].
*\/n@Target(\n    CLASS, PROPERTY, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION, PROPERTY_GETTER, PROPERTY_SETTER, EXPRESSION, FILE, TYPEALIAS)\n\n@Retention(SOURCE)\n@SinceKotlin("1.2")\n@RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n@Deprecated("Please use OptIn instead.", ReplaceWith("OptIn(*markerClass)", "kotlin.OptIn"))\npublic annotation class UseExperimental(\n    vararg val markerClass: KClass<out Annotation>)\n\n@Target(CLASS, PROPERTY, CONSTRUCTOR, FUNCTION, TYPEALIAS)\n@Retention(BINARY)\ninternal annotation class WasExperimental(\n    vararg val markerClass: KClass<out Annotation>)\n\n", "package kotlin\n\nimport kotlin.annotation.AnnotationTarget.*\n\n**\n * This annotation marks the standard library API that is considered experimental and is not subject to the\n * [general compatibility guarantees](https://kotlinlang.org/docs/reference/evolution/components-stability.html) given for the standard library:\n * the behavior of such API may be changed or the API may be removed completely in any further release.\n * > Beware using the annotated API especially if you're developing a library, since your library might become binary incompatible\n * with the future versions of the standard library.\n * Any usage of a declaration annotated with `@ExperimentalStdlibApi` must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalStdlibApi::class)`,\n * or by using the compiler argument `-Xopt-in=kotlin.ExperimentalStdlibApi`.\n *\/n@Suppress("DEPRECATION")\n@Experimental(level = Experimental.Level.ERROR)\n@RequiresOptIn(level = RequiresOptIn.Level.ERROR)\n@Retention(AnnotationRetention.BINARY)\n@Target(\n    CLASS,\n    ANNOTATION_CLASS,\n    PROPERTY,\n    FIELD,\n    LOCAL_VARIABLE,\n    VALUE_PARAMETER,\n    CONSTRUCTOR,\n    FUNCTION,\n    PROPERTY_GETTER,\n    PROPERTY_SETTER,\n    TYPEALIAS)\n\n@MustBeDocumented\n@SinceKotlin("1.3")\npublic annotation class ExperimentalStdlibApi\n", "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.annotation.AnnotationTarget.*\nimport kotlin.experimental.ExperimentalTypeInference\n\n**\n * Allows to infer generic type arguments of a function from the calls in the annotated function parameter of that function.\n * When this annotation is placed on a generic function parameter of a function,\n * it enables to infer the type arguments of that generic function from the lambda body passed to that parameter.\n * The calls that affect inference are either members of the receiver type of an annotated function parameter or\n * extensions for that type. The extensions must be themselves annotated with `@BuilderInference`.\n * Example: we declare\n * ```\n * fun <T> sequence(@BuilderInference block: suspend SequenceScope<T>().->Unit): Sequence<T>\n * ```\n * and use it like\n * ```\n * val result = sequence { yield("result") }\n * ```\n * Here the type argument of the resulting sequence is inferred to `String` from\n * the

```

argument of the [SequenceScope.yield] function, that is called inside the lambda passed to [sequence].\n *\n * Note: this annotation is experimental, see [ExperimentalTypeInference] on how to opt-in for it.\n

```

*\n@Target(VALUE_PARAMETER, FUNCTION,
PROPERTY)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.3")\n@ExperimentalTypeInference\npublic annotation class BuilderInference\n\n/**\n * Enables overload selection based on the type of the value
returned from lambda argument.\n *\n * When two or more function overloads have otherwise the same parameter
lists that differ only in the return type\n * of a functional parameter, this annotation enables overload selection by the
type of the value returned from\n * the lambda function passed to this functional parameter.\n *\n * Example:\n *
```\n * @OverloadResolutionByLambdaReturnType\n * fun create(intProducer: () -> Int): Int\n *\n * fun
create(doubleProducer: () -> Double): Double\n *\n * val newValue = create { 3.14 }\n * ```\n *\n * The annotation
being applied to one of overloads allows to resolve this ambiguity by analyzing what value is returned\n * from the
lambda function.\n *\n * This annotation is also used to discriminate the annotated overloads in case if overload
selection still cannot\n * choose one of them even taking in account the result of lambda parameter analysis. In that
case a warning is reported.\n *\n * Note: this annotation is experimental, see [ExperimentalTypeInference] on how
to opt-in for it.\n

```

```

*\n@Target(FUNCTION)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.4")\n@Experimental
TypeInference\npublic annotation class OverloadResolutionByLambdaReturnType", "/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin\n\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n/**\n * The experimental multiplatform support API marker.\n *\n *
Any usage of a declaration annotated with `@ExperimentalMultiplatform` must be accepted either by\n * annotating
that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalMultiplatform::class)`,\n * or by using the
compiler argument `-Xopt-in=kotlin.ExperimentalMultiplatform`.\n

```

```

*\n@Suppress("DEPRECATION")\n@Experimental\n@RequiresOptIn\n@MustBeDocumented\n@Target(\n
CLASS,\n ANNOTATION_CLASS,\n PROPERTY,\n FIELD,\n LOCAL_VARIABLE,\n
VALUE_PARAMETER,\n CONSTRUCTOR,\n FUNCTION,\n PROPERTY_GETTER,\n
PROPERTY_SETTER,\n
TYPEALIAS)\n\n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin("1.2.50", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class ExperimentalMultiplatform\n\n/**\n *
Marks an expected annotation class that it isn't required to have actual counterparts in all platforms.\n *\n * This
annotation is only applicable to `expect` annotation classes in multi-platform projects and marks that class as
`"optional".\n *\n * Optional expected class is allowed to have no corresponding actual class on the platform.
Optional
annotations can only be used\n * to annotate something, not as types in signatures. If an optional annotation has no
corresponding actual class on a platform,\n * the annotation entries where it's used are simply erased when
compiling code on that platform.\n *\n * Note: this annotation is experimental, see [ExperimentalMultiplatform] on
how to opt-in for it.\n

```

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*\n@Target(ANNOTATION_CLASS)\n@Retention(AnnotationRetention.BINARY)\n@ExperimentalMultiplatform\n@RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic
annotation class OptionalExpectation\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n\npackage kotlin\n\nimport
kotlin.annotation.AnnotationRetention.BINARY\nimport kotlin.annotation.AnnotationRetention.SOURCE\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\nimport kotlin.reflect.KClass\n\n/**\n * Signals that the annotated
annotation class is a marker of an API that requires an explicit opt-in.\n *\n * Call sites of any declaration annotated
with that marker should opt in to the API either by using [OptIn],\n * or by being annotated with that marker
themselves, effectively causing further propagation of the opt-in requirement.\n *\n * This class requires opt-in itself

```

and can only be used with the compiler argument `-Xopt-in=kotlin.RequiresOptIn`.\n *`n *` @property message message to be reported on usages of API without an explicit opt-in, or empty string for the default message.\n *`

The default message is: `"This declaration is experimental and its usage should be marked with 'Marker'\n * or 'OptIn(Marker::class)\"`, where ``Marker`` is the opt-in requirement marker.\n \* @property level specifies

how usages of API without an explicit opt-in are reported in code.\n

```
*\n@Target(ANNOTATION_CLASS)\n@Retention(BINARY)\n@SinceKotlin("1.3")\n@RequireKotlin("1.3.70
```

```
\", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class RequiresOptIn(\n val message: String = \"\", \n val level: Level = Level.ERROR) {\n /**\n * Severity of the diagnostic that should be reported on usages which did not explicitly opt into\n * the API either by using [OptIn] or by being annotated with the corresponding marker annotation.\n */\n public enum class Level {\n /** Specifies that a warning should be reported on incorrect usages of this API. */\n WARNING, \n /** Specifies that an error should be reported on incorrect usages of this API. */\n ERROR, \n }\n}\n/**\n * Allows to use the API denoted by the given markers in the annotated file, declaration, or expression.\n * If a declaration is annotated with [OptIn], its usages are **not** required to opt in to that API.\n * This class requires opt-in itself and can only be used with the compiler argument -Xopt-in=kotlin.RequiresOptIn`.\n */\n@Target(\n CLASS, PROPERTY, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION, PROPERTY_GETTER, PROPERTY_SETTER, EXPRESSION, FILE,
```

```
TYPEALIAS)\n@Retention(SOURCE)\n@SinceKotlin("1.3")\n@RequireKotlin("1.3.70", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class OptIn(\n vararg val markerClass: KClass<out Annotation>)\n", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.collections\n\nimport kotlin.js.JsName\n\n/**\n * Provides a skeletal implementation of the read-only [Collection] interface.\n * @param E the type of elements contained in the collection. The collection is covariant in its element type.\n */\n@SinceKotlin("1.1")\npublic abstract class AbstractCollection<out E> protected constructor() : Collection<E> {\n abstract override val size: Int\n abstract override fun iterator(): Iterator<E>\n\n override fun contains(element: @UnsafeVariance E): Boolean = any { it == element }\n\n override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean =\n elements.all { contains(it) } // use when js will support bound refs: elements.all(this::contains)\n\n override fun isEmpty(): Boolean = size == 0\n\n override fun toString(): String = joinToString(", ", "[", "]")\n\n if (it == this) \"(this Collection)\" else it.toString()\n }\n\n /**\n * Returns new array of type `Array<Any?>` with the elements of this collection.\n */\n @JsName("toArray")\n protected open fun toArray(): Array<Any?> = copyToArrayImpl(this)\n\n /**\n * Fills the provided [array] or creates new array of the same type\n * and fills it with the elements of this collection.\n */\n protected open fun <T> toArray(array: Array<T>): Array<T> = copyToArrayImpl(this, array)\n}\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.collections\n\nprivate enum class State {\n Ready, \n NotReady, \n Done, \n Failed\n}\n\n/**\n * A base class to simplify implementing iterators so that implementations only have to implement [computeNext]\n * to implement the iterator, calling [done] when the iteration is complete.\n */\npublic abstract class AbstractIterator<T> : Iterator<T> {\n private var state = State.NotReady\n private var nextValue: T? = null\n\n override fun hasNext(): Boolean {\n require(state != State.Failed)\n return when (state) {\n State.Done -> false\n State.Ready -> true\n else -> tryToComputeNext()\n }\n }\n\n override fun next(): T {\n if (!hasNext()) throw NoSuchElementException()\n state = State.NotReady\n @Suppress("UNCHECKED_CAST")\n return nextValue as T\n }\n\n private fun tryToComputeNext(): Boolean {\n state = State.Failed\n computeNext()\n return state == State.Ready\n }\n\n /**\n * Computes the next item in the iterator.\n * This callback method should call one of these two methods:\n * * [setNext] with the next value of the iteration\n * * [done] to indicate there are no more elements\n * * Failure to call either method will result in the iteration terminating with a failed state\n */\n abstract protected fun computeNext(): Unit\n\n
```

```

/**\n * Sets the next value in the iteration, called from the [computeNext] function\n */\n protected fun
setNext(value: T): Unit {\n nextValue = value\n state = State.Ready\n }\n\n /**\n * Sets the state to
done so that the iteration terminates.\n */\n protected fun done() {\n state = State.Done\n }\n}\n\n"/\n\n
* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n * Based on
GWT AbstractList\n * Copyright 2007 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal
implementation of the read-only [List] interface.\n */\n * This class is intended to help implementing read-only lists
so it doesn't support concurrent modification tracking.\n */\n * @param E the type of elements contained in the list.
The list is covariant in its element type.\n */\n\n@SinceKotlin("1.1")\npublic abstract class AbstractList<out E>
protected constructor() : AbstractCollection<E>(), List<E> {\n abstract override val size: Int\n abstract override
fun get(index: Int): E\n\n override fun iterator(): Iterator<E> = IteratorImpl()\n\n override fun indexOf(element:
@UnsafeVariance E): Int = indexOfFirst { it == element }\n\n override fun lastIndexOf(element:
@UnsafeVariance E): Int = indexOfLast { it == element }\n\n override fun listIterator(): ListIterator<E> =
ListIteratorImpl(0)\n\n override fun listIterator(index: Int): ListIterator<E> = ListIteratorImpl(index)\n\n override fun
subList(fromIndex: Int, toIndex: Int): List<E> = SubList(this, fromIndex, toIndex)\n\n private class
SubList<out E>(private val list: AbstractList<E>, private val fromIndex: Int, toIndex: Int) : AbstractList<E>(),
RandomAccess {\n private var _size: Int = 0\n\n init {\n checkRangeIndexes(fromIndex, toIndex,
list.size)\n this._size = toIndex - fromIndex\n }\n\n override fun get(index: Int): E {\n
 checkElementIndex(index, _size)\n return list[fromIndex + index]\n }\n\n override val size: Int
get() = _size\n }\n\n /**\n * Compares this list with other list instance with the ordered structural equality.\n
*/\n * @return true, if [other] instance is a [List] of the same size, which contains the same elements in the same
order.\n */\n * override fun equals(other: Any?): Boolean {\n if (other === this) return true\n if (other !is
List<*>) return false\n return orderedEquals(this, other)\n }\n\n /**\n * Returns the hash code value for
this list.\n */\n * override fun hashCode(): Int = orderedHashCode(this)\n\n private open inner class IteratorImpl
: Iterator<E> {\n /** the index of the item that will be returned on the next call to [next]`()\n */\n protected
var index = 0\n\n override fun hasNext(): Boolean = index < size\n\n override fun next(): E {\n if
(!hasNext()) throw NoSuchElementException()\n return get(index++)\n }\n }\n\n /**\n *
Implementation of [ListIterator] for abstract lists.\n */\n * private open inner class ListIteratorImpl(index: Int) :
IteratorImpl(), ListIterator<E> {\n init {\n checkPositionIndex(index, this@AbstractList.size)\n
 this.index = index\n }\n\n override fun hasPrevious(): Boolean = index > 0\n\n override fun
nextIndex(): Int = index\n\n override fun previous(): E {\n if (!hasPrevious()) throw
NoSuchElementException()\n return get(--index)\n }\n\n override fun previousIndex(): Int = index -
1\n }\n\n internal companion object {\n internal fun checkElementIndex(index: Int, size: Int) {\n if
(index < 0 || index >= size) {\n throw IndexOutOfBoundsException("index: $index, size: $size")\n }\n
 }\n\n internal fun checkPositionIndex(index: Int, size: Int) {\n if (index < 0 || index > size) {\n
 throw IndexOutOfBoundsException("index: $index, size: $size")\n }\n }\n\n internal fun
checkRangeIndexes(fromIndex: Int, toIndex: Int, size: Int) {\n if (fromIndex < 0 || toIndex > size) {\n
 throw IndexOutOfBoundsException("fromIndex: $fromIndex, toIndex: $toIndex, size: $size")\n }\n
 if (fromIndex > toIndex) {\n throw IllegalArgumentException("fromIndex: $fromIndex > toIndex:
$toIndex")\n }\n }\n\n internal fun checkBoundsIndexes(startIndex: Int, endIndex: Int, size: Int) {\n
 if (startIndex < 0 || endIndex > size) {\n throw IndexOutOfBoundsException("startIndex:
$startIndex, endIndex: $endIndex, size: $size")\n }\n if (startIndex > endIndex) {\n throw
IllegalArgumentException("startIndex: $startIndex > endIndex: $endIndex")\n }\n }\n\n internal
fun orderedHashCode(c: Collection<*>): Int {\n var hashCode = 1\n for (e in c) {\n
 hashCode = 31 * hashCode + (e?.hashCode() ?: 0)\n }\n return hashCode\n }\n\n internal fun
orderedEquals(c: Collection<*>, other: Collection<*>): Boolean {\n if (c.size != other.size) return false\n
 val otherIterator = other.iterator()\n for (elem in c) {\n val elemOther = otherIterator.next()\n
 if (elem != elemOther) {\n return false\n }\n }\n return true\n }\n
 }\n}

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*\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the read-only [Set] interface.\n *\n * This class is intended to help implementing read-only sets so it doesn't support concurrent modification tracking.\n *\n * @param E the type of elements contained in the set. The set is covariant in its element type.\n */\n@SinceKotlin("1.1")\npublic abstract class AbstractSet<out E> protected constructor() :
AbstractCollection<E>(), Set<E> {\n\n /**\n * Compares this set with other set instance with the unordered
structural equality.\n *\n * @return true, if [other] instance is a [Set] of the same size, all elements of which are
contained in this set.\n *\n * override fun equals(other: Any?): Boolean {\n if (other === this) return true\n if (other !is Set<*>) return false\n return setEquals(this, other)\n }\n\n /**\n * Returns the hash code
value for this set.\n *\n * override fun hashCode(): Int = unorderedHashCode(this)\n\n * internal companion
object {\n internal fun unorderedHashCode(c: Collection<*>): Int {\n var hashCode = 0\n for
(element in c) {\n hashCode += (element?.hashCode() ?: 0)\n }\n return hashCode\n }\n\n internal fun setEquals(c: Set<*>, other: Set<*>): Boolean {\n if (c.size != other.size) return false\n return c.containsAll(other)\n }\n }\n\n /**\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n}\n\npackage kotlin.collections\n\n/**\n * Resizable-array implementation
of the deque data structure.\n *\n * The name deque is short for "double ended queue" and is usually pronounced
"deck".\n *\n * The collection provide methods for convenient access to the both ends.\n *\n * It also implements
[MutableList] interface and supports efficient get/set operations by index.\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic class ArrayDeque<E> :
AbstractMutableList<E> {\n private var head: Int = 0\n private var elementData: Array<Any?>\n\n override
var size: Int = 0\n private set\n\n /**\n * Constructs an empty deque with specified [initialCapacity], or
throws [IllegalArgumentException] if [initialCapacity] is negative.\n *\n * public constructor(initialCapacity:
Int) {\n elementData = when {\n initialCapacity == 0 -> emptyElementData\n initialCapacity > 0 -
> arrayOfNulls(initialCapacity)\n else -> throw IllegalArgumentException("Illegal Capacity:
$initialCapacity")\n }\n }\n\n /**\n * Constructs an empty deque.\n *\n * public constructor() {\n
elementData = emptyElementData\n }\n\n /**\n * Constructs a deque that contains the same elements as the
specified [elements] collection in the same order.\n *\n * public constructor(elements: Collection<E>) {\n
elementData = elements.toArray()\n size = elementData.size\n if (elementData.isEmpty())\n elementData = emptyElementData\n }\n\n /**\n * Ensures that the capacity of this deque is at least equal to
the specified [minCapacity].\n *\n * If the current capacity is less than the [minCapacity], a new backing
storage is allocated with greater capacity.\n * Otherwise, this method takes no action and simply returns.\n *\n * private fun ensureCapacity(minCapacity: Int) {\n if (minCapacity < 0) throw IllegalStateException("Deque is
too big.") // overflow\n if (minCapacity <= elementData.size) return\n if (elementData ===
emptyElementData) {\n elementData = arrayOfNulls(minCapacity.coerceAtLeast(defaultMinCapacity))\n return\n }\n val newCapacity = newCapacity(elementData.size, minCapacity)\n copyElements(newCapacity)\n }\n\n /**\n * Creates a new array with the specified [newCapacity] size and
copies elements in the [elementData] array to it.\n *\n * private fun copyElements(newCapacity: Int) {\n val
newElements = arrayOfNulls<Any?>(newCapacity)\n elementData.copyInto(newElements, 0, head,
elementData.size)\n elementData.copyInto(newElements, elementData.size - head, 0, head)\n head = 0\n elementData = newElements\n }\n\n @kotlin.internal.InlineOnly\n private inline fun
internalGet(internalIndex: Int): E {\n @Suppress("UNCHECKED_CAST")\n return
elementData[internalIndex] as E\n }\n\n private fun positiveMod(index: Int): Int = if (index >=
elementData.size) index - elementData.size else index\n\n private fun negativeMod(index: Int): Int = if (index < 0)
index + elementData.size else index\n\n @kotlin.internal.InlineOnly\n private inline fun internalIndex(index:
Int): Int = positiveMod(head + index)\n\n private fun incremented(index: Int): Int = if (index ==
elementData.lastIndex) 0 else index + 1\n\n private fun decremented(index: Int): Int = if (index == 0)
elementData.lastIndex else index - 1\n\n override fun isEmpty(): Boolean = size == 0\n\n /**\n * Returns the
first element, or throws [NoSuchElementException] if this deque is empty.\n *\n * public fun first(): E = if

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(isEmpty()) throw NoSuchElementException("ArrayDeque is empty.") else internalGet(head)\n\n /**\n *
Returns the first element, or `null` if this deque is empty.\n *^\n public fun firstOrNull(): E? = if (isEmpty()) null
else internalGet(head)\n\n /**\n * Returns the last element, or throws [NoSuchElementException] if this deque
is empty.\n *^\n public fun last(): E = if (isEmpty()) throw NoSuchElementException("ArrayDeque is empty.")
else internalGet(internalIndex(lastIndex))\n\n /**\n * Returns the last element, or `null` if this deque is empty.\n
*^\n public fun lastOrNull(): E? = if (isEmpty()) null else internalGet(internalIndex(lastIndex))\n\n /**\n *
Prepends the specified [element] to this deque.\n *^\n public fun addFirst(element: E) {\n
ensureCapacity(size + 1)\n\n head = decremented(head)\n\n elementData[head] = element\n\n size += 1\n\n
}\n\n /**\n * Appends the specified [element] to this deque.\n *^\n public fun addLast(element: E) {\n
ensureCapacity(size + 1)\n\n elementData[internalIndex(size)] = element\n\n size += 1\n\n }\n\n /**\n *
Removes the first element from this deque and returns that removed element, or throws [NoSuchElementException]
if this deque is empty.\n *^\n public fun removeFirst(): E {\n\n if (isEmpty()) throw
NoSuchElementException("ArrayDeque is empty.")\n\n val element = internalGet(head)\n\n
elementData[head] = null\n\n head = incremented(head)\n\n size -= 1\n\n return element\n\n }\n\n /**\n
* Removes the first element from this deque and returns that removed element, or returns `null` if this deque is
empty.\n *^\n public fun removeFirstOrNull(): E? = if (isEmpty()) null else removeFirst()\n\n /**\n *
Removes the last element from this deque and returns that removed element, or throws [NoSuchElementException]
if this deque is empty.\n *^\n public fun removeLast(): E {\n\n if (isEmpty()) throw
NoSuchElementException("ArrayDeque is empty.")\n\n val internalLastIndex = internalIndex(lastIndex)\n\n
val element = internalGet(internalLastIndex)\n\n elementData[internalLastIndex] = null\n\n size -= 1\n\n
return element\n\n }\n\n /**\n * Removes the last element from this deque and returns that removed element, or
returns `null` if this deque is empty.\n *^\n public fun removeLastOrNull(): E? = if (isEmpty()) null else
removeLast()\n\n // MutableList, MutableCollection\n public override fun add(element: E): Boolean {\n
addLast(element)\n\n return true\n\n }\n\n public override fun add(index: Int, element: E) {\n
AbstractList.checkPositionIndex(index, size)\n\n if (index == size) {\n\n addLast(element)\n\n
return\n\n } else if (index == 0) {\n\n addFirst(element)\n\n return\n\n }\n\n ensureCapacity(size
+ 1)\n\n // Elements in circular array lay in 2 ways:\n\n // 1. `head` is less than `tail`: [#, #, e1, e2, e3,
#]\n\n // 2. `head` is greater than `tail`: [e3, #, #, #, e1, e2]\n\n // where head is the index of the first element
in the circular array,\n\n // and tail is the index following the last element.\n\n //^\n\n // At this point the
insertion index is not equal to head or tail.\n\n // Also the circular array can store at least one more element.\n
//^\n\n // Depending on where the given element must be inserted the preceding or the succeeding\n\n // elements
will be shifted to make room for the element to be inserted.\n\n //^\n\n // In case the preceding elements are
shifted:\n\n // * if the insertion index is greater than the head (regardless of circular array form)\n\n // ->
shift the preceding elements\n\n // * otherwise, the circular array has (2) form and the insertion index is less than
tail\n\n // -> shift all elements in the back of the array\n\n // -> shift preceding elements in the front of the
array\n\n // In case the succeeding elements are shifted:\n\n // * if the insertion index is less than the tail
(regardless of circular array form)\n\n // -> shift the succeeding elements\n\n // * otherwise, the circular
array has (2) form and the insertion index is greater than head\n\n // -> shift all elements in the front of the
array\n\n // -> shift succeeding elements in the back of the array\n\n\n val internalIndex =
internalIndex(index)\n\n if (index < (size + 1) shr 1) {\n\n // closer to the first element -> shift preceding
elements\n\n val decrementedInternalIndex = decremented(internalIndex)\n\n val decrementedHead =
decremented(head)\n\n if (decrementedInternalIndex >= head) {\n\n elementData[decrementedHead]
= elementData[head] // head can be zero\n\n elementData.copyInto(elementData, head, head + 1,
decrementedInternalIndex + 1)\n\n } else { // head > tail\n\n elementData.copyInto(elementData, head -
1, head, elementData.size) // head can't be zero\n\n elementData[elementData.size - 1] = elementData[0]\n\n
elementData.copyInto(elementData, 0, 1, decrementedInternalIndex + 1)\n\n }\n\n }\n\n elementData[decrementedInternalIndex] = element\n\n head = decrementedHead\n\n } else {\n\n //
closer to the last element -> shift succeeding elements\n\n val tail = internalIndex(size)\n\n if

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(internalIndex < tail) {\n elementData.copyInto(elementData, internalIndex + 1, internalIndex, tail)\n
} else { // head > tail\n elementData.copyInto(elementData, 1, 0, tail)\n elementData[0] =\n
elementData[elementData.size - 1]\n elementData.copyInto(elementData, internalIndex + 1, internalIndex,\n
elementData.size - 1)\n }\n elementData[internalIndex] = element\n }\n size += 1\n }\n
private fun copyCollectionElements(internalIndex: Int, elements: Collection<E>) {\n val iterator =\n
elements.iterator()\n for (index in internalIndex until elementData.size) {\n if (!iterator.hasNext())\n
break\n elementData[index] = iterator.next()\n }\n for (index in 0 until head) {\n if\n
(!iterator.hasNext()) break\n elementData[index] = iterator.next()\n }\n size += elements.size\n
}\n
public override fun addAll(elements: Collection<E>): Boolean {\n if (elements.isEmpty()) return false\n
ensureCapacity(this.size + elements.size)\n copyCollectionElements(internalIndex(size), elements)\n
return true\n }\n
public override fun addAll(index: Int, elements: Collection<E>): Boolean {\n
AbstractList.checkPositionIndex(index, size)\n if (elements.isEmpty()) {\n return false\n } else if\n
(index == size) {\n return addAll(elements)\n }\n ensureCapacity(this.size + elements.size)\n
val tail = internalIndex(size)\n val internalIndex = internalIndex(index)\n val elementsSize =\n
elements.size\n if (index < (size + 1) shr 1) {\n // closer to the first element -> shift preceding\n
elements\n var shiftedHead = head - elementsSize\n if (internalIndex >= head) {\n if\n
(shiftedHead >= 0) {\n elementData.copyInto(elementData, shiftedHead, head, internalIndex)\n
} else { // head < tail, insertion leads to head >= tail\n shiftedHead += elementData.size\n val\n
elementsToShift = internalIndex - head\n val shiftToBack = elementData.size - shiftedHead\n if\n
(shiftToBack >= elementsToShift) {\n elementData.copyInto(elementData, shiftedHead, head,\n
internalIndex)\n } else {\n elementData.copyInto(elementData, shiftedHead, head, head +\n
shiftToBack)\n elementData.copyInto(elementData, 0, head + shiftToBack, internalIndex)\n
}\n }\n } else { // head > tail, internalIndex < tail\n elementData.copyInto(elementData,\n
shiftedHead, head, elementData.size)\n if (elementsSize >= internalIndex) {\n
elementData.copyInto(elementData, elementData.size - elementsSize, 0, internalIndex)\n } else {\n
elementData.copyInto(elementData, elementData.size - elementsSize, 0, elementsSize)\n
elementData.copyInto(elementData, 0, elementsSize, internalIndex)\n }\n }\n head =\n
shiftedHead\n copyCollectionElements(negativeMod(internalIndex - elementsSize), elements)\n } else\n
{\n // closer to the last element -> shift succeeding elements\n val shiftedInternalIndex =\n
internalIndex + elementsSize\n if (internalIndex < tail) {\n if (tail + elementsSize <=\n
elementData.size) {\n elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, tail)\n
} else { // head < tail, insertion leads to head >= tail\n if (shiftedInternalIndex >= elementData.size)\n
{\n elementData.copyInto(elementData, shiftedInternalIndex - elementData.size, internalIndex, tail)\n
} else {\n val shiftToFront = tail + elementsSize - elementData.size\n
elementData.copyInto(elementData, 0, tail - shiftToFront, tail)\n elementData.copyInto(elementData,\n
shiftedInternalIndex, internalIndex, tail - shiftToFront)\n }\n }\n } else { // head > tail,\n
internalIndex > head\n elementData.copyInto(elementData, elementsSize, 0, tail)\n if\n
(shiftedInternalIndex >= elementData.size) {\n elementData.copyInto(elementData, shiftedInternalIndex\n
- elementData.size, internalIndex, elementData.size)\n } else {\n
elementData.copyInto(elementData, 0, elementData.size - elementsSize, elementData.size)\n
elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, elementData.size - elementsSize)\n
}\n }\n copyCollectionElements(internalIndex, elements)\n }\n return true\n }\n
public\n
override fun get(index: Int): E {\n AbstractList.checkElementIndex(index, size)\n return\n
internalGet(internalIndex(index))\n }\n
public override fun set(index: Int, element: E): E {\n
AbstractList.checkElementIndex(index, size)\n val internalIndex = internalIndex(index)\n val oldElement\n
= internalGet(internalIndex)\n elementData[internalIndex] = element\n return oldElement\n }\n
public override fun contains(element: E): Boolean = indexOf(element) != -1\n
public override fun\n
indexOf(element: E): Int {\n val tail = internalIndex(size)\n if (head < tail) {\n for (index in head

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until tail) {\n if (element == elementData[index]) return index - head\n }\n } else if (head >=
tail) {\n for (index in head until elementData.size) {\n if (element == elementData[index]) return
index - head\n }\n } for (index in 0 until tail) {\n if (element == elementData[index]) return
index + elementData.size - head\n }\n}\n\n return -1\n}\n\n public override fun
lastIndexOf(element: E): Int {\n val tail = internalIndex(size)\n if (head < tail) {\n for (index in tail
- 1 downTo head) {\n if (element == elementData[index]) return index - head\n }\n } else if
(head > tail) {\n for (index in tail - 1 downTo 0) {\n if (element == elementData[index]) return
index + elementData.size - head\n }\n for (index in elementData.lastIndex downTo head) {\n
if (element == elementData[index]) return index - head\n }\n }\n return -1\n }\n\n public
override fun remove(element: E): Boolean {\n val index = indexOf(element)\n if (index == -1) return
false\n removeAt(index)\n return true\n }\n\n public override fun removeAt(index: Int): E {\n
AbstractList.checkElementIndex(index, size)\n if (index == lastIndex) {\n return removeLast()\n }
else if (index == 0) {\n return removeFirst()\n }\n val internalIndex = internalIndex(index)\n
val element = internalGet(internalIndex)\n if (index < size shr 1) {\n // closer to the first element ->
shift preceding elements\n if (internalIndex >= head) {\n elementData.copyInto(elementData, head
+ 1, head, internalIndex)\n } else { // head > tail, internalIndex < head\n
elementData.copyInto(elementData, 1, 0, internalIndex)\n elementData[0] = elementData[elementData.size
- 1]\n elementData.copyInto(elementData, head + 1, head, elementData.size - 1)\n }\n
elementData[head] = null\n head = incremented(head)\n } else {\n // closer to the last element ->
shift succeeding elements\n val internalLastIndex = internalIndex(lastIndex)\n if (internalIndex <=
internalLastIndex) {\n elementData.copyInto(elementData, internalIndex, internalIndex + 1,
internalLastIndex + 1)\n } else { // head > tail, internalIndex > head\n
elementData.copyInto(elementData, internalIndex, internalIndex + 1, elementData.size)\n
elementData[elementData.size - 1] = elementData[0]\n elementData.copyInto(elementData, 0, 1,
internalLastIndex + 1)\n }\n elementData[internalLastIndex] = null\n }\n size -= 1\n
return element\n }\n\n public override fun removeAll(elements: Collection<E>): Boolean = filterInPlace {
!elements.contains(it) }\n\n public override fun retainAll(elements: Collection<E>): Boolean = filterInPlace {
elements.contains(it) }\n\n private inline fun filterInPlace(predicate: (E) -> Boolean): Boolean {\n if
(this.isEmpty() || elementData.isEmpty())\n return false\n val tail = internalIndex(size)\n var
newTail = head\n var modified = false\n if (head < tail) {\n for (index in head until tail) {\n
val element = elementData[index]\n @Suppress("UNCHECKED_CAST")\n if
(predicate(element as E))\n elementData[newTail++] = element\n else\n modified =
true\n }\n elementData.fill(null, newTail, tail)\n } else {\n for (index in head until
elementData.size) {\n val element = elementData[index]\n elementData[index] = null\n
@Suppress("UNCHECKED_CAST")\n if (predicate(element as E))\n elementData[newTail++] = element\n
 else\n modified = true\n }\n newTail =
positiveMod(newTail)\n for (index in 0 until tail) {\n val element = elementData[index]\n
elementData[index] = null\n @Suppress("UNCHECKED_CAST")\n if (predicate(element as
E)) {\n elementData[newTail] = element\n newTail = incremented(newTail)\n }
else {\n modified = true\n }\n }\n if (modified)\n size =
negativeMod(newTail - head)\n return modified\n }\n\n public override fun clear() {\n val tail =
internalIndex(size)\n if (head < tail) {\n elementData.fill(null, head, tail)\n } else if (isEmpty())
{\n elementData.fill(null, head, elementData.size)\n elementData.fill(null, 0, tail)\n }\n head =
0\n size = 0\n }\n\n @Suppress("NOTHING_TO_OVERRIDE")\n override fun <T> toArray(array:
Array<T>): Array<T> {\n @Suppress("UNCHECKED_CAST")\n val dest = (if (array.size >= size) array
else arrayOfNulls(array, size)) as Array<Any?>\n val tail = internalIndex(size)\n if (head < tail) {\n
elementData.copyInto(dest, startIndex = head, endIndex = tail)\n } else if (isEmpty()) {\n
elementData.copyInto(dest, destinationOffset = 0, startIndex = head, endIndex = elementData.size)\n

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elementData.copyInto(dest, destinationOffset = elementData.size - head, startIndex = 0, endIndex = tail)\n }\n
 if (dest.size > size) {\n dest[size] = null // null-terminate\n }\n\n
@Suppress("UNCHECKED_CAST")\n return dest as Array<T>\n }\n\n
@Suppress("NOTHING_TO_OVERRIDE")\n override fun toArray(): Array<Any?> {\n return
toArray(arrayOfNulls<Any?>(size))\n }\n\n // for testing\n internal fun <T> testToArray(array: Array<T>):
Array<T> = toArray(array)\n internal fun testToArray(): Array<Any?> = toArray()\n\n internal companion
object {\n private val emptyElementData = emptyArray<Any?>()\n private const val maxArraySize =
Int.MAX_VALUE - 8\n private const val defaultMinCapacity = 10\n\n internal fun
newCapacity(oldCapacity: Int, minCapacity: Int): Int {\n // overflow-conscious\n var newCapacity =
oldCapacity + (oldCapacity shr 1)\n if (newCapacity - minCapacity < 0)\n newCapacity =
minCapacity\n if (newCapacity - maxArraySize > 0)\n newCapacity = if (minCapacity >
maxArraySize) Int.MAX_VALUE else maxArraySize\n return newCapacity\n }\n }\n\n // For testing
only\n internal fun internalStructure(structure: (head: Int, elements: Array<Any?>) -> Unit) {\n val tail =
internalIndex(size)\n val head = if (isEmpty() || head < tail) head else head - elementData.size\n
structure(head, toArray())\n }\n}", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("ArraysKt")\n\npackage
kotlin.collections\n\nimport kotlin.contracts.*\n\n/**\n * Returns a single list of all elements from all arrays in the
given array.\n * @sample samples.collections.Arrays.Transformations.flattenArray\n */\npublic fun <T> Array<out
Array<out T>>.flatten(): List<T> {\n val result = ArrayList<T>(sumOf { it.size })\n for (element in this) {\n
result.addAll(element)\n }\n return result\n }\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from
the first values of each pair from this array,\n * *second* list is built from the second values of each pair from this
array.\n * @sample samples.collections.Arrays.Transformations.unzipArray\n */\npublic fun <T, R> Array<out
Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {\n val listT = ArrayList<T>(size)\n val listR =
ArrayList<R>(size)\n for (pair in this) {\n listT.add(pair.first)\n listR.add(pair.second)\n }\n return
listT to listR\n }\n\n/**\n * Returns `true` if this nullable array is either null or empty.\n * @sample
samples.collections.Arrays.Usage.arrayIsNullOrEmpty\n
\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun Array<>?.isNullOrEmpty(): Boolean
{\n contract {\n returns(false) implies (this@isNullOrEmpty != null)\n }\n return this == null ||
this.isEmpty()\n }\n\n/**\n * Returns this array if it's not empty\n * or the result of calling [defaultValue] function if
the array is empty.\n * @sample samples.collections.Arrays.Usage.arrayIfEmpty\n
\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("UPPER_BOUND_CANNOT_BE_ARRAY")\npublic inline fun <C, R> C.ifEmpty(defaultValue: () -> R): R where C : Array<>, C : R =\n if (isEmpty())
defaultValue() else
this\n\n\n@OptIn(ExperimentalUnsignedTypes::class)\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin.jvm.Jvm
Name("contentDeepEquals")\n@kotlin.js.JsName("contentDeepEqualsImpl")\ninternal fun <T> Array<out
T>?.contentDeepEqualsImpl(other: Array<out T>?): Boolean {\n if (this === other) return true\n if (this == null
|| other == null || this.size != other.size) return false\n\n for (i in indices) {\n val v1 = this[i]\n val v2 =
other[i]\n\n if (v1 === v2) {\n continue\n } else if (v1 == null || v2 == null) {\n return false\n
 }\n\n when {\n v1 is Array<*> && v2 is Array<*> -> if (!v1.contentDeepEquals(v2)) return
false\n v1 is ByteArray && v2 is ByteArray -> if (!v1.contentEquals(v2)) return false\n v1 is
ShortArray && v2 is ShortArray -> if (!v1.contentEquals(v2)) return false\n v1 is IntArray && v2 is
IntArray -> if (!v1.contentEquals(v2)) return false\n v1 is LongArray && v2 is LongArray -> if
(!v1.contentEquals(v2)) return false\n v1 is FloatArray && v2 is FloatArray -> if (!v1.contentEquals(v2))
return false\n v1 is DoubleArray && v2 is DoubleArray -> if (!v1.contentEquals(v2)) return false\n
 v1 is CharArray && v2 is CharArray -> if (!v1.contentEquals(v2)) return false\n v1 is BooleanArray &&
v2 is BooleanArray -> if (!v1.contentEquals(v2)) return false\n v1 is UByteArray && v2 is UByteArray

```

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-> if (!v1.contentEquals(v2)) return false\n v1 is UShortArray && v2 is UShortArray -> if
(!v1.contentEquals(v2)) return false\n v1 is UIntArray && v2 is UIntArray -> if (!v1.contentEquals(v2))
return false\n v1 is ULongArray && v2 is ULongArray -> if (!v1.contentEquals(v2)) return false\n\n
else -> if (v1 != v2) return false\n }\n\n }\n return
true\n}\n\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin.jvm.JvmName("contentDeepToString")\n@kotlin.js.
JsName("contentDeepToStringImpl")\ninternal fun <T> Array<out T>?.contentDeepToStringImpl(): String {\n
if (this == null) return "null"\n val length = size.coerceAtMost((Int.MAX_VALUE - 2) / 5) * 5 + 2 // in order not
to overflow Int.MAX_VALUE\n return buildString(length) {\n contentDeepToStringInternal(this,
mutableListOf())\n }\n}\n\n@OptIn(ExperimentalUnsignedTypes::class)\nprivate fun <T> Array<out
T>.contentDeepToStringInternal(result: StringBuilder, processed: MutableList<Array<*>>) {\n if (this in
processed) {\n result.append("[...]")\n return\n }\n processed.add(this)\n result.append('[')\n for (i
in indices) {\n if (i != 0) {\n result.append(", ")\n }\n val element = this[i]\n when
(element) {\n null -> result.append("null")\n is Array<*> ->
element.contentDeepToStringInternal(result, processed)\n is ByteArray ->
result.append(element.contentToString())\n is ShortArray -> result.append(element.contentToString())\n
 is IntArray -> result.append(element.contentToString())\n is LongArray ->
result.append(element.contentToString())\n is FloatArray -> result.append(element.contentToString())\n
 is DoubleArray -> result.append(element.contentToString())\n is CharArray ->
result.append(element.contentToString())\n is BooleanArray -> result.append(element.contentToString())\n
 is UByteArray -> result.append(element.contentToString())\n is UShortArray ->
result.append(element.contentToString())\n is UIntArray -> result.append(element.contentToString())\n
 is ULongArray -> result.append(element.contentToString())\n else ->
result.append(element.toString())\n }\n }\n result.append(',')\n processed.removeAt(processed.lastIndex)\n}"/\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\npackage kotlin.collections\n\n/** Returns true if the brittle contains optimization
is enabled. See KT-45438. */\ninternal expect fun brittleContainsOptimizationEnabled(): Boolean\n\n/** Returns true if [brittleContainsOptimizationEnabled] is true\n * and it's safe to convert this collection to a set
without changing contains method behavior.\n */\nprivate fun <T> Collection<T>.safeToConvertToSet() =
brittleContainsOptimizationEnabled() && size > 2 && this is ArrayList\n\n/** When [brittleContainsOptimizationEnabled] is true:\n * - Converts this [Iterable] to a set if it is not a [Collection].\n * -
Converts this [Collection] to a set, when it's worth so and it doesn't change contains method behavior.\n * -
Otherwise returns this.\n * When [brittleContainsOptimizationEnabled] is false:\n * - Converts this [Iterable] to a
list if it is not a [Collection].\n * - Otherwise returns this.\n */\ninternal fun <T>
Iterable<T>.convertToSetForSetOperationWith(source: Iterable<T>): Collection<T> =\n when (this) {\n is
Set -> this\n is Collection -> when {\n source is Collection && source.size < 2 -> this\n
 else -> if (this.safeToConvertToSet()) toHashSet() else this\n }\n else -> if
(brittleContainsOptimizationEnabled()) toHashSet() else toList()\n }\n\n/** When [brittleContainsOptimizationEnabled] is true:\n * - Converts this [Iterable] to a set if it is not a [Collection].\n * -
Converts this [Collection] to a set, when it's worth so and it doesn't change contains method behavior.\n * -
Otherwise returns this.\n * When [brittleContainsOptimizationEnabled] is false:\n * - Converts this [Iterable] to a
list if it is not a [Collection].\n * - Otherwise returns this.\n */\ninternal fun <T>
Iterable<T>.convertToSetForSetOperation(): Collection<T> =\n when (this) {\n is Set -> this\n is
Collection -> if (this.safeToConvertToSet()) toHashSet() else this\n else -> if
(brittleContainsOptimizationEnabled()) toHashSet() else toList()\n }\n\n/** Converts this sequence to a set if
[brittleContainsOptimizationEnabled] is true,\n * otherwise converts it to a list.\n */\ninternal fun <T>
Sequence<T>.convertToSetForSetOperation(): Collection<T> =\n if (brittleContainsOptimizationEnabled())
toHashSet() else toList()\n\n/** Converts this array to a set if [brittleContainsOptimizationEnabled] is true,\n *

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otherwise converts it to a list.\n *^\ninternal fun <T> Array<T>.convertToSetForSetOperation(): Collection<T> =\n
if (brittleContainsOptimizationEnabled()) toHashSet() else asList(),"/*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n *^\n\npackage kotlin.collections\n\n/**\n * Data class
representing a value from a collection or sequence, along with its index in that collection or sequence.\n *\n *
@property value the underlying value.\n * @property index the index of the value in the collection or sequence.\n
^\npublic data class IndexedValue<out T>(public val index: Int, public val value: T)\n","/\n * Copyright 2010-
2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmName("\MapAccessorsKt")\n\npackage kotlin.collections\n\nimport
kotlin.reflect.KProperty\n\nimport kotlin.internal.Exact\n\n/**\n * Returns the value of the property for the given
object from this read-only map.\n * @param thisRef the object for which the value is requested (not used).\n *
@param property the metadata for the property, used to get the name of property and lookup the value
corresponding to this name in the map.\n * @return the property value.\n *\n * @throws NoSuchElementException
when the map doesn't contain value for the property name and doesn't provide an implicit default (see
[withDefault]).\n *^\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun <V, V1 : V> Map<in String, @Exact
V>.getValue(thisRef: Any?, property: KProperty<*>): V1 =\n @Suppress("\UNCHECKED_CAST")
(getOrImplicitDefault(property.name) as V1)\n\n/**\n * Returns the value of the property for the given object from
this mutable map.\n * @param thisRef the object for which the value is requested (not used).\n * @param property
the metadata for the property, used to get the name of property and lookup the value corresponding to this name in
the map.\n * @return the property value.\n *\n * @throws NoSuchElementException when the map doesn't contain
value for the property name and doesn't provide an implicit default (see [withDefault]).\n
*^\n\n@kotlin.jvm.JvmName("\getVar")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun <V, V1 : V>
MutableMap<in String, out @Exact V>.getValue(thisRef: Any?, property: KProperty<*>): V1 =\n
@Suppress("\UNCHECKED_CAST") (getOrImplicitDefault(property.name) as V1)\n\n/**\n * Stores the value of
the property for the given object in this mutable map.\n * @param thisRef the object for which the value is
requested (not used).\n * @param property the metadata for the property, used to get the name of property and store
the value associated with that name in the map.\n * @param value the value to set.\n
*^\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun <V> MutableMap<in String, in V>.setValue(thisRef:
Any?, property: KProperty<*>, value: V) {\n this.put(property.name, value)\n}\n","/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n\n@file:kotlin.jvm.JvmName("\MapsKt")\n\npackage
kotlin.collections\n\n/**\n * Returns the value for the given key, or the implicit default value for this map.\n * By
default no implicit value is provided for maps and a [NoSuchElementException] is thrown.\n * To create a map with
implicit default value use [withDefault] method.\n *\n * @throws NoSuchElementException when the map doesn't
contain a value for the specified key and no implicit default was provided for that map.\n
*^\n\n@kotlin.jvm.JvmName("\getOrImplicitDefaultNullable")\n\n@PublishedApi\n\ninternal fun <K, V> Map<K,
V>.getOrImplicitDefault(key: K): V {\n if (this is MapWithDefault)\n return
this.getOrImplicitDefault(key)\n return getOrElseNullable(key, { throw NoSuchElementException("\Key $key
is missing in the map.") })\n}\n\n/**\n * Returns a wrapper of this read-only map, having the implicit default value
provided with the specified function [defaultValue].\n *\n * This implicit default value is used when the original
map doesn't contain a value for the key specified\n * and a value is obtained with [Map.getValue] function, for
example when properties are delegated to the map.\n *\n * When this map already has an implicit default value
provided with a former call to [withDefault], it is being replaced by this call.\n *^\n\npublic fun <K, V> Map<K,
V>.withDefault(defaultValue: (key: K) -> V): Map<K, V> =\n when (this) {\n is MapWithDefault ->
this.map.withDefault(defaultValue)\n else -> MapWithDefaultImpl(this, defaultValue)\n }\n\n/**\n * Returns
a wrapper of this mutable map, having the implicit default value provided with the specified function

```

```

[defaultValue].\n *\n * This implicit default value is used when the original map doesn't contain a value for the key
specified.\n * and a value is obtained with [Map.getValue] function, for example when properties are delegated to the
map.\n *\n * When this map already has an implicit default value provided with a former call to [withDefault], it is
being replaced by this call.\n */\n@kotlin.jvm.JvmName("withDefaultMutable")\npublic fun <K, V>
MutableMap<K, V>.withDefault(defaultValue: (key: K) -> V): MutableMap<K, V> =\n when (this) {\n is
MutableMapWithDefault -> this.map.withDefault(defaultValue)\n else -> MutableMapWithDefaultImpl(this,
defaultValue)\n }\n\nprivate interface MapWithDefault<K, out V> : Map<K, V> {\n public val map: Map<K,
V>\n public fun getOrImplicitDefault(key: K): V\n}\n\nprivate interface MutableMapWithDefault<K, V> :
MutableMap<K, V>, MapWithDefault<K, V> {\n public override val map: MutableMap<K, V>\n}\n\nprivate
class MapWithDefaultImpl<K, out V>(public override val map: Map<K, V>, private val default: (key: K) -> V) :
MapWithDefault<K, V> {\n override fun equals(other: Any?): Boolean = map.equals(other)\n override fun
hashCode(): Int = map.hashCode()\n override fun toString(): String = map.toString()\n override val size: Int get()
= map.size\n override fun isEmpty(): Boolean = map.isEmpty()\n override fun containsKey(key: K): Boolean =
map.containsKey(key)\n override fun containsValue(value: @UnsafeVariance V): Boolean =
map.containsValue(value)\n override fun get(key: K): V? = map.get(key)\n override val keys: Set<K> get() =
map.keys\n override val values: Collection<V> get() = map.values\n override val entries: Set<Map.Entry<K,
V>> get() = map.entries\n override fun getOrImplicitDefault(key: K): V = map.getOrElseNullable(key, {
default(key) })\n}\n\nprivate class MutableMapWithDefaultImpl<K, V>(public override val map: MutableMap<K,
V>, private val default: (key: K) -> V): MutableMapWithDefault<K, V> {\n override fun equals(other: Any?):
Boolean = map.equals(other)\n override fun hashCode(): Int = map.hashCode()\n override fun toString(): String
= map.toString()\n override val size: Int get() = map.size\n override fun isEmpty(): Boolean = map.isEmpty()\n
override fun containsKey(key: K): Boolean = map.containsKey(key)\n override fun containsValue(value:
@UnsafeVariance V): Boolean = map.containsValue(value)\n override fun get(key: K): V? = map.get(key)\n
override val keys: MutableSet<K> get() = map.keys\n override val values: MutableCollection<V> get() =
map.values\n override val entries: MutableSet<MutableMap.MutableEntry<K, V>> get() = map.entries\n\n
override fun put(key: K, value: V): V? = map.put(key, value)\n override fun remove(key: K): V? =
map.remove(key)\n override fun putAll(from: Map<out K, V>) = map.putAll(from)\n override fun clear() =
map.clear()\n\n override fun getOrImplicitDefault(key: K): V = map.getOrElseNullable(key, { default(key)
})\n}\n\n"/\n *\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\nimport kotlin.random.Random\n\n/**\n * Removes a single instance of the specified element
from this\n * collection, if it is present.\n * Allows to overcome type-safety restriction of `remove` that requires
to pass an element of type `E`.\n * @return `true` if the element has been successfully removed; `false` if it was
not present in the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes
T> MutableCollection<out T>.remove(element: T): Boolean =\n @Suppress("UNCHECKED_CAST") (this as
MutableCollection<T>).remove(element)\n\n/**\n * Removes all of this collection's elements that are also
contained in the specified collection.\n * Allows to overcome type-safety restriction of `removeAll` that requires
to pass a collection of type `Collection<E>`.\n * @return `true` if any of the specified elements was removed
from the collection, `false` if the collection was not modified.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
<@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.removeAll(elements: Collection<T>): Boolean
=\n @Suppress("UNCHECKED_CAST") (this as MutableCollection<T>).removeAll(elements)\n\n/**\n * Retains only the
elements in this collection that are contained in the specified collection.\n * Allows to overcome type-safety
restriction of `retainAll` that requires to pass a collection of type `Collection<E>`.\n * @return `true` if any
element was removed from the collection, `false` if the collection was not modified.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T>
MutableCollection<out T>.retainAll(elements: Collection<T>): Boolean =\n @Suppress("UNCHECKED_CAST") (this as
MutableCollection<T>).retainAll(elements)\n\n/**\n * Adds the specified [element] to this mutable collection.\n

```



```

*

@kotlin.internal.InlineOnly

public inline operator fun <T> MutableCollection<in T>.plusAssign(element: T)

{\n this.add(element)\n}\n

/**

 * Adds all elements of the given [elements] collection to this mutable

collection.\n

*/

@kotlin.internal.InlineOnly

public inline operator fun <T> MutableCollection<in

T>.plusAssign(elements: Iterable<T>) {\n this.addAll(elements)\n}\n

/**

 * Adds all elements of the given

[elements] array to this mutable collection.\n

*/

@kotlin.internal.InlineOnly

public inline operator fun <T>

MutableCollection<in T>.plusAssign(elements: Array<T>) {\n this.addAll(elements)\n}\n

/**

 * Adds all

elements of the given [elements] sequence to this mutable collection.\n

*/

@kotlin.internal.InlineOnly

public

inline operator fun <T> MutableCollection<in T>.plusAssign(elements: Sequence<T>) {\n

this.addAll(elements)\n}\n

/**

 * Removes a single instance of the specified [element] from this mutable

collection.\n

*/

@kotlin.internal.InlineOnly

public inline operator fun <T> MutableCollection<in

T>.minusAssign(element: T) {\n this.remove(element)\n}\n

/**

 * Removes all elements contained in the given

[elements] collection from this mutable collection.\n

*/

@kotlin.internal.InlineOnly

public inline operator fun

<T> MutableCollection<in T>.minusAssign(elements: Iterable<T>) {\n this.removeAll(elements)\n}\n

/**

 * Removes all elements contained in the given [elements] array from this mutable collection.\n

*/

@kotlin.internal.InlineOnly

public inline operator fun <T> MutableCollection<in T>.minusAssign(elements:

Array<T>) {\n this.removeAll(elements)\n}\n

/**

 * Removes all elements contained in the given [elements]

sequence from this mutable collection.\n

*/

@kotlin.internal.InlineOnly

public inline operator fun <T>

MutableCollection<in T>.minusAssign(elements: Sequence<T>) {\n this.removeAll(elements)\n}\n

/**

 * Adds

all elements of the given [elements] collection to this [MutableCollection].\n

*/

public fun <T>

MutableCollection<in T>.addAll(elements: Iterable<T>): Boolean {\n when (elements) {\n is Collection ->

return addAll(elements)\n else -> {\n var result: Boolean = false\n for (item in elements)\n if (add(item)) result = true\n return result\n }\n }\n}\n

/**

 * Adds all elements of the given

[elements] sequence to this [MutableCollection].\n

*/

public fun <T> MutableCollection<in T>.addAll(elements:

Sequence<T>): Boolean {\n var result: Boolean = false\n for (item in elements) {\n if (add(item)) result =

true\n }\n return result\n}\n

/**

 * Adds all elements of the given [elements] array to this

[MutableCollection].\n

*/

public fun <T> MutableCollection<in T>.addAll(elements: Array<out T>): Boolean {\n return

addAll(elements.asList())\n}\n

/**

 * Removes all elements from this [MutableCollection] that are also

contained in the given [elements] collection.\n

*/

public fun <T> MutableCollection<in T>.removeAll(elements:

Iterable<T>): Boolean {\n return removeAll(elements.convertToSetForSetOperationWith(this))\n}\n

/**

 * Removes all elements from this [MutableCollection] that are also contained in the given [elements] sequence.\n

*/

public fun <T> MutableCollection<in T>.removeAll(elements: Sequence<T>): Boolean {\n val set =

elements.convertToSetForSetOperation()\n return set.isNotEmpty() && removeAll(set)\n}\n

/**

 * Removes all

elements from this [MutableCollection] that are also contained in the given [elements] array.\n

*/

public fun <T>

MutableCollection<in T>.removeAll(elements: Array<out T>): Boolean {\n return elements.isNotEmpty() &&

removeAll(elements.convertToSetForSetOperation())\n}\n

/**

 * Retains only elements of this

[MutableCollection] that are contained in the given [elements] collection.\n

*/

public fun <T>

MutableCollection<in T>.retainAll(elements: Iterable<T>): Boolean {\n return

retainAll(elements.convertToSetForSetOperationWith(this))\n}\n

/**

 * Retains only elements of this

[MutableCollection] that are contained in the given [elements] array.\n

*/

public fun <T> MutableCollection<in

T>.retainAll(elements: Array<out T>): Boolean {\n if (elements.isNotEmpty())\n return

retainAll(elements.convertToSetForSetOperation())\n else\n return retainNothing()\n}\n

/**

 * Retains only

elements of this [MutableCollection] that are contained in the given [elements] sequence.\n

*/

public fun <T>

MutableCollection<in T>.retainAll(elements: Sequence<T>): Boolean {\n val set =

elements.convertToSetForSetOperation()\n if (set.isNotEmpty())\n return retainAll(set)\n else\n return

retainNothing()\n}\n

private fun MutableCollection<*>.retainNothing(): Boolean {\n val result = isEmpty()\n clear()\n return result\n}\n

/**

 * Removes all elements from this [MutableIterable] that match the given

[predicate].\n

*/

@return `true` if any element was removed from this collection, or `false` when no elements

were removed and collection was not modified.\n

*/

public fun <T> MutableIterable<T>.removeAll(predicate: (T)

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```

-> Boolean): Boolean = filterInPlace(predicate, true)\n\n**\n * Retains only elements of this [MutableIterable] that
match the given [predicate].\n *\n * @return `true` if any element was removed from this collection, or `false` when
all elements were retained and collection was not modified.\n *\npublic fun <T>
MutableIterable<T>.retainAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, false)\n\nprivate fun
<T> MutableIterable<T>.filterInPlace(predicate: (T) -> Boolean, predicateResultToRemove: Boolean): Boolean {\n
var result = false\n with(iterator()) {\n while (hasNext())\n if (predicate(next()) ==
predicateResultToRemove) {\n remove()\n result = true\n }\n }\n return
result\n}\n\n**\n * Removes the element at the specified [index] from this list.\n * In Kotlin one should use the
[MutableList.removeAt] function instead.\n *\n@Deprecated("Use removeAt(index) instead.",
ReplaceWith("removeAt(index)"), level = DeprecationLevel.ERROR)\n\nkotlin.internal.InlineOnly\n\npublic inline
fun <T> MutableList<T>.remove(index: Int): T = removeAt(index)\n\n**\n * Removes the first element from this
mutable list and returns that removed element, or throws [NoSuchElementException] if this list is empty.\n\n
*\n\n@SinceKotlin("1.4")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\npublic fun <T>
MutableList<T>.removeFirst(): T = if (isEmpty()) throw NoSuchElementException("List is empty.") else
removeAt(0)\n\n**\n * Removes the first element from this mutable list and returns that removed element, or
returns `null` if this list is empty.\n\n
*\n\n@SinceKotlin("1.4")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\npublic fun <T>
MutableList<T>.removeFirstOrNull(): T? = if (isEmpty()) null else removeAt(0)\n\n**\n * Removes the last
element from this mutable list and returns that removed element, or throws [NoSuchElementException] if this list is
empty.\n\n
*\n\n@SinceKotlin("1.4")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\npublic fun <T>
MutableList<T>.removeLast(): T = if (isEmpty()) throw NoSuchElementException("List is empty.") else
removeAt(lastIndex)\n\n**\n * Removes the last element from this mutable list and returns that removed element,
or returns `null` if this list is empty.\n\n
*\n\n@SinceKotlin("1.4")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\npublic fun <T>
MutableList<T>.removeLastOrNull(): T? = if (isEmpty()) null else removeAt(lastIndex)\n\n**\n * Removes all
elements from this [MutableList] that match the given [predicate].\n *\n *\n * @return `true` if any element was
removed from this collection, or `false` when no elements were removed and collection was not modified.\n\n
*\n\npublic fun <T> MutableList<T>.removeAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate,
true)\n\n**\n * Retains only elements of this [MutableList] that match the given [predicate].\n *\n *\n * @return `true`
if any element was removed from this collection, or `false` when all elements were retained and collection was not
modified.\n\n
*\n\npublic fun <T> MutableList<T>.retainAll(predicate: (T) -> Boolean): Boolean =
filterInPlace(predicate, false)\n\nprivate fun <T> MutableList<T>.filterInPlace(predicate: (T) -> Boolean,
predicateResultToRemove: Boolean): Boolean {\n if (this !is RandomAccess)\n return (this as
MutableIterable<T>).filterInPlace(predicate, predicateResultToRemove)\n\n var writeIndex: Int = 0\n for
(readIndex in 0..lastIndex) {\n val element = this[readIndex]\n if (predicate(element) ==
predicateResultToRemove)\n continue\n\n if (writeIndex != readIndex)\n this[writeIndex] =
element\n\n writeIndex++\n }\n if (writeIndex < size) {\n for (removeIndex in lastIndex downTo
writeIndex)\n removeAt(removeIndex)\n\n return true\n } else {\n return false\n }\n}\n\n","/**\n *
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governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n
*\n\n\n@file:kotlin.jvm.JvmMultifileClass\n\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\n\npackage
kotlin.collections\n\nprivate open class ReversedListReadOnly<out T>(private val delegate: List<T>) :
AbstractList<T>() {\n override val size: Int get() = delegate.size\n override fun get(index: Int): T =
delegate[reverseElementIndex(index)]\n}\n\nprivate class ReversedList<T>(private val delegate: MutableList<T>) :
AbstractMutableList<T>() {\n override val size: Int get() = delegate.size\n override fun get(index: Int): T =
delegate[reverseElementIndex(index)]\n\n override fun clear() = delegate.clear()\n\n override fun removeAt(index:
Int): T = delegate.removeAt(reverseElementIndex(index))\n\n override fun set(index: Int, element: T): T =
delegate.set(reverseElementIndex(index), element)\n\n override fun add(index: Int, element: T) {\n

```

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delegate.add(reversePositionIndex(index), element)\n } }\n\nprivate fun List<*>.reverseElementIndex(index:
Int) =\n if (index in 0..lastIndex) lastIndex - index else throw IndexOutOfBoundsException("\Element index
$index must be in range [0..lastIndex].")\n\nprivate fun List<*>.reversePositionIndex(index: Int) =\n if (index
in 0..size) size - index else throw IndexOutOfBoundsException("\Position index $index must be in range
[0..size].")\n\n/**\n * Returns a reversed read-only view of the original List.\n * All changes made in the
original list will be reflected in the reversed one.\n * @sample samples.collections.ReversedViews.asReversedList\n
*/\n\npublic fun <T> List<T>.asReversed(): List<T> = ReversedListReadOnly(this)\n\n/**\n * Returns a reversed
mutable view of the original mutable List.\n * All changes made in the original list will be reflected in the reversed
one and vice versa.\n * @sample samples.collections.ReversedViews.asReversedMutableList\n
*/\n\n@kotlin.jvm.JvmName("\asReversedMutable")\n\npublic fun <T> MutableList<T>.asReversed():
MutableList<T> = ReversedList(this)\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("\SequencesKt")\n@file:OptIn(Experimenta
lTypeInference::class)\n\npackage kotlin.sequences\n\nimport kotlin.coroutines.*\nimport
kotlin.coroutines.intrinsics.*\nimport kotlin.experimental.ExperimentalTypeInference\n\n/**\n * Builds a
[Sequence] lazily yielding values one by one.\n * @see kotlin.sequences.generateSequence\n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n
*/\n\n@SinceKotlin("1.3")\n\npublic fun <T>
sequence(@BuilderInference block: suspend SequenceScope<T>().() -> Unit): Sequence<T> = Sequence {
iterator(block) }\n\n@SinceKotlin("1.3")\n\n@Deprecated("\Use 'sequence { }' function instead.",
ReplaceWith("\sequence(builderAction)"), level =
DeprecationLevel.ERROR)\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> buildSequence(@BuilderInference
noinline builderAction: suspend SequenceScope<T>().() -> Unit): Sequence<T> = Sequence { iterator(builderAction)
}\n\n/**\n * Builds an [Iterator] lazily yielding values one by one.\n * @sample
samples.collections.Sequences.Building.buildIterator\n * @sample samples.collections.Iterables.Building.iterable\n
*/\n\n@SinceKotlin("1.3")\n\npublic fun <T> iterator(@BuilderInference block: suspend SequenceScope<T>().() ->
Unit): Iterator<T> {\n val iterator = SequenceBuilderIterator<T>()\n iterator.nextStep =
block.createCoroutineUnintercepted(receiver = iterator, completion = iterator)\n return
iterator}\n\n@SinceKotlin("1.3")\n\n@Deprecated("\Use 'iterator { }' function instead.",
ReplaceWith("\iterator(builderAction)"), level = DeprecationLevel.ERROR)\n\n@kotlin.internal.InlineOnly\n\npublic
inline fun <T> buildIterator(@BuilderInference noinline builderAction: suspend SequenceScope<T>().() -> Unit):
Iterator<T> = iterator(builderAction)\n\n/**\n * The scope for yielding values of a [Sequence] or an [Iterator],
provides [yield] and [yieldAll] suspension functions.\n * @see sequence\n * @see iterator\n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n
*/\n\n@RestrictsSuspension\n@SinceKotlin("1.3")\n\npublic abstract class SequenceScope<in T> internal
constructor() {\n /**\n * Yields a value to the [Iterator] being built and suspends\n * until the next value is
requested.\n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n
*/\n public abstract suspend fun yield(value:
T)\n\n /**\n * Yields all values from the `iterator` to the [Iterator] being built\n * and suspends until all these
values are iterated and the next one is requested.\n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n
*/\n public abstract suspend fun yieldAll(iterator: Iterator<T>)\n\n /**\n * Yields a collections of values to
the [Iterator] being built\n * and suspends until all these values are iterated and the next one is requested.\n
*/\n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n
*/\n public suspend fun
yieldAll(elements: Iterable<T>) {\n if (elements is Collection && elements.isEmpty()) return\n return
yieldAll(elements.iterator())\n }\n\n /**\n * Yields potentially infinite sequence of values to the [Iterator]

```

```

being built * and suspends until all these values are iterated and the next one is requested. * The
sequence can be potentially infinite. * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll * / public suspend fun yieldAll(sequence:
Sequence<T>) = yieldAll(sequence.iterator())\n\n@Deprecated("Use SequenceScope class instead.",
ReplaceWith("SequenceScope<T>"), level = DeprecationLevel.ERROR)\npublic typealias SequenceBuilder<T> =
SequenceScope<T>\n\nprivate typealias State = Int\n\nprivate const val State_NotReady: State = 0\n\nprivate const
val State_ManyNotReady: State = 1\n\nprivate const val State_ManyReady: State = 2\n\nprivate const val State_Ready:
State = 3\n\nprivate const val State_Done: State = 4\n\nprivate const val State_Failed: State = 5\n\nprivate class
SequenceBuilderIterator<T> : SequenceScope<T>(), Iterator<T>, Continuation<Unit> {\n private var state =
State_NotReady\n private var nextValue: T? = null\n private var nextIterator: Iterator<T>? = null\n var
nextStep: Continuation<Unit>? = null\n\n override fun hasNext(): Boolean {\n while (true) {\n when
(state) {\n State_NotReady -> {}\n State_ManyNotReady ->\n if
(nextIterator!!.hasNext()) {\n state = State_ManyReady\n return true\n }
else {\n nextIterator = null\n }\n State_Done -> return false\n
State_Ready, State_ManyReady -> return true\n else -> throw exceptionalState()\n }\n state
= State_Failed\n val step = nextStep!!\n nextStep = null\n step.resume(Unit)\n }\n }\n\n override fun next(): T {\n when (state) {\n State_NotReady, State_ManyNotReady -> return
nextNotReady()\n State_ManyReady -> {\n state = State_ManyNotReady\n return
nextIterator!!.next()\n }\n State_Ready -> {\n state = State_NotReady\n
@Suppress("UNCHECKED_CAST")\n val result = nextValue as T\n nextValue = null\n
return result\n }\n else -> throw exceptionalState()\n }\n }\n\n private fun nextNotReady(): T
{\n if (!hasNext()) throw NoSuchElementException() else return next()\n }\n\n private fun
exceptionalState(): Throwable = when (state) {\n State_Done -> NoSuchElementException()\n State_Failed
-> IllegalStateException("Iterator has failed.")\n else -> IllegalStateException("Unexpected state of the
iterator: $state")\n }\n\n override suspend fun yield(value: T) {\n nextValue = value\n state =
State_Ready\n return suspendCoroutineUninterceptedOrReturn { c ->\n nextStep = c\n
COROUTINE_SUSPENDED\n }\n }\n\n override suspend fun yieldAll(iterator: Iterator<T>) {\n if
(!iterator.hasNext()) return\n nextIterator = iterator\n state = State_ManyReady\n return
suspendCoroutineUninterceptedOrReturn { c ->\n nextStep = c\n COROUTINE_SUSPENDED\n
}\n }\n\n // Completion continuation implementation\n override fun resumeWith(result: Result<Unit>) {\n
result.getOrThrow() // just rethrow exception if it is there\n state = State_Done\n }\n\n override val context:
CoroutineContext\n get() = EmptyCoroutineContext\n }\n\n /* Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n package kotlin.collections\n\n internal fun
checkWindowSizeStep(size: Int, step: Int) {\n require(size > 0 && step > 0) {\n if (size != step)\n "Both size $size and step $step must be greater than zero.\n }\n else\n "size $size must be greater than
zero.\n }\n }\n\n internal fun <T> Sequence<T>.windowedSequence(size: Int, step: Int, partialWindows: Boolean,
reuseBuffer: Boolean): Sequence<List<T>> {\n checkWindowSizeStep(size, step)\n return Sequence {\n
windowedIterator(iterator(), size, step, partialWindows, reuseBuffer) }\n }\n\n internal fun <T>
windowedIterator(iterator: Iterator<T>, size: Int, step: Int, partialWindows: Boolean, reuseBuffer: Boolean):
Iterator<List<T>> {\n if (!iterator.hasNext()) return EmptyIterator\n return iterator<List<T>> {\n val
bufferInitialCapacity = size.coerceAtMost(1024)\n val gap = step - size\n if (gap >= 0) {\n var buffer
= ArrayList<T>(bufferInitialCapacity)\n var skip = 0\n for (e in iterator) {\n if (skip > 0) {\n
skip -- 1; continue }\n buffer.add(e)\n if (buffer.size == size) {\n yield(buffer)\n
 if (reuseBuffer) buffer.clear() else buffer = ArrayList(size)\n skip = gap\n }\n }\n if (buffer.isNotEmpty()) {\n if (partialWindows || buffer.size == size) yield(buffer)\n }\n }
else {\n var buffer = RingBuffer<T>(bufferInitialCapacity)\n for (e in iterator) {\n
buffer.add(e)\n if (buffer.isFull()) {\n if (buffer.size < size) { buffer =

```



```

 array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n array: UByteArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index
- 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n//
UShortArray
=====
\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n array: UShortArray, left: Int, right: Int): Int {\n var i = left\n
var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n
 while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n
array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n array: UShortArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left <
index - 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n//
UIntArray
=====
\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n array: UIntArray, left: Int, right: Int): Int {\n var i = left\n
var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n
 while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n
array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n array: UIntArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index
- 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n//
ULongArray
=====
\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n array: ULongArray, left: Int, right: Int): Int {\n var i = left\n
var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n
 while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n
array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n array: ULongArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index
- 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n\n//
Interfaces
=====
\n/**\n
* Sorts the given array using qsort algorithm.\n */\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array:
UByteArray, fromIndex: Int, toIndex: Int) = quickSort(array, fromIndex, toIndex -
1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: UShortArray, fromIndex: Int, toIndex: Int) =
quickSort(array, fromIndex, toIndex - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: UIntArray,
fromIndex: Int, toIndex: Int) = quickSort(array, fromIndex, toIndex -
1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: ULongArray, fromIndex: Int, toIndex: Int) =
quickSort(array, fromIndex, toIndex - 1)",/*\n
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Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.internal.InlineOnly\n\n/**\n
* Compares this
object with the specified object for order. Returns zero if this object is equal\n
* to the specified [other] object, a
negative number if it's less than [other], or a positive number\n
* if it's greater than [other].\n */\n
* This function
delegates to [Comparable.compareTo] and allows to call it in infix form.\n
*/\n@InlineOnly\n@SinceKotlin("1.6")\npublic inline infix fun <T> Comparable<T>.compareTo(other: T): Int
= \n this.compareTo(other)\n",/*\n
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contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.contracts\n\nimport kotlin.internal.ContractsDsl\n\nimport
kotlin.internal.InlineOnly\n\n/**\n
* This marker distinguishes the experimental contract declaration API and is
used to opt-in for that feature\n
* when declaring contracts of user functions.\n */\n
* Any usage of a declaration
annotated with `@ExperimentalContracts` must be accepted either by\n
* annotating that usage with the [OptIn]

```

annotation, e.g. `@OptIn(ExperimentalContracts::class)`, or by using the compiler argument `-Xopt-in=kotlin.contracts.ExperimentalContracts`.

```

*\/n@Suppress("DEPRECATION")\/n@Retention(AnnotationRetention.BINARY)\/n@SinceKotlin("1.3")\/n@Experimental\/n@RequiresOptIn\/n@MustBeDocumented\/npublic annotation class ExperimentalContracts\/n\/n**\/n
* Provides a scope, where the functions of the contract DSL, such as [returns], [callsInPlace], etc., can be used to describe the contract of a function. This type is used as a receiver type of the lambda function passed to the [contract] function. @see contract
*\/n@ContractsDsl\/n@ExperimentalContracts\/n@SinceKotlin("1.3")\/npublic interface ContractBuilder {\/n
* Describes a situation when a function returns normally, without any exceptions thrown. Use [SimpleEffect.implies] function to describe a conditional effect that happens in such case.
*\/n
*\/n //
@sample samples.contracts.returnsContract
@ContractsDsl public fun returns(): Returns
**
* Describes a situation when a function returns normally with the specified return [value]. The possible values of [value] are limited to `true`, `false` or `null`. Use [SimpleEffect.implies] function to describe a conditional effect that happens in such case.
*\/n
*\/n // @sample samples.contracts.returnsTrueContract
// @sample samples.contracts.returnsFalseContract
// @sample samples.contracts.returnsNullContract
@ContractsDsl public fun returns(value: Any?): Returns
**
* Describes a situation when a function returns normally with any value that is not `null`. Use [SimpleEffect.implies] function to describe a conditional effect that happens in such case.
*\/n
*\/n // @sample
samples.contracts.returnsNotNullContract
@ContractsDsl public fun returnsNotNull(): ReturnsNotNull
**
* Specifies that the function parameter [lambda] is invoked in place. This contract specifies that:
* 1. the function [lambda] can only be invoked during the call of the owner function, and it won't be invoked after that owner function call is completed;
* 2. _(optionally)_ the function [lambda] is invoked the amount of times specified by the [kind] parameter. see the [InvocationKind] enum for possible values.
*\/n
* A function declaring the `callsInPlace` effect must be _inline_.
*\/n
\/n / @sample
samples.contracts.callsInPlaceAtMostOnceContract
* @sample
samples.contracts.callsInPlaceAtLeastOnceContract
* @sample
samples.contracts.callsInPlaceExactlyOnceContract
* @sample
samples.contracts.callsInPlaceUnknownContract
*\/n
@ContractsDsl public fun <R> callsInPlace(lambda: Function<R>, kind: InvocationKind = InvocationKind.UNKNOWN): CallsInPlace
**
* Specifies how many times a function invokes its function parameter in place. See [ContractBuilder.callsInPlace] for the details of the call-in-place function contract.
*\/n
*\/n
*\/n @ContractsDsl\/n@ExperimentalContracts\/n@SinceKotlin("1.3")\/npublic enum class InvocationKind {\/n
**
* A function parameter will be invoked one time or not invoked at all.
*\/n
*\/n // @sample
samples.contracts.callsInPlaceAtMostOnceContract
@ContractsDsl AT_MOST_ONCE,
**
* A function parameter will be invoked one or more times.
*\/n
*\/n // @sample
samples.contracts.callsInPlaceAtLeastOnceContract
@ContractsDsl AT_LEAST_ONCE,
**
* A function parameter will be invoked exactly one time.
*\/n
*\/n // @sample
samples.contracts.callsInPlaceExactlyOnceContract
@ContractsDsl EXACTLY_ONCE,
**
* A function parameter is called in place, but it's unknown how many times it can be called.
*\/n
*\/n // @sample
samples.contracts.callsInPlaceUnknownContract
@ContractsDsl UNKNOWN
}
**
* Specifies the contract of a function. The contract description must be at the beginning of a function and have at least one effect. Only the top-level functions can have a contract for now. @param builder the lambda where the contract of a function is described with the help of the [ContractBuilder] members.
*\/n
\/n / @sample
samples.contracts.returnsContract
* @sample samples.contracts.returnsTrueContract
* @sample
samples.contracts.returnsFalseContract
* @sample samples.contracts.returnsNullContract
* @sample
samples.contracts.returnsNotNullContract
* @sample samples.contracts.callsInPlaceAtMostOnceContract
* @sample
samples.contracts.callsInPlaceAtLeastOnceContract
* @sample
samples.contracts.callsInPlaceExactlyOnceContract
* @sample

```

```
samples.contracts.callsInPlaceUnknownContract\n*\n@ContractsDsl\n@ExperimentalContracts\n@InlineOnly\n@
SinceKotlin(\n"1.3\n")\n@Suppress(\n"UNUSED_PARAMETER\n")\npublic inline fun contract(builder:
ContractBuilder.() -> Unit) { }\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\npackage kotlin.coroutines\n\n/**\n * Marks coroutine context element that
intercepts coroutine continuations.\n * The coroutines framework uses [ContinuationInterceptor.Key] to retrieve the
interceptor and\n * intercepts all coroutine continuations with [interceptContinuation] invocations.\n */\n *
[ContinuationInterceptor] behaves like a [polymorphic element][AbstractCoroutineContextKey], meaning that\n *
its implementation delegates [get][CoroutineContext.Element.get] and
[minusKey][CoroutineContext.Element.minusKey]\n * to [getPolymorphicElement] and [minusPolymorphicKey]
respectively.\n * [ContinuationInterceptor] subtypes can be extracted from the coroutine context using either
[ContinuationInterceptor.Key]\n * or subtype key if it extends [AbstractCoroutineContextKey].\n\n*\n@SinceKotlin(\n"1.3\n")\npublic interface ContinuationInterceptor : CoroutineContext.Element {\n /*\n *
The key that defines *the* context interceptor.\n */\n companion object Key :
CoroutineContext.Key<ContinuationInterceptor>\n /*\n * Returns continuation that wraps the original
[continuation], thus intercepting all resumptions.\n * This function is invoked by coroutines framework when
needed and the resulting continuations are\n * cached internally per each instance of the original [continuation].\n */\n * This function may simply return original [continuation] if it does not want to intercept this particular
continuation.\n */\n * When the original [continuation] completes, coroutine framework invokes
[releaseInterceptedContinuation]\n * with the resulting continuation if it was intercepted, that is if
`interceptContinuation` had previously\n * returned a different continuation instance.\n */\n public fun <T>
interceptContinuation(continuation: Continuation<T>): Continuation<T>\n /*\n * Invoked for the
continuation instance returned by [interceptContinuation] when the original\n * continuation completes and will
not be used anymore. This function is invoked only if [interceptContinuation]\n * had returned a different
continuation instance from the one it was invoked with.\n */\n * Default implementation does nothing.\n */\n *
@param continuation Continuation instance returned by this interceptor's [interceptContinuation] invocation.\n\n*\n public fun releaseInterceptedContinuation(continuation: Continuation<*>) {\n /* do nothing by default
*\n */\n }\n\n public override operator fun <E : CoroutineContext.Element> get(key: CoroutineContext.Key<E>):
E? {\n // getPolymorphicKey specialized for ContinuationInterceptor key\n\n@OptIn(ExperimentalStdlibApi::class)\n if (key is AbstractCoroutineContextKey<*, *>) {\n\n@Suppress(\n"UNCHECKED_CAST\n")\n return if (key.isSubKey(this.key)) key.tryCast(this) as? E else
null\n }\n\n@Suppress(\n"UNCHECKED_CAST\n")\n return if (ContinuationInterceptor === key) this as
E else null\n }\n\n public override fun minusKey(key: CoroutineContext.Key<*>): CoroutineContext {\n\n// minusPolymorphicKey specialized for ContinuationInterceptor key\n\n@OptIn(ExperimentalStdlibApi::class)\n if (key is AbstractCoroutineContextKey<*, *>) {\n return if
(key.isSubKey(this.key) && key.tryCast(this) != null) EmptyCoroutineContext else this\n }\n return if
(ContinuationInterceptor === key) EmptyCoroutineContext else this\n }\n\n", /*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.coroutines\n\n/**\n * Persistent context for the coroutine. It is an indexed set of [Element] instances.\n * An indexed set is a mix between
a set and a map.\n * Every element in this set has a unique [Key].\n */\n@SinceKotlin(\n"1.3\n")\npublic interface
CoroutineContext {\n /*\n * Returns the element with the given [key] from this context or `null`.\n */\n\n public operator fun <E : Element> get(key: Key<E>): E?\n /*\n * Accumulates entries of this context
starting with [initial] value and applying [operation]\n * from left to right to current accumulator value and each
element of this context.\n */\n public fun <R> fold(initial: R, operation: (R, Element) -> R): R\n /*\n * Returns a context containing elements from this context and elements from other [context].\n * The elements
from this context with the same key as in the other one are dropped.\n */\n\n public operator fun plus(context:
CoroutineContext): CoroutineContext =\n if (context === EmptyCoroutineContext) this else // fast path -- avoid
```



```

lambda creation\n context.fold(this) { acc, element ->\n val removed =
acc.minusKey(element.key)\n if (removed === EmptyCoroutineContext) element else {\n //
make sure interceptor is always last in the context (and thus is fast to get when present)\n val interceptor
= removed[ContinuationInterceptor]\n if (interceptor == null) CombinedContext(removed, element) else
{\n val left = removed.minusKey(ContinuationInterceptor)\n if (left ===
EmptyCoroutineContext) CombinedContext(element, interceptor) else\n
CombinedContext(CombinedContext(left, element), interceptor)\n }\n }\n }\n\n /**\n * Returns a context containing elements from this context, but without an element with\n * the specified [key].\n *\n */\n public fun minusKey(key: Key<*>): CoroutineContext\n\n /**\n * Key for the elements of
[CoroutineContext]. [E] is a type of element with this key.\n */\n public interface Key<E : Element>\n\n /**\n * An element of the [CoroutineContext]. An element of the coroutine context is a singleton context by itself.\n *\n */\n public interface Element : CoroutineContext {\n\n /**\n * A key of this coroutine context element.\n *\n */\n public val key: Key<*>\n\n public override operator fun <E : Element> get(key: Key<E>): E? =\n @Suppress("UNCHECKED_CAST")\n if (this.key == key) this as E else null\n\n public override
fun <R> fold(initial: R, operation: (R, Element) -> R): R =\n operation(initial, this)\n\n public override
fun minusKey(key: Key<*>): CoroutineContext =\n if (this.key == key) EmptyCoroutineContext else this\n
}\n\n"/>\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin.coroutines\nimport kotlin.coroutines.CoroutineContext.Element\nimport
kotlin.coroutines.CoroutineContext.Key\n\n/**\n * Base class for [CoroutineContext.Element] implementations.\n
*\n */\n @SinceKotlin("1.3")\n public abstract class AbstractCoroutineContextElement(public override val key:
Key<*>) : Element\n\n /**\n * Base class for [CoroutineContext.Key] associated with polymorphic
[CoroutineContext.Element] implementation.\n * Polymorphic element implementation implies delegating its
[get][Element.get] and [minusKey][Element.minusKey]\n * to [getPolymorphicElement] and
[minusPolymorphicKey] respectively.\n *\n */\n * Polymorphic elements can be extracted from the coroutine context
using both element key and its supertype key.\n * Example of polymorphic elements:\n * ```\n * open class
BaseElement : CoroutineContext.Element {\n * companion object Key : CoroutineContext.Key<BaseElement>\n *
override val key: CoroutineContext.Key<*> get() = Key\n * // It is important to use getPolymorphicKey and
minusPolymorphicKey\n * override fun <E : CoroutineContext.Element> get(key: CoroutineContext.Key<E>):
E? = getPolymorphicElement(key)\n * override fun minusKey(key: CoroutineContext.Key<*>):
CoroutineContext = minusPolymorphicKey(key)\n * }\n *\n */\n * class DerivedElement : BaseElement() {\n *
companion object Key : AbstractCoroutineContextKey<BaseElement, DerivedElement>(BaseElement, { it as?
DerivedElement })\n * }\n * // Now it is possible to query both `BaseElement` and `DerivedElement`\n *
someContext[BaseElement] // Returns BaseElement?, non-null both for BaseElement and DerivedElement
instances\n * someContext[DerivedElement] // Returns DerivedElement?, non-null only for DerivedElement
instance\n * ```\n * @param B base class of a polymorphic element\n * @param baseKey an instance of base key\n
* @param E element type associated with the current key\n * @param safeCast a function that can safely cast
abstract [CoroutineContext.Element] to the concrete [E] type\n * and return the element if it is a subtype
of [E] or `null` otherwise.\n */\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n public abstract class
AbstractCoroutineContextKey<B : Element, E : B>(\n baseKey: Key,\n private val safeCast: (element:
Element) -> E?) : Key<E> {\n private val topmostKey: Key<*> = if (baseKey is
AbstractCoroutineContextKey<*, *>) baseKey.topmostKey else baseKey\n\n internal fun tryCast(element:
Element): E? = safeCast(element)\n\n internal fun isSubKey(key: Key<*>): Boolean = key === this || topmostKey
=== key\n
}\n\n /**\n * Returns the current element if it is associated with the given [key] in a polymorphic manner
or `null` otherwise.\n * This method returns non-null value if either [Element.key] is equal to the given [key] or if
the [key] is associated\n * with [Element.key] via [AbstractCoroutineContextKey].\n * See
[AbstractCoroutineContextKey] for the example of usage.\n
*\n */\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n public fun <E : Element>

```

```

Element.getPolymorphicElement(key: Key<E>): E? {
 if (key is AbstractCoroutineContextKey<*, *>) {
 @Suppress("UNCHECKED_CAST")
 return if (key.isSubKey(this.key)) key.tryCast(this) as? E else null
 }
 @Suppress("UNCHECKED_CAST")
 return if (this.key === key) this as E else null
}

Returns empty coroutine context if the element is associated with the given [key] in a polymorphic manner
or `null` otherwise.
This method returns empty context if either [Element.key] is equal to the given [key] or if the
[key] is associated with [Element.key] via [AbstractCoroutineContextKey].
See [AbstractCoroutineContextKey] for the example of usage.

@SinceKotlin("1.3")
@ExperimentalStdlibApi
public fun Element.minusPolymorphicKey(key: Key<*>):
 CoroutineContext {
 if (key is AbstractCoroutineContextKey<*, *>) {
 return if (key.isSubKey(this.key)
 && key.tryCast(this) != null) EmptyCoroutineContext else this
 }
 return if (this.key === key)
 EmptyCoroutineContext else this
 }

An empty coroutine context.

@SinceKotlin("1.3")
public object EmptyCoroutineContext : CoroutineContext, Serializable {
 private const val serialVersionUID: Long = 0
 private fun readResolve(): Any = EmptyCoroutineContext

 public override fun <E : Element> get(key: Key<E>): E? = null
 public override fun <R> fold(initial: R, operation: (R, Element) -> R): R = initial
 public override fun plus(context: CoroutineContext): CoroutineContext = context
 public override fun minusKey(key: Key<*>): CoroutineContext = this
 public override fun hashCode(): Int = 0
 public override fun toString(): String = "EmptyCoroutineContext"

 //----- internal impl -----
 // this class is not exposed, but is hidden inside implementations
 // this is a left-biased list, so that `plus` works naturally

 @SinceKotlin("1.3")
 internal class CombinedContext(
 private val left: CoroutineContext,
 private val element: Element
) : CoroutineContext, Serializable {
 override fun <E : Element> get(key: Key<E>): E? {
 var cur = this
 while (true) {
 cur.element[key]?.let { return it }
 val next = cur.left
 if (next is CombinedContext) {
 cur = next
 } else {
 return next[key]
 }
 }
 }
 public override fun <R> fold(initial: R, operation: (R, Element) -> R): R =
 operation(left.fold(initial, operation), element)
 public override fun minusKey(key: Key<*>):
 CoroutineContext {
 element[key]?.let { return left }
 val newLeft = left.minusKey(key)
 return when {
 newLeft === left -> this
 newLeft === EmptyCoroutineContext -> element
 else -> CombinedContext(newLeft, element)
 }
 }
 private fun size(): Int {
 var cur = this
 var size = 2
 while (true) {
 cur = cur.left as? CombinedContext ?: return size
 size++
 }
 }
 private fun contains(element: Element): Boolean =
 get(element.key) == element
 private fun containsAll(context: CombinedContext): Boolean {
 var cur = context
 while (true) {
 if (!contains(cur.element)) return false
 val next = cur.left
 if (next is CombinedContext) {
 cur = next
 } else {
 return contains(next as Element)
 }
 }
 }
 override fun equals(other: Any?): Boolean =
 this === other || other is CombinedContext && other.size() == size() &&
 other.containsAll(this)
 override fun hashCode(): Int = left.hashCode() + element.hashCode()
 override fun toString(): String =
 "[" + fold("") { acc, element ->
 if (acc.isEmpty()) element.toString() else
 "$acc, $element"
 } + "]"
 private fun writeReplace(): Any {
 val n = size()
 val elements = arrayOfNulls<CoroutineContext>(n)
 var index = 0
 fold(Unit) { _, element -> elements[index++] = element }
 check(index == n)
 @Suppress("UNCHECKED_CAST")
 return Serialized(elements as Array<CoroutineContext>)
 }
 private class Serialized(val elements: Array<CoroutineContext>) :
 Serializable {
 companion object {
 private const val serialVersionUID: Long = 0L
 }
 private fun readResolve(): Any = elements.fold(EmptyCoroutineContext, CoroutineContext::plus)
 }
 }
}

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@file:kotlin.jvm.JvmName("IntrinsicsKt")
@file:kotlin.jvm.JvmMultifileClass
package kotlin.coroutines.intrinsics
import kotlin.contracts.*
import kotlin.coroutines.*
import kotlin.internal.InlineOnly

Obtains the current continuation instance inside suspend functions and either suspends
currently running coroutine or returns result immediately without suspension.
If the [block] returns the special [COROUTINE_SUSPENDED] value, it means that suspend function did suspend the execution

```

and will not return any result immediately. In this case, the [Continuation] provided to the [block] shall be resumed by invoking [Continuation.resumeWith] at some moment in the future when the result becomes available to resume the computation. Otherwise, the return value of the [block] must have a type assignable to [T] and represents the result of this suspend function. It means that the execution was not suspended and the [Continuation] provided to the [block] shall not be invoked. As the result type of the [block] is declared as `Any?` and cannot be correctly type-checked, its proper return type remains on the conscience of the suspend function's author. Invocation of [Continuation.resumeWith] resumes coroutine directly in the invoker's thread without going through the [ContinuationInterceptor] that might be present in the coroutine's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation context is established. [Continuation.intercepted] can be used to acquire the intercepted continuation. Note that it is not recommended to call either [Continuation.resume] nor [Continuation.resumeWithException] functions synchronously in the same stackframe where suspension function is run. Use [suspendCoroutine] as a safer way to obtain current continuation instance.

```
*\n@SinceKotlin("1.3")\n@InlineOnly\n@Suppress("UNUSED_PARAMETER",
"RedundantSuspendModifier")\npublic suspend inline fun <T>
suspendCoroutineUninterceptedOrReturn(crossinline block: (Continuation<T> -> Any?): T {\n contract {
callsInPlace(block, InvocationKind.EXACTLY_ONCE) }\n throw NotImplementedError("Implementation of
suspendCoroutineUninterceptedOrReturn is intrinsic")\n}\n\n/**\n * This value is used as a return value of
[suspendCoroutineUninterceptedOrReturn] `block` argument to state that\n * the execution was suspended and will
not return any result immediately.\n *\n * **Note: this value should not be used in general code.** Using it outside
of the context of\n * `suspendCoroutineUninterceptedOrReturn` function return value (including, but not limited
to,\n * storing this value in other properties, returning it from other functions, etc)\n * can lead to unspecified
behavior of the code.\n *\n// It is implemented as property with getter to avoid ProGuard <clinit> problem with
multifile IntrinsicKt class\n@SinceKotlin("1.3")\npublic val COROUTINE_SUSPENDED: Any get() =
CoroutineSingletons.COROUTINE_SUSPENDED\n\n// Using enum here ensures two important properties:\n// 1.
It makes SafeContinuation serializable with all kinds of serialization frameworks (since all of them natively support
enums)\n// 2. It improves debugging experience, since you clearly see toString() value of those objects and what
package they come from\n@SinceKotlin("1.3")\n@PublishedApi // This class is Published API via serialized
representation of SafeContinuation, don't rename/move\ninternal enum class CoroutineSingletons {
COROUTINE_SUSPENDED, UNDECIDED, RESUMED }\n\n",/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\npackage kotlin.experimental\n\n/**\n * Performs a bitwise AND
operation between the two values. *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun
Byte.and(other: Byte): Byte = (this.toInt() and other.toInt()).toByte()\n\n/**\n * Performs a bitwise OR operation
between the two values. *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun
Byte.or(other: Byte): Byte = (this.toInt() or other.toInt()).toByte()\n\n/**\n * Performs a bitwise XOR operation
between the two values. *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun
Byte.xor(other: Byte): Byte = (this.toInt() xor other.toInt()).toByte()\n\n/**\n * Inverts the bits in this value.
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.inv(): Byte =
(this.toInt().inv()).toByte()\n\n\n/**\n * Performs a bitwise AND operation between the two values.
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.and(other: Short): Short =
(this.toInt() and other.toInt()).toShort()\n\n\n/**\n * Performs a bitwise OR operation between the two values.
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.or(other: Short): Short =
(this.toInt() or other.toInt()).toShort()\n\n\n/**\n * Performs a bitwise XOR operation between the two values.
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.xor(other: Short): Short =
(this.toInt() xor other.toInt()).toShort()\n\n\n/**\n * Inverts the bits in this value.
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun Short.inv(): Short =
(this.toInt().inv()).toShort()\n\n\n",/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
```

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 \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.  
 \*  
 package kotlin.experimental  
 \* The experimental marker for type inference augmenting annotations.  
 \* Any usage of a declaration annotated with `@ExperimentalTypeInference` must be accepted either by  
 \* annotating that usage with the `[OptIn]` annotation, e.g. `@OptIn(ExperimentalTypeInference::class)`,  
 \* or by using the compiler argument `-Xopt-in=kotlin.experimental.ExperimentalTypeInference`.  
 \*  
 \*`@Suppress("DEPRECATION")`  
 \*`@Experimental(level = Experimental.Level.ERROR)`  
 \*`@RequiresOptIn(level = RequiresOptIn.Level.ERROR)`  
 \*`@MustBeDocumented`  
 \*`@Retention(AnnotationRetention.BINARY)`  
 \*`@Target(AnnotationTarget.ANNOTATION_CLASS)`  
 \*`@SinceKotlin("1.3")`  
 \*public annotation class ExperimentalTypeInference  
 \*  
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 \*  
 package kotlin.internal  
 \* Specifies that the corresponding type should be ignored during type inference.  
 \*  
 \*`@Target(AnnotationTarget.TYPE)`  
 \*`@Retention(AnnotationRetention.BINARY)`  
 \*internal annotation class NoInfer  
 \* Specifies that the constraint built for the type during type inference should be an equality one.  
 \*  
 \*`@Target(AnnotationTarget.TYPE)`  
 \*`@Retention(AnnotationRetention.BINARY)`  
 \*internal annotation class Exact  
 \* Specifies that a corresponding member has the lowest priority in overload resolution.  
 \*  
 \*`@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY)`  
 \*`@Retention(AnnotationRetention.BINARY)`  
 \*internal annotation class LowPriorityInOverloadResolution  
 \* Specifies that the corresponding member has the highest priority in overload resolution. Effectively this means that  
 \* an extension annotated with this annotation will win in overload resolution over a member with the same signature.  
 \*  
 \*`@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY)`  
 \*`@Retention(AnnotationRetention.BINARY)`  
 \*internal annotation class HidesMembers  
 \* The value of this type parameter should be mentioned in input types (argument types, receiver type or expected type).  
 \*  
 \*`@Target(AnnotationTarget.TYPE_PARAMETER)`  
 \*`@Retention(AnnotationRetention.BINARY)`  
 \*internal annotation class OnlyInputTypes  
 \* Specifies that this function should not be called directly without inlining  
 \*  
 \*`@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY, AnnotationTarget.PROPERTY_GETTER, AnnotationTarget.PROPERTY_SETTER)`  
 \*`@Retention(AnnotationRetention.BINARY)`  
 \*internal annotation class InlineOnly  
 \* Specifies that this declaration can have dynamic receiver type.  
 \*  
 \*`@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY)`  
 \*`@Retention(AnnotationRetention.BINARY)`  
 \*internal annotation class DynamicExtension  
 \* The value of this parameter should be a property reference expression (`this::foo`), referencing a `lateinit` property,  
 \* the backing field of which is accessible at the point where the corresponding argument is passed.  
 \*  
 \*`@Target(AnnotationTarget.VALUE_PARAMETER)`  
 \*`@Retention(AnnotationRetention.BINARY)`  
 \*`@SinceKotlin("1.2")`  
 \*internal annotation class AccessibleLateinitPropertyLiteral  
 \* Specifies that this declaration is only completely supported since the specified version.  
 \*  
 \* The Kotlin compiler of an earlier version is going to report a diagnostic on usages of this declaration.  
 \* The diagnostic message can be specified with [message], or via [errorCode] (takes less space, but might not be immediately clear  
 \* to the user). The diagnostic severity can be specified with [level]: WARNING/ERROR mean that either a warning or an error  
 \* is going to be reported, HIDDEN means that the declaration is going to be removed from resolution completely.  
 \*  
 \* [versionKind] specifies which version should be compared with the [version] value, when compiling the usage of the annotated declaration.  
 \* Note that prior to 1.2, only [RequireKotlinVersionKind.LANGUAGE\_VERSION] was supported, so the Kotlin compiler before 1.2 is going to  
 \* treat any [RequireKotlin] as if it requires the language version. Since 1.2, the Kotlin compiler supports  
 \* [RequireKotlinVersionKind.LANGUAGE\_VERSION], [RequireKotlinVersionKind.COMPILER\_VERSION] and [RequireKotlinVersionKind.API\_VERSION].  
 \* If the

actual value of [versionKind] is something different (e.g. a new version kind, added in future versions of Kotlin),\n \* Kotlin 1.2 is going to ignore this [RequireKotlin] altogether, where as Kotlin before 1.2 is going to treat this as a requirement\n \* on the language version.\n \* This annotation is erased at compile time; its arguments are stored in a more compact form in the Kotlin metadata.\n \* \n \* @Target(AnnotationTarget.CLASS, AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY, AnnotationTarget.CONSTRUCTOR, AnnotationTarget.TYPEALIAS)\n \* @Retention(AnnotationRetention.SOURCE)\n \* @Repeatable\n \* @SinceKotlin("1.2")\n \* internal annotation class RequireKotlin(\n \* val version: String,\n \* val message: String = "",\n \* val level: DeprecationLevel = DeprecationLevel.ERROR,\n \* val versionKind: RequireKotlinVersionKind = RequireKotlinVersionKind.LANGUAGE\_VERSION,\n \* val errorCode: Int = -1)\n \* \n \* The kind of the version that is required by [RequireKotlin].\n \* \n \* @SinceKotlin("1.2")\n \* internal enum class RequireKotlinVersionKind {\n \* LANGUAGE\_VERSION,\n \* COMPILER\_VERSION,\n \* API\_VERSION,\n \* }\n \* \n \* Specifies that this declaration is a part of special DSL, used for constructing function's contract.\n \* \n \* @Retention(AnnotationRetention.BINARY)\n \* @SinceKotlin("1.2")\n \* internal annotation class ContractsDsl\n \* \n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \* \n \* package kotlin.properties\n \* \n \* import kotlin.reflect.KProperty\n \* \n \* \n \* Standard property delegates.\n \* \n \* public object Delegates {\n \* \n \* Returns a property delegate for a read/write property with a non-`null` value that is initialized not during\n \* object construction time but at a later time. Trying to read the property before the initial value has been\n \* assigned results in an exception.\n \* \n \* \n \* @sample samples.properties.Delegates.notNullDelegate\n \* \n \* public fun <T : Any> notNull():\n \* ReadWriteProperty<Any?, T> = NotNullVar()\n \* \n \* Returns a property delegate for a read/write property that calls a specified callback function when changed.\n \* \n \* @param initialValue the initial value of the property.\n \* \n \* @param onChange the callback which is called after the change of the property is made. The value of the property\n \* has already been changed when this callback is invoked.\n \* \n \* \n \* @sample samples.properties.Delegates.observableDelegate\n \* \n \* public inline fun <T> observable(initialValue: T, crossinline onChange: (property: KProperty<\*>, oldValue: T, newValue: T) -> Unit):\n \* ReadWriteProperty<Any?, T> =\n \* object : ObservableProperty<T>(initialValue) {\n \* override fun afterChange(property: KProperty<\*>, oldValue: T, newValue: T) = onChange(property, oldValue, newValue)\n \* }\n \* \n \* Returns a property delegate for a read/write property that calls a specified callback function when changed,\n \* allowing the callback to veto the modification.\n \* \n \* @param initialValue the initial value of the property.\n \* \n \* @param onChange the callback which is called before a change to the property value is attempted.\n \* \n \* The value of the property hasn't been changed yet, when this callback is invoked.\n \* \n \* If the callback returns `true` the value of the property is being set to the new value,\n \* and if the callback returns `false` the new value is discarded and the property remains its old value.\n \* \n \* \n \* @sample samples.properties.Delegates.vetoableDelegate\n \* \n \* @sample samples.properties.Delegates.throwVetoableDelegate\n \* \n \* public inline fun <T> vetoable(initialValue: T, crossinline onChange: (property: KProperty<\*>, oldValue: T, newValue: T) -> Boolean):\n \* ReadWriteProperty<Any?, T> =\n \* object : ObservableProperty<T>(initialValue) {\n \* override fun beforeChange(property: KProperty<\*>, oldValue: T, newValue: T): Boolean = onChange(property, oldValue, newValue)\n \* }\n \* \n \* \n \* \n \* private class NotNullVar<T : Any>(): ReadWriteProperty<Any?, T> {\n \* private var value: T? = null\n \* \n \* public override fun getValue(thisRef: Any?, property: KProperty<\*>): T {\n \* return value ?: throw IllegalStateException("Property \${property.name} should be initialized before get.")\n \* }\n \* \n \* public override fun setValue(thisRef: Any?, property: KProperty<\*>, value: T) {\n \* this.value = value\n \* }\n \* }\n \* \n \* \n \* \n \* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \* \n \* \n \* package kotlin.properties\n \* \n \* import kotlin.reflect.KProperty\n \* \n \* \n \* Base interface that can be used for implementing property delegates of read-only properties.\n \* \n \* This is provided only for convenience; you don't have to extend this interface\n \* as long as your property delegate has methods with the same signatures.\n \* \n \* \n \*

```

@param T the type of object which owns the delegated property.\n * @param V the type of the property value.\n
*/\npublic fun interface ReadOnlyProperty<in T, out V> {\n /**\n * Returns the value of the property for the
given object.\n * @param thisRef the object for which the value is requested.\n * @param property the
metadata for the property.\n * @return the property value.\n */\n public operator fun getValue(thisRef: T,
property: KProperty<*>): V\n}\n\n/**\n * Base interface that can be used for implementing property delegates of
read-write properties.\n * This is provided only for convenience; you don't have to extend this interface\n * as
long as your property delegate has methods with the same signatures.\n */\n * @param T the type of object which
owns the delegated property.\n * @param V the type of the property value.\n */\npublic interface
ReadWriteProperty<in T, V> : ReadOnlyProperty<T, V> {\n /**\n * Returns the value of the property for the
given object.\n * @param thisRef the object for which the value is requested.\n * @param property the
metadata for the property.\n * @return the property value.\n */\n public override operator fun
getValue(thisRef: T, property: KProperty<*>): V\n\n /**\n * Sets the value of the property for the given
object.\n * @param thisRef the object for which the value is requested.\n * @param property the metadata
for the property.\n * @param value the value to set.\n */\n public operator fun setValue(thisRef: T,
property: KProperty<*>, value: V)\n}\n\n/**\n * Base interface that can be used for implementing property delegate
providers.\n * This is provided only for convenience; you don't have to extend this interface\n * as long as your
delegate provider has a method with the same signature.\n */\n * @param T the type of object which owns the
delegated property.\n * @param D the type of property delegates this provider provides.\n
*/\n\n@SinceKotlin("1.4")\npublic fun interface PropertyDelegateProvider<in T, out D> {\n /**\n * Returns the
delegate of the property for the given object.\n * This function can be used to extend the logic of creating
the object (e.g. perform validation checks)\n * to which the property implementation is delegated.\n *
@param thisRef the object for which property delegate is requested.\n * @param property the metadata for the
property.\n * @return the property delegate.\n */\n public operator fun provideDelegate(thisRef: T,
property: KProperty<*>): D\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n *
Implements the core logic of a property delegate for a read/write property that calls callback functions when
changed.\n * @param initialValue the initial value of the property.\n */\n\npublic abstract class
ObservableProperty<V>(initialValue: V) : ReadWriteProperty<Any?, V> {\n private var value = initialValue\n\n
/**\n * The callback which is called before a change to the property value is attempted.\n * The value of
the property hasn't been changed yet, when this callback is invoked.\n * If the callback returns `true` the
value of the property is being set to the new value,\n * and if the callback returns `false` the new value
is discarded and the property remains its old value.\n */\n protected open fun beforeChange(property: KProperty<*>,
oldValue: V, newValue: V): Boolean = true\n\n /**\n * The callback which is called after the change of the
property is made.\n * The value of the property\n * has already been changed when this callback is
invoked.\n */\n protected open fun afterChange(property: KProperty<*>, oldValue: V, newValue: V): Unit {}
\n\n public override fun
getValue(thisRef: Any?, property: KProperty<*>): V {\n return value\n }\n\n public override fun
setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n val oldValue = this.value\n if
(!beforeChange(property, oldValue, value)) {\n return\n }\n this.value = value\n
afterChange(property, oldValue, value)\n }\n}\n\n"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can
be found in the license/LICENSE.txt file.\n */\n\n@file:Suppress("PackageDirectoryMismatch")\n\npackage
kotlin\n\nimport kotlin.reflect.*\n\n/**\n * An extension operator that allows delegating a read-only property of
type [V]\n * to a property reference to a property of type [V] or its subtype.\n */\n * @receiver A property
reference to a read-only or mutable property of type [V] or its subtype.\n * The reference is without a receiver,
i.e. it either references a top-level property or\n * has the receiver bound to it.\n * Example:\n * ```\n *
class Login(val username: String)\n * val defaultLogin = Login("Admin")\n * val defaultUsername by defaultLogin::username\n *
// equivalent to\n * val defaultUserName get() = defaultLogin.username\n * ```\n

```

```

*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline operator fun <V>
KProperty0<V>.getValue(thisRef: Any?, property: KProperty<*>): V {\n return get()\n}\n\n/**\n * An extension
operator that allows delegating a mutable property of type [V]\n * to a property reference to a mutable property of
the same type [V].\n * @receiver A property reference to a mutable property of type [V].\n * The reference is
without a receiver, i.e. it either references a top-level property or\n * has the receiver bound to it.\n *\n * Example:\n
*\n * ```\n * class Login(val username: String, var incorrectAttemptCounter: Int = 0)\n * val defaultLogin =
Login("Admin")\n * var defaultLoginAttempts by defaultLogin::incorrectAttemptCounter\n * // equivalent to\n *
var defaultLoginAttempts: Int\n * get() = defaultLogin.incorrectAttemptCounter\n * set(value) {\n
defaultLogin.incorrectAttemptCounter = value }\n * ```\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline operator fun <V>
KMutableProperty0<V>.setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n set(value)\n}\n\n/**\n
* An extension operator that allows delegating a read-only member or extension property of type [V]\n * to a
property reference to a member or extension property of type [V] or its subtype.\n *\n * @receiver A property
reference to a read-only or mutable property of type [V] or its subtype.\n *\n * The reference has an unbound receiver of
type [T].\n *\n * Example:\n *\n * ```\n * class Login(val username: String)\n * val Login.user by
Login::username\n * // equivalent to\n * val Login.user get() = this.username\n * ```\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline operator fun <T, V> KProperty1<T,
V>.getValue(thisRef: T, property: KProperty<*>): V {\n return get(thisRef)\n}\n\n/**\n * An extension operator
that allows delegating a mutable member or extension property of type [V]\n * to a property reference to a member
or extension mutable property of the same type [V].\n *\n * @receiver A property reference to a read-only or
mutable property of type [V] or its subtype.\n *\n * The reference has an unbound receiver of type [T].\n *\n
* Example:\n *\n * ```\n * class Login(val username: String, var incorrectAttemptCounter: Int)\n * var Login.attempts
by Login::incorrectAttemptCounter\n * // equivalent to\n * var Login.attempts: Int\n * get() =
this.incorrectAttemptCounter\n * set(value) { this.incorrectAttemptCounter = value }\n * ```\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline operator fun <T, V> KMutableProperty1<T,
V>.setValue(thisRef: T, property: KProperty<*>, value: V) {\n set(thisRef, value)\n}\n\n"/>**\n * Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.random\n\nimport
kotlin.math.nextDown\n\n/**\n * An abstract class that is implemented by random number generator algorithms.\n
*\n * The companion object [Random.Default] is the default instance of [Random].\n *\n * To get a seeded instance
of random generator use [Random] function.\n *\n * @sample samples.random.Randoms.defaultRandom\n
*\n@SinceKotlin("1.3")\npublic abstract class Random {\n\n /**\n * Gets the next random [bitCount] number
of bits.\n *\n * Generates an `Int` whose lower [bitCount] bits are filled with random values and the remaining
upper bits are zero.\n *\n * @param bitCount number of bits to generate, must be in range 0..32, otherwise the
behavior is unspecified.\n *\n * @sample samples.random.Randoms.nextBits\n */\n public abstract fun
nextBits(bitCount: Int): Int\n\n /**\n * Gets the next random `Int` from the random number generator.\n *\n
* Generates an `Int` random value uniformly distributed between `Int.MIN_VALUE` and `Int.MAX_VALUE`
(inclusive).\n *\n * @sample samples.random.Randoms.nextInt\n */\n public open fun nextInt(): Int =
nextInt(32)\n\n /**\n * Gets the next random non-negative `Int` from the random number generator less than
the specified [until] bound.\n *\n * Generates an `Int` random value uniformly distributed between `0`
(inclusive) and the specified [until] bound (exclusive).\n *\n * @param until must be positive.\n *\n *
@throws IllegalArgumentException if [until] is negative or zero.\n *\n * @sample
samples.random.Randoms.nextIntFromUntil\n */\n public open fun nextInt(until: Int): Int = nextInt(0, until)\n\n
 /**\n * Gets the next random `Int` from the random number generator in the specified range.\n *\n *
Generates an `Int` random value uniformly distributed between the specified [from] (inclusive) and [until]
(exclusive) bounds.\n *\n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n
*\n * @sample samples.random.Randoms.nextIntFromUntil\n */\n public open fun nextInt(from: Int, until:
Int): Int {\n checkRangeBounds(from, until)\n val n = until - from\n if (n > 0 || n == Int.MIN_VALUE)

```

```

{\n val rnd = if (n and -n == n) {\n val bitCount = fastLog2(n)\n nextBits(bitCount)\n } else {\n var v: Int\n do {\n val bits = nextInt().ushr(1)\n v = bits % n\n } while (bits - v + (n - 1) < 0)\n v\n }\n return from + rnd\n } else {\n while (true) {\n val rnd = nextInt()\n if (rnd in from until until) return rnd\n }\n }\n }\n /**\n * Gets the next random `Long` from the random number generator.\n *\n * Generates a `Long` random value uniformly distributed between `Long.MIN_VALUE` and `Long.MAX_VALUE` (inclusive).\n *\n * @sample samples.random.Randoms.nextLong\n */\n public open fun nextLong(): Long = nextInt().toLong().shl(32) + nextInt()\n /**\n * Gets the next random non-negative `Long` from the random number generator less than the specified [until] bound.\n *\n * Generates a `Long` random value uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n *\n * @param until must be positive.\n *\n * @throws IllegalArgumentException if [until] is negative or zero.\n *\n * @sample samples.random.Randoms.nextLongFromUntil\n */\n public open fun nextLong(until: Long): Long = nextLong(0, until)\n /**\n * Gets the next random `Long` from the random number generator in the specified range.\n *\n * Generates a `Long` random value uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n *\n * @sample samples.random.Randoms.nextLongFromUntil\n */\n public open fun nextLong(from: Long, until: Long): Long {\n checkRangeBounds(from, until)\n val n = until - from\n if (n > 0) {\n val rnd: Long\n if (n and -n == n) {\n val nLow = n.toInt()\n val nHigh = (n ushr 32).toInt()\n rnd = when {\n nLow != 0 -> {\n val bitCount = fastLog2(nLow)\n // toUInt().toLong()\n nextBits(bitCount).toLong() and 0xFFFF_FFFF\n }\n nHigh == 1 -> {\n // toUInt().toLong()\n nextInt().toLong() and 0xFFFF_FFFF\n }\n else -> {\n val bitCount = fastLog2(nHigh)\n nextBits(bitCount).toLong().shl(32) + (nextInt().toLong() and 0xFFFF_FFFF)\n }\n }\n } else {\n var v: Long\n do {\n val bits = nextLong().ushr(1)\n v = bits % n\n } while (bits - v + (n - 1) < 0)\n rnd = v\n }\n return from + rnd\n } else {\n while (true) {\n val rnd = nextLong()\n if (rnd in from until until) return rnd\n }\n }\n }\n /**\n * Gets the next random [Boolean] value.\n *\n * @sample samples.random.Randoms.nextBoolean\n */\n public open fun nextBoolean(): Boolean = nextBits(1) != 0\n /**\n * Gets the next random [Double] value uniformly distributed between 0 (inclusive) and 1 (exclusive).\n *\n * @sample samples.random.Randoms.nextDouble\n */\n public open fun nextDouble(): Double = doubleFromParts(nextBits(26), nextBits(27))\n /**\n * Gets the next random non-negative `Double` from the random number generator less than the specified [until] bound.\n *\n * Generates a `Double` random value uniformly distributed between 0 (inclusive) and [until] (exclusive).\n *\n * @throws IllegalArgumentException if [until] is negative or zero.\n *\n * @sample samples.random.Randoms.nextDoubleFromUntil\n */\n public open fun nextDouble(until: Double): Double = nextDouble(0.0, until)\n /**\n * Gets the next random `Double` from the random number generator in the specified range.\n *\n * Generates a `Double` random value uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * [from] and [until] must be finite otherwise the behavior is unspecified.\n *\n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n *\n * @sample samples.random.Randoms.nextDoubleFromUntil\n */\n public open fun nextDouble(from: Double, until: Double): Double {\n checkRangeBounds(from, until)\n val size = until - from\n val r = if (size.isInfinite() && from.isFinite() && until.isFinite()) {\n val r1 = nextDouble() * (until / 2 - from / 2)\n from + r1 + r1\n } else {\n from + nextDouble() * size\n }\n return if (r >= until) until.nextDown() else r\n }\n /**\n * Gets the next random [Float] value uniformly distributed between 0 (inclusive) and 1 (exclusive).\n *\n * @sample samples.random.Randoms.nextFloat\n */\n public open fun nextFloat(): Float = nextBits(24) / (1 shl 24).toFloat()\n /**\n * Fills a subrange of the specified byte [array] starting from [fromIndex] inclusive and ending [toIndex] exclusive\n * with random bytes.\n *\n * @return [array] with the subrange filled with random bytes.\n *\n * @sample samples.random.Randoms.nextBytes\n */\n public open fun

```



```

nextBytes(array: ByteArray, fromIndex: Int = 0, toIndex: Int = array.size): ByteArray {
 require(fromIndex in 0..array.size && toIndex in 0..array.size) {
 "fromIndex ($fromIndex) or toIndex ($toIndex) are out of range: 0..${array.size}."
 }
 require(fromIndex <= toIndex) {
 "fromIndex ($fromIndex) must be not greater than toIndex ($toIndex)."
 }
 val steps = (toIndex - fromIndex) / 4
 var position = fromIndex
 repeat(steps) {
 val v = nextInt()
 array[position] = v.toByte()
 array[position + 1] = v.ushr(8).toByte()
 array[position + 2] = v.ushr(16).toByte()
 array[position + 3] = v.ushr(24).toByte()
 position += 4
 }
 val remainder = toIndex - position
 val vr = nextBits(remainder * 8)
 for (i in 0 until remainder) {
 array[position + i] = vr.ushr(i * 8).toByte()
 }
 return array
}
/**
 * Fills the specified byte [array] with random bytes and returns it.
 * @return [array] filled with random bytes.
 * @sample samples.random.Randoms.nextBytes
 */
public open fun nextBytes(array: ByteArray): ByteArray = nextBytes(array, 0, array.size)
/**
 * Creates a byte array of the specified [size], filled with random bytes.
 * @sample samples.random.Randoms.nextBytes
 */
public open fun nextBytes(size: Int): ByteArray = nextBytes(ByteArray(size))
/**
 * The default random number generator.
 * On JVM this generator is thread-safe, its methods can be invoked from multiple threads.
 * @sample samples.random.Randoms.defaultRandom
 */
companion object Default : Random(), Serializable {
 private val defaultRandom: Random = defaultPlatformRandom()
 private object Serialized : Serializable {
 private const val serialVersionUID = 0L
 private fun readResolve(): Any = Random()
 }
 private fun writeReplace(): Any = Serialized
 override fun nextBits(bitCount: Int): Int = defaultRandom.nextBits(bitCount)
 override fun nextInt(): Int = defaultRandom.nextInt()
 override fun nextInt(until: Int): Int = defaultRandom.nextInt(until)
 override fun nextInt(from: Int, until: Int): Int = defaultRandom.nextInt(from, until)
 override fun nextLong(): Long = defaultRandom.nextLong()
 override fun nextLong(until: Long): Long = defaultRandom.nextLong(until)
 override fun nextLong(from: Long, until: Long): Long = defaultRandom.nextLong(from, until)
 override fun nextBoolean(): Boolean = defaultRandom.nextBoolean()
 override fun nextDouble(): Double = defaultRandom.nextDouble()
 override fun nextDouble(until: Double): Double = defaultRandom.nextDouble(until)
 override fun nextDouble(from: Double, until: Double): Double = defaultRandom.nextDouble(from, until)
 override fun nextFloat(): Float = defaultRandom.nextFloat()
 override fun nextBytes(array: ByteArray): ByteArray = defaultRandom.nextBytes(array)
 override fun nextBytes(size: Int): ByteArray = defaultRandom.nextBytes(size)
 override fun nextBytes(array: ByteArray, fromIndex: Int, toIndex: Int): ByteArray =
 defaultRandom.nextBytes(array, fromIndex, toIndex)
}
/**
 * Returns a repeatable random number generator seeded with the given [seed] `Int` value.
 * Two generators with the same seed produce the same sequence of values within the same version of Kotlin runtime.
 * Note: Future versions of Kotlin may change the algorithm of this seeded number generator so that it will return a sequence of values different from the current one for a given seed.
 * On JVM the returned generator is NOT thread-safe. Do not invoke it from multiple threads without proper synchronization.
 * @sample samples.random.Randoms.seededRandom
 */
@SinceKotlin("1.3")
public fun Random(seed: Int): Random = XorWowRandom(seed, seed.shr(31))
/**
 * Returns a repeatable random number generator seeded with the given [seed] `Long` value.
 * Two generators with the same seed produce the same sequence of values within the same version of Kotlin runtime.
 * Note: Future versions of Kotlin may change the algorithm of this seeded number generator so that it will return a sequence of values different from the current one for a given seed.
 * On JVM the returned generator is NOT thread-safe. Do not invoke it from multiple threads without proper synchronization.
 * @sample samples.random.Randoms.seededRandom
 */
@SinceKotlin("1.3")
public fun Random(seed: Long): Random = XorWowRandom(seed.toInt(), seed.shr(32).toInt())
/**
 * Gets the next random `Int` from the random number generator in the specified [range].
 * Generates an `Int` random value uniformly distributed in the specified [range]:
 * from `range.start` inclusive to `range.endInclusive` inclusive.
 * @throws IllegalArgumentException if [range] is empty.
 */
@SinceKotlin("1.3")
public fun Random.nextInt(range: IntRange): Int = when {
 range.isEmpty() -> throw

```

```

IllegalArgumentException("Cannot get random in empty range: $range")\n range.last < Int.MAX_VALUE ->
nextInt(range.first, range.last + 1)\n range.first > Int.MIN_VALUE -> nextInt(range.first - 1, range.last) + 1\n
else -> nextInt()\n}\n\n/**\n * Gets the next random `Long` from the random number generator in the specified
[range].\n *\n * Generates a `Long` random value uniformly distributed in the specified [range]:\n *\n * from
`range.start` inclusive to `range.endInclusive` inclusive.\n *\n * @throws IllegalArgumentException if [range] is
empty.\n *\n * @SinceKotlin("1.3")\n\npublic fun Random.nextLong(range: LongRange): Long = when {\n
range.isEmpty() -> throw IllegalArgumentException("Cannot get random in empty range: $range")\n range.last <
Long.MAX_VALUE -> nextLong(range.first, range.last + 1)\n range.first > Long.MIN_VALUE ->
nextLong(range.first - 1, range.last) + 1\n else -> nextLong()\n}\n\n\ninternal expect fun
defaultPlatformRandom(): Random\n\ninternal expect fun doubleFromParts(hi26: Int, low27: Int): Double\n\ninternal
fun fastLog2(value: Int): Int = 31 - value.countLeadingZeroBits()\n\n\n/**\n * Takes upper [bitCount] bits (0..32) from
this number. *\n\ninternal fun Int.takeUpperBits(bitCount: Int): Int =\n this.ushr(32 - bitCount) and (-
bitCount).shr(31)\n\n\ninternal fun checkRangeBounds(from: Int, until: Int) = require(until > from) {\n
boundsErrorMessage(from, until) }\n\ninternal fun checkRangeBounds(from: Long, until: Long) = require(until >
from) {\n boundsErrorMessage(from, until) }\n\ninternal fun checkRangeBounds(from: Double, until: Double) =
require(until > from) {\n boundsErrorMessage(from, until) }\n\n\ninternal fun boundsErrorMessage(from: Any, until:
Any) = "Random range is empty: [$from, $until].\n", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n *\n\npackage kotlin.random\n\n\n\n/**\n * Gets the next random [UInt]
from the random number generator.\n *\n * Generates a [UInt] random value uniformly distributed between
[UInt.MIN_VALUE] and [UInt.MAX_VALUE] (inclusive).\n *\n *\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
Random.nextUInt(): UInt = nextInt().toUInt()\n\n\n/**\n * Gets the next random [UInt] from the random number
generator less than the specified [until] bound.\n *\n * Generates a [UInt] random value uniformly distributed
between `0` (inclusive) and the specified [until] bound (exclusive).\n *\n * @throws IllegalArgumentException if
[until] is zero.\n *\n *\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
Random.nextUInt(until: UInt): UInt = nextUInt(0u, until)\n\n\n/**\n * Gets the next random [UInt] from the random
number generator in the specified range.\n *\n * Generates a [UInt] random value uniformly distributed between the
specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * @throws IllegalArgumentException if [from] is
greater than or equal to [until].\n *\n *\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
Random.nextUInt(from: UInt, until: UInt): UInt {\n checkUIntRangeBounds(from, until)\n\n val signedFrom =
from.toInt() xor Int.MIN_VALUE\n val signedUntil = until.toInt() xor Int.MIN_VALUE\n\n val signedResult =
nextInt(signedFrom, signedUntil) xor Int.MIN_VALUE\n return signedResult.toUInt()\n}\n\n\n/**\n * Gets the next
random [UInt] from the random number generator in the specified [range].\n *\n * Generates a [UInt] random value
uniformly distributed in the specified [range]:\n *\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n
*\n * @throws IllegalArgumentException if [range] is empty.\n *\n *\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
Random.nextUInt(range: UIntRange): UInt = when {\n range.isEmpty() -> throw
IllegalArgument\nException("Cannot get random in empty range: $range")\n range.last < UInt.MAX_VALUE ->
nextUInt(range.first, range.last + 1u)\n range.first > UInt.MIN_VALUE -> nextUInt(range.first - 1u, range.last) +
1u\n else -> nextUInt()\n}\n\n\n/**\n * Gets the next random [ULong] from the random number generator.\n *\n *
Generates a [ULong] random value uniformly distributed between [ULong.MIN_VALUE] and
[ULong.MAX_VALUE] (inclusive).\n *\n *\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
Random.nextULong(): ULong = nextLong().toULong()\n\n\n/**\n * Gets the next random [ULong] from the random
number generator less than the specified [until] bound.\n *\n * Generates a [ULong] random value uniformly
distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n *\n * @throws

```

IllegalArgumentException if [until] is zero.\n

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextULong(until: ULong): ULong = nextULong(0uL, until)\n\n/**\n * Gets the next random [ULong] from
the random number generator in the specified range.\n * \n * Generates a [ULong] random value uniformly
distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n * \n * @throws
IllegalArgumentException if [from] is greater than or equal to [until].\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextULong(from: ULong, until: ULong): ULong {\n checkULongRangeBounds(from, until)\n\n val signedFrom = from.toLong() xor Long.MIN_VALUE\n val signedUntil = until.toLong() xor
Long.MIN_VALUE\n\n val signedResult = nextLong(signedFrom, signedUntil) xor Long.MIN_VALUE\n return signedResult.toULong()\n}\n\n/**\n * Gets the next random [ULong] from the random number generator in
the specified [range].\n * \n * Generates a [ULong] random value uniformly distributed in the specified [range]:\n * \n * from `range.start` inclusive to `range.endInclusive` inclusive.\n * \n * @throws IllegalArgumentException if [range]
is empty.\n *\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextULong(range: ULongRange): ULong = when {\n range.isEmpty() -> throw
IllegalArgumentException("Cannot get random in empty range: $range")\n range.last < ULong.MAX_VALUE -
> nextULong(range.first, range.last + 1u)\n range.first > ULong.MIN_VALUE -> nextULong(range.first - 1u,
range.last) + 1u\n else -> nextULong()\n}\n\n/**\n * Fills the specified unsigned byte [array] with random bytes
and returns it.\n * \n * @return [array] filled with random bytes.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(array: UByteArray):
UByteArray {\n nextBytes(array.asByteArray())\n return array\n}\n\n/**\n * Creates an unsigned byte array of
the specified [size], filled with random bytes.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(size: Int): UByteArray = nextBytes(size).asUByteArray()\n\n/**\n * Fills a subrange of the
specified `UByte` [array] starting from [fromIndex] inclusive and ending [toIndex] exclusive with random
UBytes.\n * \n * @return [array] with the subrange filled with random bytes.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(array: UByteArray,
fromIndex: Int = 0, toIndex: Int = array.size): UByteArray {\n nextBytes(array.asByteArray(), fromIndex,
toIndex)\n return array\n}\n\n\ninternal fun checkUIntRangeBounds(from: UInt, until: UInt) = require(until >
from) { boundsErrorMessage(from, until) }\ninternal fun checkULongRangeBounds(from: ULong, until: ULong) =
require(until > from) { boundsErrorMessage(from, until) }\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\n@package kotlin.random\n\n/**\n * Random number generator,
using Marsaglia's "xorwow" algorithm\n * \n * Cycles after 2192 - 232 repetitions.\n * \n * For more details, see
Marsaglia, George (July 2003). "Xorshift RNGs". Journal of Statistical Software. 8 (14).
doi:10.18637/jss.v008.i14\n *\n * Available at https://www.jstatsoft.org/v08/i14/paper\n *\n@internal class
XorWowRandom internal constructor(\n private var x: Int,\n private var y: Int,\n private var z: Int,\n private var w: Int,\n private var v: Int,\n private var addend: Int\n) : Random(), Serializable {\n internal
constructor(seed1: Int, seed2: Int) : this(seed1, seed2, 0, 0, seed1.inv(), (seed1 shl 10) xor (seed2 ushr
4))\n\n init {\n require((x or y or z or w or v) != 0) { "Initial state must have at least one non-zero element." }\n }\n\n // some trivial seeds can produce several values with zeroes in upper bits, so we discard first 64\n repeat(64) { nextInt() }\n\n override fun nextInt(): Int {\n // Equivalent to the xorwow algorithm\n //
From Marsaglia, G. 2003. Xorshift RNGs. J. Statis. Soft. 8, 14, p. 5\n var t = x\n t = t xor (t ushr 2)\n x
= y\n y = z\n z = w\n val v0 = v\n w = v0\n t = (t xor (t shl 1)) xor v0 xor (v0 shl 4)\n v =
t\n addend += 362437\n return t + addend\n }\n\n override fun nextBits(bitCount: Int): Int =\n nextInt().takeUpperBits(bitCount)\n\n private companion object {\n private const val serialVersionUID: Long
= 0L\n }\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n@file: kotlin.jvm.JvmMultifileClass\n@file: kotlin.jvm.JvmName("RangesKt")\n@package
```

```

kotlin.ranges\n\n/**\n * Represents a range of [Comparable] values.\n *\nprivate open class ComparableRange<T : Comparable<T>>(\n override val start: T,\n override val endInclusive: T\n) : ClosedRange<T> {\n\n override fun equals(other: Any?): Boolean {\n return other is ComparableRange<*> && (isEmpty() && other.isEmpty())\n }\n\n start == other.start && endInclusive == other.endInclusive)\n }\n\n override fun hashCode(): Int {\n return if (isEmpty()) -1 else 31 * start.hashCode() + endInclusive.hashCode()\n }\n\n override fun toString(): String = \"$start..$endInclusive\"\n}\n\n\n/**\n * Creates a range from this [Comparable] value to the specified [that] value.\n *\n * This value needs to be smaller than or equal to [that] value, otherwise the returned range will be empty.\n *\n * @sample samples.ranges.Ranges.rangeFromComparable\n *\npublic operator fun <T : Comparable<T>> T.rangeTo(that: T): ClosedRange<T> = ComparableRange(this, that)\n\n\n/**\n * Represents a range of floating point numbers.\n *\n * Extends [ClosedRange] interface providing custom operation [lessThanOrEquals] for comparing values of range domain type.\n *\n * This interface is implemented by floating point ranges returned by [Float.rangeTo] and [Double.rangeTo] operators to\n * achieve IEEE-754 comparison order instead of total order of floating point numbers.\n *\nprivate interface ClosedFloatingPointRange<T : Comparable<T>> : ClosedRange<T> {\n override fun contains(value: T): Boolean = lessThanOrEquals(start, value) && lessThanOrEquals(value, endInclusive)\n override fun isEmpty(): Boolean = !lessThanOrEquals(start, endInclusive)\n\n /**\n * Compares two values of range domain type and returns true if first is less than or equal to second.\n *\n * fun lessThanOrEquals(a: T, b: T): Boolean\n }\n\n\n/**\n * A closed range of values of type `Double`.\n *\n * Numbers are compared with the ends of this range according to IEEE-754.\n *\nprivate class ClosedDoubleRange(\n start: Double,\n endInclusive: Double\n) : ClosedFloatingPointRange<Double> {\n private val _start = start\n private val _endInclusive = endInclusive\n override val start: Double get() = _start\n override val endInclusive: Double get() = _endInclusive\n\n override fun lessThanOrEquals(a: Double, b: Double): Boolean = a <= b\n override fun contains(value: Double): Boolean = value >= _start && value <= _endInclusive\n override fun isEmpty(): Boolean = !(_start <= _endInclusive)\n override fun equals(other: Any?): Boolean {\n return other is ClosedDoubleRange && (isEmpty() && other.isEmpty())\n }\n\n _start == other._start && _endInclusive == other._endInclusive)\n }\n\n override fun hashCode(): Int {\n return if (isEmpty()) -1 else 31 * _start.hashCode() + _endInclusive.hashCode()\n }\n\n override fun toString(): String = \"$_start..$_endInclusive\"\n}\n\n\n/**\n * Creates a range from this [Double] value to the specified [that] value.\n *\n * Numbers are compared with the ends of this range according to IEEE-754.\n *\n * @sample samples.ranges.Ranges.rangeFromDouble\n *\nprivate operator fun Double.rangeTo(that: Double): ClosedFloatingPointRange<Double> = ClosedDoubleRange(this, that)\n\n\n/**\n * A closed range of values of type `Float`.\n *\n * Numbers are compared with the ends of this range according to IEEE-754.\n *\nprivate class ClosedFloatRange(\n start: Float,\n endInclusive: Float\n) : ClosedFloatingPointRange<Float> {\n private val _start = start\n private val _endInclusive = endInclusive\n override val start: Float get() = _start\n override val endInclusive: Float get() = _endInclusive\n\n override fun lessThanOrEquals(a: Float, b: Float): Boolean = a <= b\n override fun contains(value: Float): Boolean = value >= _start && value <= _endInclusive\n override fun isEmpty(): Boolean = !(_start <= _endInclusive)\n override fun equals(other: Any?): Boolean {\n return other is ClosedFloatRange && (isEmpty() && other.isEmpty())\n }\n\n _start == other._start && _endInclusive == other._endInclusive)\n }\n\n override fun hashCode(): Int {\n return if (isEmpty()) -1 else 31 * _start.hashCode() + _endInclusive.hashCode()\n }\n\n override fun toString(): String = \"$_start..$_endInclusive\"\n}\n\n\n/**\n * Creates a range from this [Float] value to the specified [that] value.\n *\n * Numbers are compared with the ends of this range according to IEEE-754.\n *\n * @sample samples.ranges.Ranges.rangeFromFloat\n *\nprivate operator fun Float.rangeTo(that: Float): ClosedFloatingPointRange<Float> = ClosedFloatRange(this, that)\n\n\n/**\n * Returns `true` if this iterable range contains the specified [element].\n *\n * Always returns `false` if the [element] is `null`.\n *\nprivate inline operator fun <T, R> R.contains(element: T?): Boolean where T : Any, R : Iterable<T>, R : ClosedRange<T> =\n element != null && contains(element)\n\n\ninternal fun checkStepIsPositive(isPositive: Boolean, step: Number) {\n if (!isPositive)\n throw IllegalArgumentException("Step must be positive, was: $step.")\n}\n\n\n * Copyright 2010-2019

```

```

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Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("\KClasses")\n\n@file:Suppress("\UNCHECKED_CAST")\n\npackage
kotlin.reflect\n\nimport kotlin.internal.LowPriorityInOverloadResolution\n\n/**\n * Casts the given [value] to the
class represented by this [KClass] object.\n * Throws an exception if the value is `null` or if it is not an instance of
this class.\n *\n * This is an experimental function that behaves as a similar function from kotlin.reflect.full on
JVM.\n *\n * @see [KClass.isInstance]\n * @see [KClass.safeCast]\n
*/\n\n@SinceKotlin("1.4")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\n@LowPriorityInOverloadResoluti
on\n\nfun <T : Any> KClass<T>.cast(value: Any?): T {\n if (!isInstance(value)) throw ClassCastException("\Value
cannot be cast to $qualifiedOrSimpleName")\n return value as T\n}\n\n// TODO: replace with qualifiedName
when it is fully supported in K/JS\n\ninternal expect val KClass<*>.qualifiedOrSimpleName: String?\n\n/**\n * Casts
the given [value] to the class represented by this [KClass] object.\n * Returns `null` if the value is `null` or if it is not
an instance of this class.\n *\n * This is an experimental function that behaves as a similar function from
kotlin.reflect.full on JVM.\n *\n * @see [KClass.isInstance]\n * @see [KClass.cast]\n
*/\n\n@SinceKotlin("1.4")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\n@LowPriorityInOverloadResoluti
on\n\nfun <T : Any> KClass<T>.safeCast(value: Any?): T? {\n return if (isInstance(value)) value as T else
null\n}\n\n"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.reflect\n\nimport kotlin.jvm.JvmField\n\nimport kotlin.jvm.JvmStatic\n\n\n\n/**\n * Represents
a type projection. Type projection is usually the argument to another type in a type usage.\n * For example, in the
type `Array<out Number>`, `out Number` is the covariant projection of the type represented by the class
`Number`.\n *\n * Type projection is either the star projection, or an entity consisting of a specific type plus optional
variance.\n *\n * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#type-
projections)\n * for more information.\n *\n\n@SinceKotlin("1.1")\n\npublic data class KTypeProjection
constructor(\n /**\n * The use-site variance specified in the projection, or `null` if this is a star projection.\n
*/\n public val variance: KVariance?,\n /**\n * The type specified in the projection, or `null` if this is a star
projection.\n */\n public val type: KType?) {\n init {\n require((variance == null) == (type == null))\n
 if (variance == null)\n "\Star projection must have no type specified."\n else\n
 "\The projection variance $variance requires type to be specified."\n }\n\n override fun toString():
String = when (variance) {\n null -> "*\n KVariance.INVARIANT -> type.toString()\n
KVariance.IN -> "\in $type"\n KVariance.OUT -> "\out $type"\n }\n\n public companion object {\n //
provided for compiler access\n @JvmField\n @PublishedApi\n internal val star: KTypeProjection =
KTypeProjection(null, null)\n\n /**\n * Star projection, denoted by the `` character.\n * For example,
in the type `KClass<*>`, `` is the star projection.\n * See the [Kotlin language
documentation](https://kotlinlang.org/docs/reference/generics.html#star-projections)\n * for more
information.\n */\n public val STAR: KTypeProjection get() = star\n\n /**\n * Creates an
invariant projection of a given type. Invariant projection is just the type itself,\n * without any use-site variance
modifiers applied to it.\n * For example, in the type `Set<String>`, `String` is an invariant projection of the type
represented by the class `String`.\n */\n @JvmStatic\n public fun invariant(type: KType):
KTypeProjection =\n KTypeProjection(KVariance.INVARIANT, type)\n\n /**\n * Creates a
contravariant projection of a given type, denoted by the `in` modifier applied to a type.\n * For example, in the
type `MutableList<in Number>`, `in Number` is a contravariant projection of the type of class `Number`.\n */\n
 @JvmStatic\n public fun contravariant(type: KType): KTypeProjection =\n KTypeProjection(KVariance.IN, type)\n\n /**\n * Creates a covariant projection of a given type, denoted
by the `out` modifier applied to a type.\n * For example, in the type `Array<out Number>`, `out Number` is a
covariant projection of the type of class `Number`.\n */\n @JvmStatic\n public fun covariant(type:
KType): KTypeProjection =\n KTypeProjection(KVariance.OUT, type)\n }\n\n"/*\n * Copyright 2010-
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```

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`package kotlin.reflect`

Represents variance applied to a type parameter on the declaration site (\*declaration-site variance\*), or to a type in a projection (\*use-site variance\*).

See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#variance) for more information.

`@see [KTypeParameter.variance]`

`@see [KTypeProjection]`

`@SinceKotlin("1.1")`

enum class KVariance {

`INVARIENT`,

`IN`,

`OUT`,

};

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`package kotlin.reflect`

Returns a runtime representation of the given reified type [T] as an instance of [KType].

Note that on JVM, the created type has no annotations ([KType.annotations] returns an empty list) even if the type in the source code is annotated.

Support for type annotations might be added in a future version.

`@SinceKotlin("1.6")`

`@WasExperimental(ExperimentalStdlibApi::class)`

public inline fun <reified T> typeOf(): KType =

    throw UnsupportedOperationException("This function is implemented as an intrinsic on all supported platforms.")

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`@file:kotlin.jvm.JvmMultifileClass`

`@file:kotlin.jvm.JvmName("StringsKt")`

package kotlin.text

An object to which char sequences and values can be appended.

expect interface Appendable {

`append(char: Char): Appendable`

`append(value: CharSequence?): Appendable`

`append(value: CharSequence?, startIndex: Int, endIndex: Int): Appendable`

`appendLine(): Appendable`

`appendLine(value: CharSequence?): Appendable`

}

`append(char: Char): Appendable`

Appends the specified character [value] to this Appendable and returns this instance.

`append(value: CharSequence?): Appendable`

Appends the specified character sequence [value] to this Appendable and returns this instance.

`append(value: CharSequence?, startIndex: Int, endIndex: Int): Appendable`

Appends a subsequence of the specified character sequence [value] to this Appendable and returns this instance.

`appendLine(): Appendable`

Appends a line feed character ('\n') to this Appendable.

`appendLine(value: CharSequence?): Appendable`

Appends value to the given Appendable and a line feed character ('\n') after it.

`@SinceKotlin("1.4")`

`@WasExperimental(ExperimentalStdlibApi::class)`

public fun <T : Appendable> T.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): T {

`@Suppress("UNCHECKED_CAST")` return append(value, startIndex, endIndex) as T

}

Appends all arguments to the given [Appendable].

`append(vararg value: CharSequence?): T`

Appends a line feed character ('\n') to this Appendable.

`@SinceKotlin("1.4")`

`@kotlin.internal.InlineOnly`

public inline fun Appendable.appendLine(): Appendable = append("\n")

Appends value to the given Appendable and a line feed character ('\n') after it.

`@SinceKotlin("1.4")`

`@kotlin.internal.InlineOnly`

public inline fun Appendable.appendLine(value: CharSequence?): Appendable = append(value).appendLine()

Appends value to the given Appendable and a line feed character ('\n') after it.

```

*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun Appendable.appendLine(value: Char):
Appendable = append(value).appendLine()\n\ninternal fun <T> Appendable.appendElement(element: T,
transform: ((T) -> CharSequence)?) {\n when {\n transform != null -> append(transform(element))\n element is CharSequence? -> append(element)\n element is Char -> append(element)\n else ->
append(element.toString())\n }\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n\npackage
kotlin.text\n\n/**\n * Trims leading whitespace characters followed by [marginPrefix] from every line of a source
string and removes\n * the first and the last lines if they are blank (notice difference blank vs empty).\n * \n * Doesn't
affect a line if it doesn't contain [marginPrefix] except the first and the last blank lines.\n * \n * Doesn't preserve the
original line endings.\n * \n * @param marginPrefix non-blank string, which is used as a margin delimiter. Default is
`\` (pipe character).\n * \n * @sample samples.text.Strings.trimMargin\n * @see trimIndent\n * @see
kotlin.text.isWhitespace\n */\npublic fun String.trimMargin(marginPrefix: String = `|`): String =\n replaceIndentByMargin(`|`, marginPrefix)\n\n/**\n * Detects indent by [marginPrefix] as it does [trimMargin] and
replace it with [newIndent].\n * \n * @param marginPrefix non-blank string, which is used as a margin delimiter.
Default is `\` (pipe character).\n */\npublic fun String.replaceIndentByMargin(newIndent: String = `|`,
marginPrefix: String = `|`): String {\n require(marginPrefix.isNotBlank()) { "marginPrefix must be non-blank
string." }\n val lines = lines()\n return lines.reindent(length + newIndent.length * lines.size,
getIndentFunction(newIndent), { line ->\n val firstNonWhitespaceIndex = line.indexOfFirst { !it.isWhitespace()
}\n when {\n firstNonWhitespaceIndex == -1 -> null\n line.startsWith(marginPrefix,
firstNonWhitespaceIndex) -> line.substring(firstNonWhitespaceIndex + marginPrefix.length)\n else -> null\n
 }\n })\n}\n\n/**\n * Detects a common minimal indent of all the input lines, removes it from every line and
also removes the first and the last\n * lines if they are blank (notice difference blank vs empty).\n * \n * Note that
blank lines do not affect the detected indent level.\n * \n * In case if there are non-blank lines with no leading
whitespace characters (no indent at all) then the\n * common indent is 0, and therefore this function doesn't change
the indentation.\n * \n * Doesn't preserve the original line endings.\n * \n * @sample
samples.text.Strings.trimIndent\n * @see trimMargin\n * @see kotlin.text.isBlank\n */\npublic fun
String.trimIndent(): String = replaceIndent(`|`)\n\n/**\n * Detects a common minimal indent like it does
[trimIndent] and replaces it with the specified [newIndent].\n */\npublic fun String.replaceIndent(newIndent: String
= `|`): String {\n val lines = lines()\n val minCommonIndent = lines\n .filter(String::isNotBlank)\n
 .map(String::indentWidth)\n .minOrNull() ?: 0\n return lines.reindent(length + newIndent.length *
lines.size, getIndentFunction(newIndent), { line -> line.drop(minCommonIndent) })\n}\n\n/**\n * Prepends [indent]
to every line of the original string.\n * \n * Doesn't preserve the original line endings.\n */\npublic fun
String.prependIndent(indent: String = `|`): String =\n lineSequence()\n .map {\n when {\n
 it.isBlank() -> {\n when {\n it.length < indent.length -> indent\n
 else -> it\n }\n }\n }\n }\n .joinToString("\n")\n\nprivate fun
String.indentWidth(): Int = indexOfFirst { !it.isWhitespace() }.let { if (it == -1) length else it }\n\nprivate fun
getIndentFunction(indent: String) = when {\n indent.isEmpty() -> { line: String -> line }\n else -> { line: String -
> indent + line }\n}\n\nprivate inline fun List<String>.reindent(\n resultSizeEstimate: Int,\n indentAddFunction:
(String) -> String,\n indentCutFunction: (String) -> String?)\n): String {\n val lastIndex = lastIndex\n return
mapIndexedNotNull { index, value ->\n if ((index == 0 || index == lastIndex) && value.isBlank())\n null\n else\n indentCutFunction(value)?.let(indentAddFunction)?: value\n }\n .joinTo(StringBuilder(resultSizeEstimate), "\n")\n .toString()\n}\n\n"/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n * Defines names for
Unicode symbols used in proper Typography.\n */\npublic object Typography {\n /** The character "
\u2013 quotation mark */\n public const val quote: Char = "\u0022"\n /** The character $ \u2013 dollar

```

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sign *^n public const val dollar: Char = "\u0024"n /** The character & \u2013 ampersand *^n public
const val amp: Char = "\u0026"n /** The character < \u2013 less-than sign *^n public const val less:
Char = "\u003C"n /** The character > \u2013 greater-than sign *^n public const val greater: Char =
"\u003E"n /** The non-breaking space character *^n public const val nbsp: Char = "\u00A0"n /** The
character × *^n public const val times: Char = "\u00D7"n /** The character ¢ *^n public const
val cent: Char = "\u00A2"n /** The character £ *^n public const val pound: Char = "\u00A3"n /** The
character § *^n public const val section: Char = "\u00A7"n /** The character © *^n public const
val copyright: Char = "\u00A9"n /** The character « *^n @SinceKotlin("1.6")n public const val
leftGuillemet: Char = "\u00AB"n /** The character » *^n @SinceKotlin("1.6")n public const val
rightGuillemet: Char = "\u00BB"n /** The character ® *^n public const val registered: Char =
"\u00AE"n /** The character ° *^n public const val degree: Char = "\u00B0"n /** The character
± *^n public const val plusMinus: Char = "\u00B1"n /** The character ¶ *^n public const val
paragraph: Char = "\u00B6"n /** The character · *^n public const val middleDot: Char = "\u00B7"n
/** The character ½ *^n public const val half: Char = "\u00BD"n /** The character – *^n
public const val ndash: Char = "\u2013"n /** The character — *^n public const val mdash: Char =
"\u2014"n /** The character ‘ *^n public const val leftSingleQuote: Char = "\u2018"n /** The
character ’ *^n public const val rightSingleQuote: Char = "\u2019"n /** The character ‚ *^n
public const val lowSingleQuote: Char = "\u201A"n /** The character “ *^n public const val
leftDoubleQuote: Char = "\u201C"n /** The character ” *^n public const val rightDoubleQuote: Char
= "\u201D"n /** The character „ *^n public const val lowDoubleQuote: Char = "\u201E"n /** The
character † *^n public const val dagger: Char = "\u2020"n /** The character ‡ *^n public
const val doubleDagger: Char = "\u2021"n /** The character • *^n public const val bullet: Char =
"\u2022"n /** The character … *^n public const val ellipsis: Char = "\u2026"n /** The character
′ *^n public const val prime: Char = "\u2032"n /** The character ″ *^n public const val
doublePrime: Char = "\u2033"n /** The character € *^n public const val euro: Char = "\u20AC"n
/** The character ™ *^n public const val tm: Char = "\u2122"n /** The character ≈ *^n
public const val almostEqual: Char = "\u2248"n /** The character ≠ *^n public const val notEqual:
Char = "\u2260"n /** The character ≤ *^n public const val lessOrEqual: Char = "\u2264"n /** The
character ≥ *^n public const val greaterOrEqual: Char = "\u2265"n /** The character « *^n
@Deprecated("This constant has a typo in the name. Use leftGuillemet instead."),
ReplaceWith("Typography.leftGuillemet"))n @DeprecatedSinceKotlin("1.6")n public const val
leftGuillemete: Char = "\u00AB"n /** The character » *^n @Deprecated("This constant has a typo in
the name. Use rightGuillemet instead."), ReplaceWith("Typography.rightGuillemet"))n
@DeprecatedSinceKotlin("1.6")n public const val rightGuillemete: Char = "\u00BB"n}"/**\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.text\n/**\n *
Represents a collection of captured groups in a single match of a regular expression.\n *\n * This collection has size
of `groupCount + 1` where `groupCount` is the count of groups in the regular expression.\n *\n * Groups are indexed
from 1 to `groupCount` and group with the index 0 corresponds to the entire match.\n *\n * An element of the
collection at the particular index can be `null`.\n *\n * if the corresponding group in the regular expression is optional
and\n *\n * there was no match captured by that group.\n */\npublic interface MatchGroupCollection :
Collection<MatchGroup?> {\n\n /** Returns a group with the specified [index].\n *\n * @return An instance
of [MatchGroup] if the group with the specified [index] was matched or `null` otherwise.\n *\n * Groups are
indexed from 1 to the count of groups in the regular expression. A group with the index 0\n *\n * corresponds to the
entire match.\n *\n * public operator fun get(index: Int): MatchGroup?\n */\n\n /** Extends
[MatchGroupCollection] by introducing a way to get matched groups by name, when regex supports it.\n
*\n * @SinceKotlin("1.1")\n */\npublic interface MatchNamedGroupCollection : MatchGroupCollection {\n\n /**\n *
Returns a named group with the specified [name].\n *\n * @return An instance of [MatchGroup] if the group with the

```



```

specified [name] was matched or `null` otherwise.\n
 * @throws IllegalArgumentException if there is no group
with the specified [name] defined in the regex pattern.\n
 * @throws UnsupportedOperationException if getting
named groups isn't supported on the current platform.\n
 * ^\n
 public operator fun get(name: String):
MatchGroup?\n}\n\n/**\n
 * Represents the results from a single regular expression match.\n
 * ^\n\npublic interface
MatchResult {\n
 /** The range of indices in the original string where match was captured. *\n
 public val range:
IntRange\n
 /** The substring from the input string captured by this match. *\n
 public val value: String\n
 /**\n
 * A collection of groups matched by the regular expression.\n
 * ^\n
 * This collection has size of `groupCount +
1` where `groupCount` is the count of groups in the regular expression.\n
 * Groups are indexed from 1 to
`groupCount` and group with the index 0 corresponds to the entire match.\n
 * ^\n
 public val groups:
MatchGroupCollection\n
 /**\n
 * A list of matched indexed group values.\n
 * ^\n
 * This list has size of
`groupCount + 1` where `groupCount` is the count of groups in the regular expression.\n
 * Groups are indexed
from 1 to `groupCount` and group with the index 0 corresponds to the entire match.\n
 * ^\n
 * If the group in the
regular expression is optional and there were no match captured by that group,\n
 * corresponding item in
[groupValues] is an empty string.\n
 * ^\n
 * @sample
samples.text.Regexps.matchDestructuringToGroupValues\n
 * ^\n
 public val groupValues: List<String>\n\n
 /**\n
 * An instance of [MatchResult.Destructured] wrapper providing components for destructuring assignment
of group values.\n
 * ^\n
 * component1 corresponds to the value of the first group, component2 \u2014 of the
second, and so on.\n
 * ^\n
 * @sample samples.text.Regexps.matchDestructuringToGroupValues\n
 * ^\n
 public val destructured: Destructured get() = Destructured(this)\n\n
 /** Returns a new [MatchResult] with the
results for the next match, starting at the position\n
 * at which the last match ended (at the character after the last
matched character).\n
 * ^\n
 public fun next(): MatchResult?\n\n
 /**\n
 * Provides components for
destructuring assignment of group values.\n
 * ^\n
 * [component1] corresponds to the value of the first group,
[component2] \u2014 of the second, and so on.\n
 * ^\n
 * If the group in the regular expression is optional and
there were no match captured by that group,\n
 * corresponding component value is an empty string.\n
 * ^\n
 *
 @sample samples.text.Regexps.matchDestructuringToGroupValues\n
 * ^\n
 public class Destructured internal
constructor(public val match: MatchResult) {\n
 @kotlin.internal.InlineOnly\n
 public operator inline fun
component1(): String = match.groupValues[1]\n
 @kotlin.internal.InlineOnly\n
 public operator inline fun
component2(): String = match.groupValues[2]\n
 @kotlin.internal.InlineOnly\n
 public operator inline fun
component3(): String = match.groupValues[3]\n
 @kotlin.internal.InlineOnly\n
 public operator inline fun
component4(): String = match.groupValues[4]\n
 @kotlin.internal.InlineOnly\n
 public operator inline fun
component5(): String = match.groupValues[5]\n
 @kotlin.internal.InlineOnly\n
 public operator inline fun
component6(): String = match.groupValues[6]\n
 @kotlin.internal.InlineOnly\n
 public operator inline fun
component7(): String = match.groupValues[7]\n
 @kotlin.internal.InlineOnly\n
 public operator inline fun
component8(): String = match.groupValues[8]\n
 @kotlin.internal.InlineOnly\n
 public operator inline fun
component9(): String = match.groupValues[9]\n
 @kotlin.internal.InlineOnly\n
 public operator inline fun
component10(): String = match.groupValues[10]\n\n
 /**\n
 * Returns destructured group values as a list of
strings.\n
 * ^\n
 * First value in the returned list corresponds to the value of the first group, and so on.\n
 * ^\n
 *
 @sample samples.text.Regexps.matchDestructuringToGroupValues\n
 * ^\n
 public fun toList():
List<String> = match.groupValues.subList(1, match.groupValues.size)\n
 }\n}\n", "/" * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n
 * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
 * ^\n\n
 @file:kotlin.jvm.JvmMultifileClass()\n
 @file:kotlin.jvm.JvmName("DurationUnitKt")\n\n
 package
kotlin.time\n\n\n
 /**\n
 * The list of possible time measurement units, in which a duration can be expressed.\n
 * ^\n
 * The smallest time unit is [NANOSECONDS] and the largest is [DAYS], which corresponds to exactly 24
[HOURS].\n
 * ^\n\n
 @SinceKotlin("1.6")\n
 @WasExperimental(ExperimentalTime::class)\n\n
 public expect enum class
DurationUnit {\n
 /**\n
 * Time unit representing one nanosecond, which is 1/1000 of a microsecond.\n
 * ^\n\n
 NANOSECONDS,\n
 /**\n
 * Time unit representing one microsecond, which is 1/1000 of a millisecond.\n
 * ^\n\n
 MICROSECONDS,\n
 /**\n
 * Time unit representing one millisecond, which is 1/1000 of a second.\n
 * ^\n
 }

```

```

*^n MILLISECONDS,\n /**\n * Time unit representing one second.\n *^n SECONDS,\n /**\n *
Time unit representing one minute.\n *^n MINUTES,\n /**\n * Time unit representing one hour.\n *^n
HOURS,\n /**\n * Time unit representing one day, which is always equal to 24 hours.\n *^n
DAYS;\n}\n\n/** Converts the given time duration [value] expressed in the specified [sourceUnit] into the specified
[targetUnit]. *^n@SinceKotlin("1.3")\n\ninternal expect fun convertDurationUnit(value: Double, sourceUnit:
DurationUnit, targetUnit: DurationUnit): Double\n\n// overflown result is
unspecified\n@SinceKotlin("1.5")\n\ninternal expect fun convertDurationUnitOverflow(value: Long, sourceUnit:
DurationUnit, targetUnit: DurationUnit): Long\n\n// overflown result is coerced in the Long range
boundaries\n@SinceKotlin("1.5")\n\ninternal expect fun convertDurationUnit(value: Long, sourceUnit:
DurationUnit, targetUnit: DurationUnit):
Long\n\n\n@SinceKotlin("1.3")\n\n@Suppress("REDUNDANT_ELSE_IN_WHEN")\n\ninternal fun
DurationUnit.shortName(): String = when (this) {\n DurationUnit.NANOSECONDS -> "ns"\n
DurationUnit.MICROSECONDS -> "us"\n DurationUnit.MILLISECONDS -> "ms"\n
DurationUnit.SECONDS -> "s"\n DurationUnit.MINUTES -> "m"\n DurationUnit.HOURS -> "h"\n
DurationUnit.DAYS -> "d"\n else -> error("Unknown unit: $this")\n}\n\n\n@SinceKotlin("1.5")\n\ninternal fun
durationUnitByShortName(shortName: String): DurationUnit = when (shortName) {\n "ns" ->
DurationUnit.NANOSECONDS\n "us" -> DurationUnit.MICROSECONDS\n "ms" ->
DurationUnit.MILLISECONDS\n "s" -> DurationUnit.SECONDS\n "m" -> DurationUnit.MINUTES\n
"h" -> DurationUnit.HOURS\n "d" -> DurationUnit.DAYS\n else -> throw
IllegalArgumentExcepion("Unknown duration unit short name:
$shortName")\n}\n\n\n@SinceKotlin("1.5")\n\ninternal fun durationUnitByIsoChar(isoChar: Char,
isTimeComponent: Boolean): DurationUnit =\n when {\n !isTimeComponent -> {\n when (isoChar)
{\n 'D' -> DurationUnit.DAYS\n else -> throw IllegalArgumentExcepion("Invalid or
unsupported duration ISO non-time unit: $isoChar")\n }\n }\n else -> {\n when (isoChar) {\n
 'H' -> DurationUnit.HOURS\n 'M' -> DurationUnit.MINUTES\n 'S' ->
DurationUnit.SECONDS\n else -> throw IllegalArgumentExcepion("Invalid duration ISO time unit:
$isoChar")\n }\n }\n },"/**\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *^n\npackage kotlin.time\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n *
This annotation marks the experimental preview of the standard library API for measuring time and working with
durations.\n *^n\n * > Note that this API is in a preview state and has a very high chance of being changed in the
future.\n * Do not use it if you develop a library since your library will become binary incompatible\n * with the
future versions of the standard library.\n *^n\n * Any usage of a declaration annotated with `@ExperimentalTime`
must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g.
`@OptIn(ExperimentalTime::class)`,\n * or by using the compiler argument `-Xopt-in=kotlin.time.ExperimentalTime`.\n *^n\n@Suppress("DEPRECATION")\n\n@Experimental(level =
Experimental.Level.ERROR)\n\n@RequiresOptIn(level =
RequiresOptIn.Level.ERROR)\n\n@MustBeDocumented\n\n@Retention(AnnotationRetention.BINARY)\n\n@Target(\n
CLASS,\n ANNOTATION_CLASS,\n PROPERTY,\n FIELD,\n LOCAL_VARIABLE,\n
VALUE_PARAMETER,\n CONSTRUCTOR,\n FUNCTION,\n PROPERTY_GETTER,\n
PROPERTY_SETTER,\n TYPEALIAS)\n\n\n@SinceKotlin("1.3")\n\npublic annotation class
ExperimentalTime\n\n"/**\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *^n\npackage kotlin.time\n\n/**\n * A source of time for measuring time intervals.\n
*\n * The only operation provided by the time source is [markNow]. It returns a [TimeMark], which can be used to
query the elapsed time later.\n *^n\n * @see [measureTime]\n * @see [measureTimedValue]\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalTime\n\npublic interface TimeSource {\n /**\n * Marks a point in
time on this time source.\n *^n\n * The returned [TimeMark] instance encapsulates the captured time point and

```

```

allows querying
 * the duration of time interval [elapsed][TimeMark.elapsedNow] from that point.
public fun markNow(): TimeMark
 /**
 * The most precise time source available in the platform.
 * This time source returns its readings from a source of monotonic time when it is available in a target platform,
 * and resorts to a non-monotonic time source otherwise.
 */
 public object Monotonic : TimeSource by
 MonotonicTimeSource {
 override fun toString(): String = MonotonicTimeSource.toString()
 }
 public companion object {
 /**
 * Represents a time point notched on a particular [TimeSource].
 * Remains bound to the time source it was taken from
 * and allows querying for the duration of time elapsed from
 * that point (see the function [elapsedNow]).
 */
 @SinceKotlin("1.3")
 @ExperimentalTime
 public abstract class TimeMark {
 /**
 * Returns the amount of time passed from this mark measured with the time source from
 * which this mark was taken.
 * Note that the value returned by this function can change on subsequent
 * invocations.
 */
 public abstract fun elapsedNow(): Duration
 /**
 * Returns a time mark on the same
 * time source that is ahead of this time mark by the specified [duration].
 * The returned time mark is more
 * _late_ when the [duration] is positive, and more _early_ when the [duration] is negative.
 */
 public open
 operator fun plus(duration: Duration): TimeMark = AdjustedTimeMark(this, duration)
 /**
 * Returns a
 * time mark on the same time source that is behind this time mark by the specified [duration].
 * The
 * returned time mark is more _early_ when the [duration] is positive, and more _late_ when the [duration] is
 * negative.
 */
 public open
 operator fun minus(duration: Duration): TimeMark = plus(-duration)
 /**
 * Returns true if this time mark has passed according to the time source from which this mark was taken.
 * Note that the value returned by this function can change on subsequent invocations.
 * If the time source is
 * monotonic, it can change only from `false` to `true`, namely, when the time mark becomes behind the current point
 * of the time source.
 */
 public fun hasPassedNow(): Boolean = !elapsedNow().isNegative()
 /**
 * Returns false if this time mark has not passed according to the time source from which this mark was taken.
 * Note that the value returned by this function can change on subsequent invocations.
 * If the time source is
 * monotonic, it can change only from `true` to `false`, namely, when the time mark becomes behind the current point
 * of the time source.
 */
 public fun hasNotPassedNow(): Boolean =
 elapsedNow().isNegative()
 }
 @ExperimentalTime
 @SinceKotlin("1.3")
 @kotlin.internal.InlineOnly
 @Deprecated(
 "Subtracting one TimeMark from another is not a well defined operation because these time marks
 could have been obtained from the different time sources.",
 level =
 DeprecationLevel.ERROR
)
 @Suppress("UNUSED_PARAMETER")
 public inline operator fun
 TimeMark.minus(other: TimeMark): Duration = throw Error("Operation is
 disallowed.")
 @ExperimentalTime
 @SinceKotlin("1.3")
 @kotlin.internal.InlineOnly
 @Deprecated(
 "Comparing one TimeMark to another is not a well defined operation because these time marks could have been
 obtained from the different time sources.",
 level =
 DeprecationLevel.ERROR
)
 @Suppress("UNUSED_PARAMETER")
 public inline operator fun
 TimeMark.compareTo(other: TimeMark): Int = throw Error("Operation is
 disallowed.")
 @ExperimentalTime
 private class AdjustedTimeMark(val mark: TimeMark, val adjustment:
 Duration) : TimeMark() {
 override fun elapsedNow(): Duration = mark.elapsedNow() - adjustment
 override fun plus(duration: Duration): TimeMark = AdjustedTimeMark(mark, adjustment + duration)
 }
 }
}
/**
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 * governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package
 kotlin.time
 @SinceKotlin("1.3")
 @ExperimentalTime
 internal expect object MonotonicTimeSource :
 TimeSource {
 /**
 * An abstract class used to implement time sources that return their readings as [Long] values
 * in the specified [unit].
 * @property unit The unit in which this time source's readings are expressed.
 */
 @SinceKotlin("1.3")
 @ExperimentalTime
 public abstract class AbstractLongTimeSource(protected val
 unit: DurationUnit) : TimeSource {
 /**
 * This protected method should be overridden to return the current
 * reading of the time source expressed as a [Long] number
 * in the unit specified by the [unit] property.
 */
 public abstract fun read(): Long
 }
 private class LongTimeMark(private val startedAt: Long, private val
 timeSource: AbstractLongTimeSource, private val offset: Duration) : TimeMark() {
 override fun

```

```

elapsedNow(): Duration = (timeSource.read() - startedAt).toDuration(timeSource.unit) - offset\n override fun
plus(duration: Duration): TimeMark = LongTimeMark(startedAt, timeSource, offset + duration)\n }\n\n override
fun markNow(): TimeMark = LongTimeMark(read(), this, Duration.ZERO)\n}\n\n/**\n * An abstract class used to
implement time sources that return their readings as [Double] values in the specified [unit].\n *\n * @property unit
The unit in which this time source's readings are expressed.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic abstract class AbstractDoubleTimeSource(protected val
unit: DurationUnit) : TimeSource {\n /**\n * This protected method should be overridden to return the current
reading of the time source expressed as a [Double] number\n * in the unit specified by the [unit] property.\n
*/\n protected abstract fun read(): Double\n\n private class DoubleTimeMark(private val startedAt: Double,
private val timeSource: AbstractDoubleTimeSource, private val offset: Duration) : TimeMark() {\n override fun
elapsedNow(): Duration = (timeSource.read() - startedAt).toDuration(timeSource.unit) - offset\n override fun
plus(duration: Duration): TimeMark = DoubleTimeMark(startedAt, timeSource, offset + duration)\n }\n\n override fun
markNow(): TimeMark = DoubleTimeMark(read(), this, Duration.ZERO)\n}\n\n/**\n * A time source
that has programmatically updatable readings. It is useful as a predictable source of time in tests.\n *\n * The current
reading value can be advanced by the specified duration amount with the operator [plusAssign]:\n *\n * ```\n * val
timeSource = TestTimeSource()\n * timeSource += 10.seconds\n * ```\n *\n * Implementation note: the current
reading value is stored as a [Long] number of nanoseconds,\n * thus it's capable to represent a time range of
approximately \u00b11292 years.\n * Should the reading value overflow as the result of [plusAssign] operation, an
[IllegalStateException] is thrown.\n */\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic class TestTimeSource
: AbstractLongTimeSource(unit = DurationUnit.NANOSECONDS) {\n private var reading: Long = 0L\n\n override fun
read(): Long = reading\n\n /**\n * Advances the current reading value of this time source by the
specified [duration].\n *\n * [duration] value is rounded down towards zero when converting it to a [Long]
number of nanoseconds.\n * For example, if the duration being added is `0.6.nanoseconds`, the reading doesn't
advance because\n * the duration value is rounded to zero nanoseconds.\n *\n * @throws
IllegalStateException when the reading value overflows as the result of this operation.\n */\n public operator fun
plusAssign(duration: Duration) {\n val longDelta = duration.toLong(unit)\n reading = if (longDelta !=
Long.MIN_VALUE && longDelta != Long.MAX_VALUE) {\n // when delta fits in long, add it as long\n
 val newReading = reading + longDelta\n if (reading xor longDelta >= 0 && reading xor newReading < 0)
overflow(duration)\n newReading\n } else {\n val delta = duration.toDouble(unit)\n // when
delta is greater than long, add it as double\n val newReading = reading + delta\n if (newReading >
Long.MAX_VALUE || newReading < Long.MIN_VALUE) overflow(duration)\n newReading.toLong()\n }\n }\n\n private fun overflow(duration: Duration) {\n throw IllegalStateException("TestTimeSource will
overflow if its reading ${reading}ns is advanced by $duration.\\")\n }\n }\n\n /**\n * Copyright 2010-2020 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.time\nimport
kotlin.contracts.*\n\n/**\n * Executes the given function [block] and returns the duration of elapsed time interval.\n
*\n * The elapsed time is measured with [TimeSource.Monotonic].\n
*/\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic inline fun measureTime(block: () -> Unit): Duration {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n return
TimeSource.Monotonic.measureTime(block)\n}\n\n/**\n * Executes the given function [block] and returns the
duration of elapsed time interval.\n *\n * The elapsed time is measured with the specified `this` [TimeSource]
instance.\n */\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic inline fun TimeSource.measureTime(block: ()
-> Unit): Duration {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n val
mark = markNow()\n block()\n return mark.elapsedNow()\n}\n\n/**\n * Data class representing a result of
executing an action, along with the duration of elapsed time interval.\n *\n * @property value the result of the
action.\n * @property duration the time elapsed to execute the action.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic data class TimedValue<T>(val value: T, val duration:
Duration)\n\n/**\n * Executes the given function [block] and returns an instance of [TimedValue] class, containing

```

both the result of the function execution and the duration of elapsed time interval. The elapsed time is measured with [TimeSource.Monotonic].

```

@SinceKotlin("1.3")@ExperimentalTime\npublic inline fun <T>
measureTimedValue(block: () -> T): TimedValue<T> {
 contract {
 callsInPlace(block,
 InvocationKind.EXACTLY_ONCE)
 }
 return
 TimeSource.Monotonic.measureTimedValue(block)
}

```

Executes the given [block] and returns an instance of [TimedValue] class, containing both the result of function execution and the duration of elapsed time interval. The elapsed time is measured with the specified `this` [TimeSource] instance.

```

@SinceKotlin("1.3")@ExperimentalTime\npublic inline fun <T> TimeSource.measureTimedValue(block: ()
-> T): TimedValue<T> {
 contract {
 callsInPlace(block, InvocationKind.EXACTLY_ONCE)
 }
 val mark = markNow()
 val result = block()
 return TimedValue(result, mark.elapsedNow())
}

```

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```

package
kotlin\nimport kotlin.coroutines.*\nimport kotlin.coroutines.intrinsics.*\nimport
kotlin.native.concurrent.SharedImmutable\n

```

Defines deep recursive function that keeps its stack on the heap, which allows very deep recursive computations that do not use the actual call stack. To initiate a call to this deep recursive function use its [invoke] function. As a rule of thumb, it should be used if recursion goes deeper than a thousand calls. The [DeepRecursiveFunction] takes one parameter of type [T] and returns a result of type [R]. The [block] of code defines the body of a recursive function. In this block [callRecursive][DeepRecursiveScope.callRecursive] function can be used to make a recursive call to the declared function. Other instances of [DeepRecursiveFunction] can be called in this scope with `callRecursive` extension, too. For example, take a look at the following recursive tree class and a deeply recursive instance of this tree with 100K nodes:

```

class Tree(val left: Tree? = null, val right: Tree? = null) {
 val deepTree = generateSequence(Tree()) { Tree(it) }.take(100_000).last()
}

```

A regular recursive function can be defined to compute a depth of a tree:

```

fun depth(t: Tree?): Int =
 if (t == null) 0 else
 max(depth(t.left), depth(t.right)) + 1

```

println(depth(deepTree)) // StackOverflowError

If this `depth` function is called for a `deepTree` it produces [StackOverflowError] because of deep recursion. However, the `depth` function can be rewritten using `DeepRecursiveFunction` in the following way, and then it successfully computes [depth(deepTree)]

```

[DeepRecursiveFunction.invoke] expression:
val depth =
 DeepRecursiveFunction<Tree?, Int> { t ->
 if (t == null) 0 else max(callRecursive(t.left),
 callRecursive(t.right)) + 1
 }

```

println(depth(deepTree)) // Ok

Deep recursive functions can also mutually call each other using a heap for the stack via [callRecursive][DeepRecursiveScope.callRecursive] extension. For example, the following pair of mutually recursive functions computes the number of tree nodes at even depth in the tree.

```

val mutualRecursion = object {
 val even: DeepRecursiveFunction<Tree?, Int> = DeepRecursiveFunction { t ->
 if (t == null) 0 else
 odd.callRecursive(t.left) + odd.callRecursive(t.right) + 1
 }
 val odd: DeepRecursiveFunction<Tree?, Int> = DeepRecursiveFunction { t ->
 if (t == null) 0 else even.callRecursive(t.left) +
 even.callRecursive(t.right)
 }
}

```

@param [T] the function parameter type. @param [R] the function result type. @param block the function body.

```

@SinceKotlin("1.4")@ExperimentalStdlibApi\npublic class DeepRecursiveFunction<T, R>(\n internal val
block: suspend DeepRecursiveScope<T, R>.(T) -> R)\n{\n /**\n * Initiates a call to this deep recursive function,
forming a root of the call tree.\n * This operator should not be used from inside of [DeepRecursiveScope] as it
uses the call stack slot for\n * initial recursive invocation. From inside of [DeepRecursiveScope] use\n *
[callRecursive][DeepRecursiveScope.callRecursive].\n */\n /**\n * A scope class for [DeepRecursiveFunction] function declaration that defines [callRecursive] methods to\n * recursively call
this function or another [DeepRecursiveFunction] putting the call activation frame on the heap.\n * @param [T]
function parameter type.\n * @param [R] function result type.\n */\n fun invoke(value: T): R =\n DeepRecursiveScopeImpl<T, R>(block, value).runCallLoop()
}

```

```

*\/n@RestrictsSuspension\n@SinceKotlin("1.4")\n@ExperimentalStdlibApi\npublic sealed class
DeepRecursiveScope<T, R> {\n /**\n * Makes recursive call to this [DeepRecursiveFunction] function putting
the call activation frame on the heap,\n * as opposed to the actual call stack that is used by a regular recursive
call.\n */\n public abstract suspend fun callRecursive(value: T): R\n\n /**\n * Makes call to the specified
[DeepRecursiveFunction] function putting the call activation frame on the heap,\n * as opposed to the actual call
stack that is used by a regular call.\n */\n public abstract suspend fun <U, S> DeepRecursiveFunction<U,
S>.callRecursive(value: U): S\n\n @Deprecated(\n level = DeprecationLevel.ERROR,\n message =\n \"'invoke' should not be called from DeepRecursiveScope. \" +\n \"Use 'callRecursive' to do recursion in\nthe heap instead of the call stack.\\\", \n replaceWith = ReplaceWith(\"this.callRecursive(value)\")\n)\n @Suppress(\"UNUSED_PARAMETER\")\n public operator fun DeepRecursiveFunction<*, *>.invoke(value:
Any?): Nothing =\n throw UnsupportedOperationException(\"Should not be called from
DeepRecursiveScope\")\n}\n\n// ===== Implementation
=====
\n\n@ExperimentalStdlibApi\nprivate typealias DeepRecursiveFunctionBlock = suspend
DeepRecursiveScope<*, *>.(Any?) -> Any?\n\n@SharedImmutable\nprivate val UNDEFINED_RESULT =
Result.success(COROUTINE_SUSPENDED)\n\n@Suppress(\"UNCHECKED_CAST\")\n@ExperimentalStdlibApi\nprivate class DeepRecursiveScopeImpl<T, R>(\n block: suspend DeepRecursiveScope<T, R>.(T) -> R,\n value: T\n) : DeepRecursiveScope<T, R>(), Continuation<R> {\n // Active function block\n private var
function: DeepRecursiveFunctionBlock = block as DeepRecursiveFunctionBlock\n // Value to call function
with\n private var value: Any? = value\n // Continuation of the current call\n private var cont:
Continuation<Any?>? = this as Continuation<Any?>\n // Completion result (completion of the whole call
stack)\n private var result: Result<Any?> = UNDEFINED_RESULT\n override val context:
CoroutineContext\n get() = EmptyCoroutineContext\n override fun resumeWith(result: Result<R>) {\n
this.cont = null\n this.result = result\n }\n override suspend fun callRecursive(value: T): R =
suspendCoroutineUninterceptedOrReturn { cont ->\n // calling the same function that is currently active\n
this.cont = cont as Continuation<Any?>\n this.value = value\n COROUTINE_SUSPENDED\n }\n override suspend fun <U, S> DeepRecursiveFunction<U, S>.callRecursive(value: U): S =
suspendCoroutineUninterceptedOrReturn { cont ->\n // calling another recursive function\n val function =
block as DeepRecursiveFunctionBlock\n with(this@DeepRecursiveScopeImpl) {\n val currentFunction
= this.function\n if (function !== currentFunction) {\n // calling a different function -- create a
trampoline to restore function ref\n this.function = function\n this.cont =
crossFunctionCompletion(currentFunction, cont as Continuation<Any?>)\n } else {\n // calling the
same function -- direct\n this.cont = cont as Continuation<Any?>\n }\n this.value = value\n
 }\n COROUTINE_SUSPENDED\n }\n private fun crossFunctionCompletion(\n currentFunction:
DeepRecursiveFunctionBlock,\n cont: Continuation<Any?>\n): Continuation<Any?> =
Continuation(EmptyCoroutineContext) {\n this.function = currentFunction\n // When going back from a
trampoline we cannot just call cont.resume (stack usage!)\n // We delegate the cont.resumeWith(it) call to
runCallLoop\n this.cont = cont\n this.result = it\n }\n @Suppress(\"UNCHECKED_CAST\")\n fun
runCallLoop(): R {\n while (true) {\n // Note: cont is set to null in DeepRecursiveScopeImpl.resumeWith
when the whole computation completes\n val result = this.result\n val cont = this.cont\n ?:
return (result as Result<R>).getOrNull()\n // done -- final result\n // The order of comparison is important
here for that case of rogue class with broken equals\n if (UNDEFINED_RESULT == result) {\n //
call \"function\" with \"value\" using \"cont\" as completion\n val r = try {\n // This is
block.startCoroutine(this, value, cont)\n function.startCoroutineUninterceptedOrReturn(this, value,
cont)\n } catch (e: Throwable) {\n cont.resumeWithException(e)\n continue\n
 }\n // If the function returns without suspension -- calls its continuation immediately\n if (r !==
COROUTINE_SUSPENDED)\n cont.resume(r as R)\n } else {\n // we returned from a
crossFunctionCompletion trampoline -- call resume here\n this.result = UNDEFINED_RESULT // reset
result back\n cont.resumeWith(result)\n }\n }\n }\n }\n}\n\n\"/>\n * Copyright 2010-2021

```

```

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Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\n// Auto-generated file. DO NOT
EDIT!\n\n@file:kotlin.jvm.JvmName("\\NumbersKt")\n@file:kotlin.jvm.JvmMultifileClass\npackage
kotlin\n\nimport kotlin.math.sign\n\n/** Divides this value by the other value, flooring the result to an integer that is
closer to negative infinity. *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.floorDiv(other: Byte): Int = \n this.toInt().floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of
flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the
divisor and has the absolute value less than the absolute value of the divisor.\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.mod(other: Byte): Byte = \n
this.toInt().mod(other.toInt()).toByte()\n\n/** Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity. *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.floorDiv(other: Short): Int = \n this.toInt().floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of
flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the
divisor and has the absolute value less than the absolute value of the divisor.\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.mod(other: Short): Short = \n
this.toInt().mod(other.toInt()).toShort()\n\n/** Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity. *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.floorDiv(other: Int): Int = \n this.toInt().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring
division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and
has the absolute value less than the absolute value of the divisor.\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.mod(other: Int): Int = \n
this.toInt().mod(other)\n\n/** Divides this value by the other value, flooring the result to an integer that is closer to
negative infinity. *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.floorDiv(other:
Long): Long = \n this.toLong().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this
value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute
value less than the absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic
inline fun Byte.mod(other: Long): Long = \n this.toLong().mod(other)\n\n/** Divides this value by the other
value, flooring the result to an integer that is closer to negative infinity.
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other: Byte): Int = \n
this.toInt().floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Short.mod(other: Byte): Byte = \n this.toInt().mod(other.toInt()).toByte()\n\n/** Divides this value by the other
value, flooring the result to an integer that is closer to negative infinity.
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other: Short): Int = \n
this.toInt().floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Short.mod(other: Short): Short = \n this.toInt().mod(other.toInt()).toShort()\n\n/** Divides this value by the other
value, flooring the result to an integer that is closer to negative infinity.
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other: Int): Int = \n
this.toInt().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Short.mod(other: Int): Int = \n this.toInt().mod(other)\n\n/** Divides this value by the other value, flooring the
result to an integer that is closer to negative infinity.
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other: Long): Long = \n
this.toLong().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other

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value.  
The result is either zero or has the same sign as the `_divisor_` and has the absolute value less than the absolute value of the divisor.  
`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Short.mod(other: Long): Long = this.toLong().mod(other)`  
Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.

`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Byte): Int = this.floorDiv(other.toInt())`  
Calculates the remainder of flooring division of this value by the other value.  
The result is either zero or has the same sign as the `_divisor_` and has the absolute value less than the absolute value of the divisor.  
`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Int.mod(other: Byte): Byte = this.mod(other.toInt()).toByte()`  
Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.

`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Short): Int = this.floorDiv(other.toInt())`  
Calculates the remainder of flooring division of this value by the other value.  
The result is either zero or has the same sign as the `_divisor_` and has the absolute value less than the absolute value of the divisor.  
`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Int.mod(other: Short): Short = this.mod(other.toInt()).toShort()`  
Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.

`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Int): Int { var q = this / other if (this xor other < 0 && q * other != this) q-- return q }`  
Calculates the remainder of flooring division of this value by the other value.  
The result is either zero or has the same sign as the `_divisor_` and has the absolute value less than the absolute value of the divisor.

`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Int.mod(other: Int): Int { val r = this % other return r + (other and (((r xor other) and (r or -r)) shr 31)) }`  
Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.

`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Long): Long = this.toLong().floorDiv(other)`  
Calculates the remainder of flooring division of this value by the other value.  
The result is either zero or has the same sign as the `_divisor_` and has the absolute value less than the absolute value of the divisor.  
`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Int.mod(other: Long): Long = this.toLong().mod(other)`  
Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.

`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Byte): Long = this.floorDiv(other.toLong())`  
Calculates the remainder of flooring division of this value by the other value.  
The result is either zero or has the same sign as the `_divisor_` and has the absolute value less than the absolute value of the divisor.  
`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Byte): Byte = this.mod(other.toLong()).toByte()`  
Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.

`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Short): Long = this.floorDiv(other.toLong())`  
Calculates the remainder of flooring division of this value by the other value.  
The result is either zero or has the same sign as the `_divisor_` and has the absolute value less than the absolute value of the divisor.  
`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Short): Short = this.mod(other.toLong()).toShort()`  
Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.

`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Int): Long = this.floorDiv(other.toLong())`  
Calculates the remainder of flooring division of this value by the other value.  
The result is either zero or has the same sign as the `_divisor_` and has the absolute value less than the absolute value of the divisor.  
`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Int): Int = this.mod(other.toLong()).toInt()`  
Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.

`@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Long): Long {`



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var q = this / other\n if (this xor other < 0 && q * other != this) q--\n return q\n}\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n\n*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Long): Long {\n val r = this % other\n return r + (other and (((r xor other) and (r or -r)) shr 63))\n}\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n * \n * If the result cannot be represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result can be less than or _equal to_ the absolute value of the divisor.\n\n*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Float.mod(other: Float): Float {\n val r = this % other\n return if (r != 0.0.toFloat() && r.sign != other.sign) r + other else r\n}\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n * \n * If the result cannot be represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result can be less than or _equal to_ the absolute value of the divisor.\n\n*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Float.mod(other: Double): Double =\n this.toDouble().mod(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n * \n * If the result cannot be represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result can be less than or _equal to_ the absolute value of the divisor.\n\n*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Double.mod(other: Float): Double =\n this.mod(other.toDouble())\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n * \n * If the result cannot be represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result can be less than or _equal to_ the absolute value of the divisor.\n\n*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Double.mod(other: Double): Double {\n val r = this % other\n return if (r != 0.0 && r.sign != other.sign) r + other else r\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n*/\n\npackage kotlin\n\nimport kotlin.internal.InlineOnly\n\n/**\n * Returns a hash code value for the object or zero if the object is `null`.\n * \n * @see Any.hashCode\n\n*/\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline fun Any?.hashCode(): Int = this?.hashCode() ?: 0\n\n"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n*/\n\npackage kotlin\n\n/**\n * Represents a version of the Kotlin standard library.\n * \n * [major], [minor] and [patch] are integer components of a version,\n * they must be non-negative and not greater than 255 ([MAX_COMPONENT_VALUE]).\n * \n * @constructor Creates a version from all three components.\n\n*/\n@SinceKotlin("1.1")\npublic class KotlinVersion(val major: Int, val minor: Int, val patch: Int) : Comparable<KotlinVersion> {\n /**\n * Creates a version from [major] and [minor] components, leaving [patch] component zero.\n *\n * public constructor(major: Int, minor: Int) : this(major, minor, 0)\n *\n * private val version = versionOf(major, minor, patch)\n *\n * private fun versionOf(major: Int, minor: Int, patch: Int): Int {\n * require(major in 0..MAX_COMPONENT_VALUE && minor in 0..MAX_COMPONENT_VALUE && patch in 0..MAX_COMPONENT_VALUE) {\n * "Version components are out of range: $major.$minor.$patch"\n * }\n * return major.shl(16) + minor.shl(8) + patch\n * }\n *\n */\n /**\n * Returns the string representation of this version.\n *\n * override fun toString(): String = "$major.$minor.$patch"\n *\n * override fun equals(other: Any?): Boolean {\n * if (this === other) return true\n * val otherVersion = (other as? KotlinVersion) ?: return false\n * return this.version == otherVersion.version\n * }\n *\n * override fun hashCode(): Int = version\n *\n * override fun compareTo(other: KotlinVersion): Int = version - other.version\n *\n */\n /**\n * Returns `true` if this version is not less than the version specified\n * with the provided [major] and [minor] components.\n *\n */\n}

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public fun isAtLeast(major: Int, minor: Int): Boolean = // this.version >= versionOf(major, minor, 0)\n
this.major > major || (this.major == major &&\n this.minor >= minor)\n\n /**\n * Returns `true` if this\n
version is not less than the version specified\n * with the provided [major], [minor] and [patch] components.\n
*\n public fun isAtLeast(major: Int, minor: Int, patch: Int): Boolean = // this.version >= versionOf(major, minor,\n
patch)\n this.major > major || (this.major == major &&\n (this.minor > minor || this.minor == minor\n
&&\n this.patch >= patch))\n\n companion object {\n /**\n * Maximum value a version\n
component can have, a constant value 255.\n *\n // NOTE: Must be placed before CURRENT because its\n
initialization requires this field being initialized in JS\n public const val MAX_COMPONENT_VALUE =\n
255\n\n /**\n * Returns the current version of the Kotlin standard library.\n *\n\n
@kotlin.jvm.JvmField\n public val CURRENT: KotlinVersion = KotlinVersionCurrentValue.get()\n
}\n}\n\n// this class is ignored during classpath normalization when considering whether to recompile dependencies\n
in Kotlin build\nprivate object KotlinVersionCurrentValue {\n @kotlin.jvm.JvmStatic\n fun get():\n
KotlinVersion = KotlinVersion(1, 6, 10) // value is written here automatically during build\n}", "/*\n * Copyright\n
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed\n
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmName("LateinitKt")\n@file:Suppress("unused")\n\npackage kotlin\n\nimport\n
kotlin.internal.InlineOnly\nimport kotlin.internal.AccessibleLateinitPropertyLiteral\nimport\n
kotlin.reflect.KProperty0\n\n/**\n * Returns `true` if this lateinit property has been assigned a value, and `false`\n
otherwise.\n * \n * Cannot be used in an inline function, to avoid binary compatibility issues.\n
*\n\n@SinceKotlin("1.2")\n@InlineOnly\ninline val @receiver:AccessibleLateinitPropertyLiteral\n
KProperty0<*>.isInitialized: Boolean\n get() = throw NotImplementedError("Implementation is\n
intrinsic")\n}", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use\n
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmName("LazyKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage kotlin\n\nimport\n
kotlin.reflect.KProperty\n\n/**\n * Represents a value with lazy initialization.\n * \n * To create an instance of\n
[Lazy] use the [lazy] function.\n *\n\npublic interface Lazy<out T> {\n /**\n * Gets the lazily initialized value of\n
the current Lazy instance.\n * \n * Once the value was initialized it must not change during the rest of lifetime of this\n
Lazy instance.\n *\n public val value: T\n\n /**\n * Returns `true` if a value for this Lazy instance has been\n
already initialized, and `false` otherwise.\n * \n * Once this function has returned `true` it stays `true` for the rest of\n
lifetime of this Lazy instance.\n *\n public fun isInitialized(): Boolean\n}\n\n/**\n * Creates a new instance of\n
the [Lazy] that is already initialized with the specified [value].\n *\n\npublic fun <T> lazyOf(value: T): Lazy<T> =\n
InitializedLazyImpl(value)\n\n/**\n * An extension to delegate a read-only property of type [T] to an instance of\n
[Lazy].\n * \n * This extension allows to use instances of Lazy for property delegation:\n * \n * `val property: String by\n
lazy { initializer }`\n *\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Lazy<T>.getValue(thisRef:\n
Any?, property: KProperty<*>): T = value\n\n/**\n * Specifies how a [Lazy] instance synchronizes initialization\n
among multiple threads.\n *\n\npublic enum class LazyThreadSafetyMode {\n /**\n * Locks are used to ensure\n
that only a single thread can initialize the [Lazy] instance.\n *\n SYNCHRONIZED,\n\n /**\n * Initializer\n
function can be called several times on concurrent access to uninitialized [Lazy] instance value,\n * but only the\n
first returned value will be used as the value of [Lazy] instance.\n *\n PUBLICATION,\n\n /**\n * No\n
locks are used to synchronize an access to the [Lazy] instance value; if the instance is accessed from multiple\n
threads, its behavior is undefined.\n * \n * This mode should not be used unless the [Lazy] instance is\n
guaranteed never to be initialized from more than one thread.\n *\n NONE,\n}\n\n\ninternal object\n
UNINITIALIZED_VALUE\n\n// internal to be called from lazy in JS\ninternal class UnsafeLazyImpl<out\n
T>(initializer: () -> T) : Lazy<T>, Serializable {\n private var initializer: (() -> T)? = initializer\n private var\n
_value: Any? = UNINITIALIZED_VALUE\n\n override val value: T\n get() {\n if (_value ===\n
UNINITIALIZED_VALUE) {\n _value = initializer!()\n initializer = null\n }\n\n\n
@Suppress("UNCHECKED_CAST")\n return _value as T\n }\n\n override fun isInitialized():\n
Boolean = _value !== UNINITIALIZED_VALUE\n\n override fun toString(): String = if (isInitialized())

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value.toString() else \"Lazy value not initialized yet.\"\n\n private fun writeReplace(): Any =
InitializedLazyImpl(value)\n}\n\ninternal class InitializedLazyImpl<out T>(override val value: T) : Lazy<T>,
Serializable {\n\n override fun isInitialized(): Boolean = true\n\n override fun toString(): String =
value.toString()\n\n}\n\n\",/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"NumbersKt\")\npackage kotlin\n\n/**\n *
Counts the number of set bits in the binary representation of this [Int] number.\n
*\n\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.countOneBits(): Int\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary
representation of this [Int] number.\n
*\n\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.countLeadingZeroBits(): Int\n\n/**\n * Counts the number of consecutive least significant bits that are zero in
the binary representation of this [Int] number.\n
*\n\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.countTrailingZeroBits(): Int\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [Int] number,\n * or zero, if this number is zero.\n
*\n\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.takeHighestOneBit(): Int\n\n/**\n * Returns a number having a single bit set in the position of the least
significant set bit of this [Int] number,\n * or zero, if this number is zero.\n
*\n\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.takeLowestOneBit(): Int\n\n/**\n * Rotates the binary representation of this [Int] number left by the specified
[bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least
significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as rotating it
right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple
of [Int.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateLeft(n) ==
number.rotateLeft(n % 32)`\n
*\n\n@SinceKotlin(\"1.6\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.rotateLeft(bitCount: Int): Int\n\n/**\n * Rotates the binary representation of this [Int] number right by the
specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number
as the most significant bits on the left side.\n * Rotating the number right by a negative bit count is the same as
rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating by a
multiple of [Int.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 32)`\n
*\n\n@SinceKotlin(\"1.6\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.rotateRight(bitCount: Int): Int\n\n/**\n * Counts the number of set bits in the binary representation of this
[Long] number.\n
*\n\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect
fun Long.countOneBits(): Int\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [Long] number.\n
*\n\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.countLeadingZeroBits(): Int\n\n/**\n * Counts the number of consecutive least significant bits that are zero in
the binary representation of this [Long] number.\n
*\n\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.countTrailingZeroBits(): Int\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [Long] number,\n * or zero, if this number is zero.\n
*\n\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.takeHighestOneBit(): Long\n\n/**\n * Returns a number having a single bit set in the position of the least
significant set bit of this [Long] number,\n * or zero, if this number is zero.\n

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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.takeLowestOneBit(): Long\n\n**\n * Rotates the binary representation of this [Long] number left by the
specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as
the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as
rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a
multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateLeft(n) ==
number.rotateLeft(n % 64)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.rotateLeft(bitCount: Int): Long\n\n**\n * Rotates the binary representation of this [Long] number right by the
specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number
as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as
rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a
multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 64)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.rotateRight(bitCount: Int): Long\n\n**\n * Counts the number of set bits in the binary representation of this
[Byte] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.countOneBits(): Int = (toInt() and 0xFF).countOneBits()\n\n**\n * Counts the number of
consecutive most significant bits that are zero in the binary representation of this [Byte] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.countLeadingZeroBits(): Int = (toInt() and 0xFF).countLeadingZeroBits() - (Int.SIZE_BITS -
Byte.SIZE_BITS)\n\n**\n * Counts the number of consecutive least significant bits that are zero in the binary
representation of this [Byte] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.countTrailingZeroBits(): Int = (toInt() or 0x100).countTrailingZeroBits()\n\n**\n * Returns a
number having a single bit set in the position of the most significant set bit of this [Byte] number,\n * or zero, if this
number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.takeHighestOneBit(): Byte = (toInt() and 0xFF).takeHighestOneBit().toByte()\n\n**\n * Returns a
number having a single bit set in the position of the least significant set bit of this [Byte] number,\n * or zero, if this
number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.takeLowestOneBit(): Byte = toInt().takeLowestOneBit().toByte()\n\n**\n * Rotates the binary
representation of this [Byte] number left by the specified [bitCount] number of bits.\n * The most significant bits
pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the
number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-
n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [Byte.SIZE_BITS] (8) returns the same number, or
more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 8)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Byte.rotateLeft(bitCount: Int): Byte =\n (toInt().shl(bitCount and 7) or (toInt() and 0xFF).ushr(8 - (bitCount and
7))).toByte()\n\n**\n * Rotates the binary representation of this [Byte] number right by the specified [bitCount]
number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most
significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it
left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of
[Byte.SIZE_BITS] (8) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 8)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun

```

```

Byte.rotateRight(bitCount: Int): Byte =\n (toInt().shl(8 - (bitCount and 7)) or (toInt() and 0xFF).ushr(bitCount and 7)).toByte()\n\n/**\n * Counts the number of set bits in the binary representation of this [Short] number.\n *\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * @kotlin.internal.InlineOnly\n * public inline fun Short.countOneBits(): Int = (toInt() and 0xFFFF).countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [Short] number.\n *\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * @kotlin.internal.InlineOnly\n * public inline fun Short.countLeadingZeroBits(): Int =\n (toInt() and 0xFFFF).countLeadingZeroBits() - (Int.SIZE_BITS - Short.SIZE_BITS)\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [Short] number.\n *\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * @kotlin.internal.InlineOnly\n * public inline fun Short.countTrailingZeroBits(): Int = (toInt() or 0x1000).countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [Short] number, or zero, if this number is zero.\n *\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * @kotlin.internal.InlineOnly\n * public inline fun Short.takeHighestOneBit(): Short = (toInt() and 0xFFFF).takeHighestOneBit().toShort()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [Short] number, or zero, if this number is zero.\n *\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * @kotlin.internal.InlineOnly\n * public inline fun Short.takeLowestOneBit(): Short = toInt().takeLowestOneBit().toShort()\n\n/**\n * Rotates the binary representation of this [Short] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * number.rotateLeft(-n) == number.rotateRight(n)\n * Rotating by a multiple of [Short.SIZE_BITS] (16) returns the same number, or more generally\n * number.rotateLeft(n) == number.rotateLeft(n % 16)\n *\n * @SinceKotlin("1.6")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * public fun Short.rotateLeft(bitCount: Int): Short =\n (toInt().shl(bitCount and 15) or (toInt() and 0xFFFF).ushr(16 - (bitCount and 15))).toShort()\n\n/**\n * Rotates the binary representation of this [Short] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * number.rotateRight(-n) == number.rotateLeft(n)\n * Rotating by a multiple of [Short.SIZE_BITS] (16) returns the same number, or more generally\n * number.rotateRight(n) == number.rotateRight(n % 16)\n *\n * @SinceKotlin("1.6")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * public fun Short.rotateRight(bitCount: Int): Short =\n (toInt().shl(16 - (bitCount and 15)) or (toInt() and 0xFFFF).ushr(bitCount and 15)).toShort()\n\n/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n * @package kotlin\n * @import kotlin.internal.RequireKotlin\n * @import kotlin.internal.RequireKotlinVersionKind\n * @kotlin.internal.InlineOnly\n * @SinceKotlin("1.2")\n * @Suppress("INVISIBLE_MEMBER", "INVISIBLE_REFERENCE")\n * @RequireKotlin("1.2.30", level = DeprecationLevel.HIDDEN, versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n * public inline fun <R> suspend(noinline block: suspend () -> R): suspend () -> R = block\n\n/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n * @file:kotlin.jvm.JvmName("TuplesKt")\n * @package kotlin\n * Represents a generic pair of two values.\n * There is no meaning attached to values in this class, it can be used for any purpose.\n * Pair exhibits value semantics, i.e. two pairs are equal if both components are equal.\n * An example of decomposing it into values:\n * @sample samples.misc.Tuples.pairDestructuring\n * @param A type of the first value.\n * @param B type of the second value.\n * @property first First value.\n * @property second Second value.\n * @constructor

```

```

Creates a new instance of Pair.
public data class Pair<out A, out B>(
 public val first: A,
 public val second: B) : Serializable {
 /**
 * Returns string representation of the [Pair] including its [first] and [second] values.
 */
 public override fun toString(): String = "$first, $second"
}

Creates a tuple of type [Pair] from this and [that].
This can be useful for creating [Map] literals with less noise, for example:
@sample samples.collections.Maps.Instantiation.mapFromPairs

public infix fun <A, B> A.to(that: B): Pair<A, B> = Pair(this, that)

Converts this pair into a list.
@sample samples.misc.Tuples.pairToList

public fun <T> Pair<T, T>.toList(): List<T> = listOf(first, second)

Represents a triad of values
There is no meaning attached to values in this class, it can be used for any purpose.
Triple exhibits value semantics, i.e. two triples are equal if all three components are equal.
An example of decomposing it into values:
@sample samples.misc.Tuples.tripleDestructuring

@param A type of the first value.
@param B type of the second value.
@param C type of the third value.
@property first First value.
@property second Second value.
@property third Third value.

public data class Triple<out A, out B, out C>(
 public val first: A,
 public val second: B,
 public val third: C) : Serializable {
 /**
 * Returns string representation of the [Triple] including its [first], [second] and [third] values.
 */
 public override fun toString(): String = "$first, $second, $third"
}

Converts this triple into a list.
@sample samples.misc.Tuples.tripleToList

public fun <T> Triple<T, T, T>.toList(): List<T> = listOf(first, second, third)

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// Auto-generated file. DO NOT EDIT!
package kotlin.ranges
import kotlin.internal.*

A range of values of type `UInt`.

@SinceKotlin("1.5")@WasExperimental(ExperimentalUnsignedTypes::class)
public class UIntRange(start: UInt, endInclusive: UInt) : UIntProgression(start, endInclusive, 1), ClosedRange<UInt> {
 override val start: UInt get() = first
 override val endInclusive: UInt get() = last
 override fun contains(value: UInt): Boolean = first <= value && value <= last
 /**
 * Checks if the range is empty.
 * The range is empty if its start value is greater than the end value.
 */
 override fun isEmpty(): Boolean = first > last
 override fun equals(other: Any?): Boolean =
 other is UIntRange && (isEmpty() && other.isEmpty()) || first == other.first && last == other.last
 override fun hashCode(): Int =
 if (isEmpty()) -1 else (31 * first.toInt() + last.toInt())
 override fun toString(): String = "$first..$last"
 companion object {
 /** An empty range of values of type UInt.
 */
 public val EMPTY: UIntRange = UIntRange(UInt.MAX_VALUE, UInt.MIN_VALUE)
 }
}

A progression of values of type `UInt`.

@SinceKotlin("1.5")@WasExperimental(ExperimentalUnsignedTypes::class)
public open class UIntProgression(
 internal constructor(
 start: UInt,
 endInclusive: UInt,
 step: Int) : Iterable<UInt> {
 init {
 if (step == 0.toInt()) throw kotlin.IllegalArgumentException("Step must be non-zero.")
 if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater than Int.MIN_VALUE to avoid overflow on negation.")
 }
 /**
 * The first element in the progression.
 */
 public val first: UInt = start
 /**
 * The last element in the progression.
 */
 public val last: UInt = getProgressionLastElement(start, endInclusive, step)
 /**
 * The step of the progression.
 */
 public val step: Int = step
 final override fun iterator(): Iterator<UInt> = UIntProgressionIterator(first, last, step)
 /**
 * Checks if the progression is empty.
 * Progression with a positive step is empty if its first element is greater than the last element.
 * Progression with a negative step is empty if its first element is less than the last element.
 */
 public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last
 override fun equals(other: Any?): Boolean =
 other is UIntProgression && (isEmpty() && other.isEmpty()) || first == other.first && last == other.last && step == other.step
 override fun hashCode(): Int =
 if (isEmpty()) -1 else (31 * (31 * first.toInt() + last.toInt()) + step.toInt())
 override fun toString(): String =
 if (step > 0) "$first..$last step $step" else "$first downTo $last step ${-step}"
 companion object {
 /**
 * Creates UIntProgression within the specified bounds of a closed range.
 * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].
 * In order to go backwards the [step] must be negative.
 * [step] must be greater than `Int.MIN_VALUE`
 */
 }
}

```

```

and not equal to zero.\n *\n public fun fromClosedRange(rangeStart: UInt, rangeEnd: UInt, step: Int):
UIntProgression = UIntProgression(rangeStart, rangeEnd, step)\n }\n}\n\n/**\n * An iterator over a progression
of values of type `UInt`.\n * @property step the number by which the value is incremented on each step.\n
*\n@SinceKotlin("1.3")\n@Suppress("DEPRECATION_ERROR")\nprivate class UIntProgressionIterator(first:
UInt, last: UInt, step: Int) : UIntIterator() {\n private val finalElement = last\n private var hasNext: Boolean = if
(step > 0) first <= last else first >= last\n private val step = step.toUInt() // use 2-complement math for negative
steps\n private var next = if (hasNext) first else finalElement\n\n override fun hasNext(): Boolean = hasNext\n\n
 override fun nextUInt(): UInt {\n val value = next\n if (value == finalElement) {\n if (!hasNext)
throw kotlin.NoSuchElementException()\n hasNext = false\n } else {\n next += step\n }\n
return value\n }\n}\n\n"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.collections\n\n/**\n An
iterator over a sequence of values of type `UByte`.\n *\n@Deprecated("This class is not going to be stabilized and is
to be removed soon.", level = DeprecationLevel.ERROR)\n@SinceKotlin("1.3")\npublic abstract class
UByteIterator : Iterator<UByte> {\n final override fun next() = nextUByte()\n\n /** Returns the next value in the
sequence without boxing.\n *\n public abstract fun nextUByte(): UByte\n}\n\n/**\n An iterator over a sequence of
values of type `UShort`.\n *\n@Deprecated("This class is not going to be stabilized and is to be removed soon.",
level = DeprecationLevel.ERROR)\n@SinceKotlin("1.3")\npublic abstract class UShortIterator : Iterator<UShort>
{\n final override fun next() = nextUShort()\n\n /** Returns the next value in the sequence without boxing.\n *\n
public abstract fun nextUShort(): UShort\n}\n\n/**\n An iterator over a sequence of values of type `UInt`.\n
*\n@Deprecated("This class is not going to be stabilized and is to be removed soon.", level =
DeprecationLevel.ERROR)\n@SinceKotlin("1.3")\npublic abstract class UIntIterator : Iterator<UInt> {\n final
override fun next() = nextUInt()\n\n /** Returns the next value in the sequence without boxing.\n *\n public
abstract fun nextUInt(): UInt\n}\n\n/**\n An iterator over a sequence of values of type `ULong`.\n
*\n@Deprecated("This class is not going to be stabilized and is to be removed soon.", level =
DeprecationLevel.ERROR)\n@SinceKotlin("1.3")\npublic abstract class ULongIterator : Iterator<ULong> {\n
final override fun next() = nextULong()\n\n /** Returns the next value in the sequence without boxing.\n *\n
public abstract fun nextULong(): ULong\n}\n\n"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin.ranges\n\n\nimport kotlin.internal.*\n\n/**\n * A range of values of type `ULong`.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic class
ULongRange(start: ULong, endInclusive: ULong) : ULongProgression(start, endInclusive, 1),
ClosedRange<ULong> {\n override val start: ULong get() = first\n override val endInclusive: ULong get() =
last\n\n override fun contains(value: ULong): Boolean = first <= value && value <= last\n\n /**\n * Checks
if the range is empty.\n *\n * The range is empty if its start value is greater than the end value.\n *\n
 override fun isEmpty(): Boolean = first > last\n\n override fun equals(other: Any?): Boolean =\n other is
ULongRange && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last)\n\n
 override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (first xor (first shr 32)).toInt() + (last xor (last shr
32)).toInt())\n\n override fun toString(): String = "$first..$last"\n\n companion object {\n /**\n * An empty
range of values of type ULong.\n *\n public val EMPTY: ULongRange = ULongRange(ULong.MAX_VALUE,
ULong.MIN_VALUE)\n }\n}\n\n/**\n * A progression of values of type `ULong`.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic open class
ULongProgression\n\ninternal constructor(\n start: ULong,\n endInclusive: ULong,\n step: Long\n) :
Iterable<ULong> {\n init {\n if (step == 0.toLong()) throw kotlin.IllegalArgumentException("Step must be
non-zero.")\n if (step == Long.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater
than Long.MIN_VALUE to avoid overflow on negation.")\n }\n\n /**\n *\n * The first element in the
progression.\n *\n public val first: ULong = start\n\n /**\n *\n * The last element in the progression.\n *\n
 *\n

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public val last: ULong = getProgressionLastElement(start, endInclusive, step)\n\n /**\n * The step of the
progression.\n */\n public val step: Long = step\n\n final override fun iterator(): Iterator<ULong> =
ULongProgressionIterator(first, last, step)\n\n /**\n * Checks if the progression is empty.\n\n *
Progression with a positive step is empty if its first element is greater than the last element.\n * Progression with a
negative step is empty if its first element is less than the last element.\n */\n public open fun isEmpty(): Boolean
= if (step > 0) first > last else first < last\n\n override fun equals(other: Any?): Boolean =\n other is
ULongProgression && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last &&
step == other.step)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (31 * (first xor (first shr
32)).toInt() + (last xor (last shr 32)).toInt()) + (step xor (step ushr 32)).toInt())\n\n override fun toString(): String =
if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"
\n\n companion object {\n
/**\n * Creates ULongProgression within the specified bounds of a closed range.\n\n * The progression
starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n
* In order to go backwards the [step] must be negative.\n\n * [step] must be greater than
`Long.MIN_VALUE` and not equal to zero.\n\n */\n public fun fromClosedRange(rangeStart: ULong,
rangeEnd: ULong, step: Long): ULongProgression = ULongProgression(rangeStart, rangeEnd, step)\n
}\n}\n\n/**\n * An iterator over a progression of values of type `ULong`.\n * @property step the number by which
the value is incremented on each step.\n
*/\n@SinceKotlin("1.3")\n@Suppress("DEPRECATION_ERROR")\nprivate class
ULongProgressionIterator(first: ULong, last: ULong, step: Long) : ULongIterator() {\n private val finalElement =
last\n private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n private val step =
step.toULong() // use 2-complement math for negative steps\n private var next = if (hasNext) first else
finalElement\n\n override fun hasNext(): Boolean = hasNext\n\n override fun nextULong(): ULong {\n val
value = next\n if (value == finalElement) {\n if (!hasNext) throw kotlin.NoSuchElementException()\n
hasNext = false\n } else {\n next += step\n }\n return value\n }\n}\n\n"/\n * Copyright
2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.math\n\n/**\n *
Returns the smaller of two values.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun min(a: UInt, b: UInt): UInt {\n return minOf(a, b)\n}\n\n/**\n * Returns the smaller of two
values.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun min(a: ULong, b: ULong): ULong {\n return minOf(a, b)\n}\n\n/**\n * Returns the greater of
two values.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun max(a: UInt, b: UInt): UInt {\n return maxOf(a, b)\n}\n\n/**\n * Returns the greater of two
values.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun max(a: ULong, b: ULong): ULong {\n return maxOf(a, b)\n}\n\n"/\n * Copyright 2010-2021
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Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("UNumbersKt")\npackage kotlin\n\n/**\n * Counts the number of set bits in the
binary representation of this [UInt] number.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countOneBits(): Int =
toInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary
representation of this [UInt] number.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countLeadingZeroBits(): Int =

```



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toInt().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the
binary representation of this [UInt] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countTrailingZeroBits(): Int =
toInt().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [UInt] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeHighestOneBit(): UInt =
toInt().takeHighestOneBit().toInt()\n\n/**\n * Returns a number having a single bit set in the position of the least
significant set bit of this [UInt] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeLowestOneBit(): UInt =
toInt().takeLowestOneBit().toInt()\n\n/**\n * Rotates the binary representation of this [UInt] number left by the
specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as
the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as
rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a
multiple of [UInt.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateLeft(n) ==
number.rotateLeft(n % 32)`\n *\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.rotateLeft(bitCount: Int):
UInt = toInt().rotateLeft(bitCount).toInt()\n\n/**\n * Rotates the binary representation of this [UInt] number
right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter
the number as the most significant bits on the left side.\n * Rotating the number right by a negative bit count is
the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *
Rotating by a multiple of [UInt.SIZE_BITS] (32) returns the same number, or more generally\n *
`number.rotateRight(n) == number.rotateRight(n % 32)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.rotateRight(bitCount: Int):
UInt = toInt().rotateRight(bitCount).toInt()\n\n/**\n * Counts the number of set bits in the binary representation
of this [ULong] number.\n *\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countOneBits(): Int =
toLong().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [ULong] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countLeadingZeroBits(): Int =
toLong().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero
in the binary representation of this [ULong] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countTrailingZeroBits(): Int =
toLong().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [ULong] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeHighestOneBit(): ULong
= toLong().takeHighestOneBit().toULong()\n\n/**\n * Returns a number having a single bit set in the position of the
least significant set bit of this [ULong] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeLowestOneBit(): ULong
= toLong().takeLowestOneBit().toULong()\n\n/**\n * Rotates the binary representation of this [ULong] number left
by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the

```

number as the least significant bits on the right side.\n \* Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n \* `number.rotateLeft(-n) == number.rotateRight(n)`\n \* Rotating by a multiple of [ULong.SIZE\_BITS] (64) returns the same number, or more generally\n \* `number.rotateLeft(n) == number.rotateLeft(n % 64)`\n

```

*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.rotateLeft(bitCount:
Int): ULong = toLong().rotateLeft(bitCount).toULong()\n\n**\n * Rotates the binary representation of this [ULong]
number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side
reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit
count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n
*\n * Rotating by a multiple of [ULong.SIZE_BITS] (64) returns the same number, or more generally\n *
`number.rotateRight(n) == number.rotateRight(n % 64)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.rotateRight(bitCount:
Int): ULong = toLong().rotateRight(bitCount).toULong()\n\n**\n * Counts the number of set bits in the binary
representation of this [UByte] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countOneBits(): Int =
toUInt().countOneBits()\n\n**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [UByte] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countLeadingZeroBits(): Int =
toByte().countLeadingZeroBits()\n\n**\n * Counts the number of consecutive least significant bits that are zero in
the binary representation of this [UByte] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countTrailingZeroBits(): Int =
toByte().countTrailingZeroBits()\n\n**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [UByte] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.takeHighestOneBit(): UByte =
toInt().takeHighestOneBit().toUByte()\n\n**\n * Returns a number having a single bit set in the position of the
least significant set bit of this [UByte] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.takeLowestOneBit(): UByte =
toInt().takeLowestOneBit().toUByte()\n\n**\n * Rotates the binary representation of this [UByte] number left by
the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the
number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the
same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *
Rotating by a multiple of [UByte.SIZE_BITS] (8) returns the same number, or more generally\n *
`number.rotateLeft(n) == number.rotateLeft(n % 8)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.rotateLeft(bitCount:
Int): UByte = toByte().rotateLeft(bitCount).toUByte()\n\n**\n * Rotates the binary representation of this [UByte]
number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side
reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit
count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n
*\n * Rotating by a multiple of [UByte.SIZE_BITS] (8) returns the same number, or more generally\n *
`number.rotateRight(n) == number.rotateRight(n % 8)`\n

```

```

*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.rotateRight(bitCount:
Int): UByte = toByte().rotateRight(bitCount).toUByte()\n\n/**\n * Counts the number of set bits in the binary
representation of this [UShort] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countOneBits(): Int =
toUInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [UShort] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countLeadingZeroBits(): Int =
toShort().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero
in the binary representation of this [UShort] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countTrailingZeroBits(): Int =
toShort().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [UShort] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.takeHighestOneBit(): UShort =
toInt().takeHighestOneBit().toUShort()\n\n/**\n * Returns a number having a single bit set in the position of the
least significant set bit of this [UShort] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.takeLowestOneBit(): UShort =
toInt().takeLowestOneBit().toUShort()\n\n/**\n * Rotates the binary representation of this [UShort] number left
by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the
number as the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the
same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple of [UShort.SIZE_BITS] (16) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.rotateLeft(bitCount:
Int): UShort = toShort().rotateLeft(bitCount).toUShort()\n\n/**\n * Rotates the binary representation of this
[UShort] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the
right side reenter the number as the most significant bits on the left side.\n * Rotating the number right by a
negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) ==
number.rotateLeft(n)`\n * Rotating by a multiple of [UShort.SIZE_BITS] (16) returns the same number, or more
generally\n * `number.rotateRight(n) == number.rotateRight(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.rotateRight(bitCount:
Int): UShort = toShort().rotateRight(bitCount).toUShort()\n\n"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.internal\n\n// (a - b) mod c\nprivate fun
differenceModulo(a: UInt, b: UInt, c: UInt): UInt {\n val ac = a % c\n val bc = b % c\n return if (ac >= bc) ac -
bc else ac - bc + c\n}\n\nprivate fun differenceModulo(a: ULong, b: ULong, c: ULong): ULong {\n val ac = a %
c\n val bc = b % c\n return if (ac >= bc) ac - bc else ac - bc + c\n}\n\n/**\n * Calculates the final element of a
bounded arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end]
in case of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n * No validation on passed
parameters is performed. The given parameters should satisfy the condition:\n * - either `step > 0` and `start <=
end`,\n * - or `step < 0` and `start >= end`.\n * @param start first element of the progression\n * @param end

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ending bound for the progression\n * @param step increment, or difference of successive elements in the
progression\n * @return the final element of the progression\n * @suppress\n
*\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun getProgressionLastElement(start: UInt, end: UInt, step:
Int): UInt = when {\n step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step.toUInt())\n
step < 0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toUInt())\n else -> throw
kotlin.IllegalArgumentException("Step is zero.")\n}\n\n/**\n * Calculates the final element of a bounded
arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case
of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n * No validation on passed
parameters is performed. The given parameters should satisfy the condition:\n * - either `step > 0` and `start <=
end`,\n * - or `step < 0` and `start >= end`.\n * @param start first element of the progression\n * @param end
ending bound for the progression\n * @param step increment, or difference of successive elements in the
progression\n * @return the final element of the progression\n * @suppress\n
*\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun getProgressionLastElement(start: ULong, end: ULong,
step: Long): ULong = when {\n step > 0 -> if (start >= end) end else end - differenceModulo(end, start,
step.toULong())\n step < 0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toULong())\n
else -> throw kotlin.IllegalArgumentException("Step is zero.")\n}\n\n,"/*\n * Copyright 2010-2021 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName("UStringsKt") // string
representation of unsigned numbers\n\npackage kotlin.text\n\n/**\n * Returns a string representation of this [Byte]
value in the specified [radix].\n * @throws IllegalArgumentException when [radix] is not a valid radix for
number to string conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly
\npublic /*inline*/ fun UByte.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string
representation of this [Short] value in the specified [radix].\n * @throws IllegalArgumentException when [radix]
is not a valid radix for number to string conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly
\npublic /*inline*/ fun UShort.toString(radix: Int): String = this.toInt().toString(radix)\n\n\n/**\n * Returns a string
representation of this [Int] value in the specified [radix].\n * @throws IllegalArgumentException when [radix] is
not a valid radix for number to string conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly
\npublic /*inline*/ fun UInt.toString(radix: Int): String = this.toLong().toString(radix)\n\n\n/**\n * Returns a string
representation of this [Long] value in the specified [radix].\n * @throws IllegalArgumentException when [radix]
is not a valid radix for number to string conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
\nULong.toString(radix: Int): String = ulongToString(this.toLong(), checkRadix(radix))\n\n\n/**\n * Parses the string
as a signed [UByte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun String.toUByte():
\nUByte = toUByteOrNull() ?: numberFormatException(this)\n\n\n/**\n * Parses the string as a signed [UByte] number and
returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n *
@throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
\nString.toUByte(radix: Int): UByte = toUByteOrNull(radix) ?: numberFormatException(this)\n\n\n/**\n * Parses the
string as a [UShort] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun String.toUShort():
\nUShort = toUShortOrNull() ?: numberFormatException(this)\n\n\n/**\n * Parses the string as a [UShort] number and
returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n *

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@throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUShort(radix: Int): UShort = toUShortOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the
string as an [UInt] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun String.toUInt():
UInt = toUIntOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as an [UInt] number and returns the
result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUInt(radix: Int): UInt = toUIntOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a
[ULong] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun String.toULong():
ULong = toULongOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a [ULong] number and
returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n *
@throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toULong(radix: Int): ULong = toULongOrNull(radix) ?: numberFormatError(this)\n\n\n\n\n/**\n * Parses
the string as an [UByte] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n *\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUByteOrNull(): UByte? = toUByteOrNull(radix = 10)\n\n/**\n * Parses the string as an [UByte] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUByteOrNull(radix: Int): UByte? {\n val int = this.toUIntOrNull(radix) ?: return null\n if (int >
UByte.MAX_VALUE) return null\n return int.toUByte()\n}\n\n/**\n * Parses the string as an [UShort] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUShortOrNull(): UShort? = toUShortOrNull(radix = 10)\n\n/**\n * Parses the string as an [UShort] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUShortOrNull(radix: Int): UShort? {\n val int = this.toUIntOrNull(radix) ?: return null\n if (int >
UShort.MAX_VALUE) return null\n return int.toUShort()\n}\n\n/**\n * Parses the string as an [UInt] number and
returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUIntOrNull(): UInt? = toUIntOrNull(radix = 10)\n\n/**\n * Parses the string as an [UInt] number and
returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUIntOrNull(radix: Int): UInt? {\n checkRadix(radix)\n\n val length = this.length\n if (length == 0)
return null\n\n val limit: UInt = UInt.MAX_VALUE\n val start: Int\n val firstChar = this[0]\n if (firstChar < '0') {\n if (length == 1 || firstChar != '+') return null\n start = 1\n } else {\n start = 0\n }\n\n val
limitForMaxRadix = 119304647u // limit / 36\n var limitBeforeMul = limitForMaxRadix\n val uradix =
radix.toUInt()\n var result = 0u\n for (i in start until length) {\n val digit = digitOf(this[i], radix)\n\n if
(digit < 0) return null\n if (result > limitBeforeMul) {\n if (limitBeforeMul == limitForMaxRadix) {\n
 limitBeforeMul = limit / uradix\n }\n if (result > limitBeforeMul) {\n
 return null\n }\n }\n }\n\n return result * uradix + digit\n}\n

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 } else {
 return null
 }
 result *= uradix
 val beforeAdding = result
 result += digit.toUInt()
 if (result < beforeAdding) return null // overflow has happened
 return result
}

/** Parses the string as an [ULong] number and returns the result or `null` if the string is not a valid representation of a number. */
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
public fun String.toULongOrNull(): ULong? = toULongOrNull(radix = 10)

/** Parses the string as an [ULong] number and returns the result or `null` if the string is not a valid representation of a number.
 * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion. */
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
public fun String.toULongOrNull(radix: Int): ULong? {
 checkRadix(radix)
 val length = this.length
 if (length == 0) return null
 val limit: ULong = ULong.MAX_VALUE
 val start: Int
 val firstChar = this[0]
 if (firstChar < '0') {
 if (length == 1 || firstChar != '+') return null
 start = 1
 } else {
 start = 0
 }
 val limitForMaxRadix = 512409557603043100uL // limit / 36
 var limitBeforeMul = limitForMaxRadix
 val uradix = radix.toULong()
 var result = 0uL
 for (i in start until length) {
 val digit = digitOf(this[i], radix)
 if (digit < 0) return null
 if (result > limitBeforeMul) {
 if (limitBeforeMul == limitForMaxRadix) {
 limitBeforeMul = limit / uradix
 } else {
 return null
 }
 } else {
 result *= uradix
 val beforeAdding = result
 result += digit.toUInt()
 if (result < beforeAdding) return null // overflow has happened
 }
 }
 return result
}

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 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file. */
@file:Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
package kotlin
import kotlin.annotation.AnnotationTarget
import kotlin.internal.RequireKotlin
import kotlin.internal.RequireKotlinVersionKind

/** Marks the API that is dependent on the experimental unsigned types, including those types themselves.
 * Usages of such API will be reported as warnings unless an explicit opt-in with the [OptIn] annotation, e.g. `@OptIn(ExperimentalUnsignedTypes::class)` or with the `-Xopt-in=kotlin.ExperimentalUnsignedTypes` compiler option is given.
 * It's recommended to propagate the experimental status to the API that depends on unsigned types by annotating it with this annotation. */
@Suppress("DEPRECATION")
@Experimental(level = Experimental.Level.WARNING)
@RequiresOptIn(level = RequiresOptIn.Level.WARNING)
@MustBeDocumented
@Target(CLASS, ANNOTATION_CLASS, PROPERTY, FIELD, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION, PROPERTY_GETTER, PROPERTY_SETTER, TYPEALIAS)
@Retention(AnnotationRetention.BINARY)
@RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)
public annotation class ExperimentalUnsignedTypes

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@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("MathKt")
package kotlin.math

// constants, can't use them from nativeMath as they are not constants there
/** Ratio of the circumference of a circle to its diameter, approximately 3.14159. */
@SinceKotlin("1.2")
public const val PI: Double = 3.141592653589793

/** Base of the natural logarithms, approximately 2.71828. */
@SinceKotlin("1.2")
public const val E: Double = 2.718281828459045

// region =====
Double Math =====
/** Computes the sine of the angle [x] given in radians.
 * Special cases:
 * - `sin(NaN|+Inf|-Inf)` is `NaN`
 */
@SinceKotlin("1.2")
public expect fun sin(x: Double): Double

/** Computes the cosine of the angle [x] given in radians.
 * Special cases:
 * - `cos(NaN|+Inf|-Inf)` is `NaN`
 */
@SinceKotlin("1.2")
public expect fun cos(x: Double): Double

/** Computes the tangent of the angle [x] given in radians.
 * Special cases:
 * - `tan(NaN|+Inf|-Inf)` is `NaN`
 */
@SinceKotlin("1.2")
public expect fun tan(x: Double): Double

/** Computes the arc

```

sine of the value [x]; the returned value is an angle in the range from  $-\pi/2$  to  $\pi/2$  radians. Special cases:  $\text{asin}(x)$  is  $\text{NaN}$ , when  $\text{abs}(x) > 1$  or  $x$  is  $\text{NaN}$ .

`fun asin(x: Double): Double` Computes the arc cosine of the value [x]; the returned value is an angle in the range from  $0.0$  to  $\pi$  radians. Special cases:  $\text{acos}(x)$  is  $\text{NaN}$ , when  $\text{abs}(x) > 1$  or  $x$  is  $\text{NaN}$ .

`fun atan(x: Double): Double` Computes the arc tangent of the value [x]; the returned value is an angle in the range from  $-\pi/2$  to  $\pi/2$  radians. Special cases:  $\text{atan}(\text{NaN})$  is  $\text{NaN}$ .

`fun atan2(y: Double, x: Double): Double` Returns the angle  $\theta$  of the polar coordinates  $(r, \theta)$  that correspond to the rectangular coordinates  $(x, y)$  by computing the arc tangent of the value  $y / x$ ; the returned value is an angle in the range from  $-\pi$  to  $\pi$  radians. Special cases:  $\text{atan2}(0.0, 0.0)$  is  $0.0$ ;  $\text{atan2}(0.0, x)$  is  $0.0$  for  $x > 0$  and  $\pi$  for  $x < 0$ ;  $\text{atan2}(-0.0, x)$  is  $-0.0$  for  $x > 0$  and  $-\pi$  for  $x < 0$ ;  $\text{atan2}(y, +\text{Inf})$  is  $0.0$  for  $0 < y < +\text{Inf}$  and  $-0.0$  for  $-\text{Inf} < y < 0$ ;  $\text{atan2}(y, -\text{Inf})$  is  $\pi$  for  $0 < y < +\text{Inf}$  and  $-\pi$  for  $-\text{Inf} < y < 0$ ;  $\text{atan2}(y, 0.0)$  is  $\pi/2$  for  $y > 0$  and  $-\pi/2$  for  $y < 0$ ;  $\text{atan2}(+\text{Inf}, x)$  is  $\pi/2$  for finite  $x$ ;  $\text{atan2}(-\text{Inf}, x)$  is  $-\pi/2$  for finite  $x$ ;  $\text{atan2}(\text{NaN}, x)$  and  $\text{atan2}(y, \text{NaN})$  is  $\text{NaN}$ .

`fun sinh(x: Double): Double` Computes the hyperbolic sine of the value [x]. Special cases:  $\text{sinh}(\text{NaN})$  is  $\text{NaN}$ ;  $\text{sinh}(+\text{Inf})$  is  $+\text{Inf}$ ;  $\text{sinh}(-\text{Inf})$  is  $-\text{Inf}$ .

`fun cosh(x: Double): Double` Computes the hyperbolic cosine of the value [x]. Special cases:  $\text{cosh}(\text{NaN})$  is  $\text{NaN}$ ;  $\text{cosh}(+\text{Inf})$  is  $+\text{Inf}$ ;  $\text{cosh}(-\text{Inf})$  is  $+\text{Inf}$ .

`fun tanh(x: Double): Double` Computes the hyperbolic tangent of the value [x]. Special cases:  $\text{tanh}(\text{NaN})$  is  $\text{NaN}$ ;  $\text{tanh}(+\text{Inf})$  is  $1.0$ ;  $\text{tanh}(-\text{Inf})$  is  $-1.0$ .

`fun asinh(x: Double): Double` Computes the inverse hyperbolic sine of the value [x]. The returned value is  $y$  such that  $\text{sinh}(y) == x$ . Special cases:  $\text{asinh}(\text{NaN})$  is  $\text{NaN}$ ;  $\text{asinh}(+\text{Inf})$  is  $+\text{Inf}$ ;  $\text{asinh}(-\text{Inf})$  is  $-\text{Inf}$ .

`fun acosh(x: Double): Double` Computes the inverse hyperbolic cosine of the value [x]. The returned value is positive  $y$  such that  $\text{cosh}(y) == x$ . Special cases:  $\text{acosh}(\text{NaN})$  is  $\text{NaN}$ ;  $\text{acosh}(x)$  is  $\text{NaN}$  when  $x < 1$ ;  $\text{acosh}(+\text{Inf})$  is  $+\text{Inf}$ .

`fun atanh(x: Double): Double` Computes the inverse hyperbolic tangent of the value [x]. The returned value is  $y$  such that  $\text{tanh}(y) == x$ . Special cases:  $\text{atanh}(\text{NaN})$  is  $\text{NaN}$ ;  $\text{atanh}(x)$  is  $\text{NaN}$  when  $x > 1$  or  $x < -1$ ;  $\text{atanh}(1.0)$  is  $+\text{Inf}$ ;  $\text{atanh}(-1.0)$  is  $-\text{Inf}$ .

`fun hypot(x: Double, y: Double): Double` Computes  $\sqrt{x^2 + y^2}$  without intermediate overflow or underflow. Special cases: returns  $+\text{Inf}$  if any of arguments is infinite; returns  $\text{NaN}$  if any of arguments is  $\text{NaN}$  and the other is not infinite.

`fun sqrt(x: Double): Double` Computes Euler's number  $e$  raised to the power of the value [x]. Special cases:  $\text{exp}(\text{NaN})$  is  $\text{NaN}$ ;  $\text{exp}(+\text{Inf})$  is  $+\text{Inf}$ ;  $\text{exp}(-\text{Inf})$  is  $0.0$ .

`fun expm1(x: Double): Double` Computes  $\text{exp}(x) - 1$ . This function can be implemented to produce more precise result for [x] near zero. Special cases:  $\text{expm1}(\text{NaN})$  is  $\text{NaN}$ ;  $\text{expm1}(+\text{Inf})$  is  $+\text{Inf}$ ;  $\text{expm1}(-\text{Inf})$  is  $-1.0$ . @see [exp] function.

`fun log(x: Double, base: Double): Double` Computes the logarithm of the value [x] to the given [base]. Special cases:  $\text{log}(x, b)$  is  $\text{NaN}$  if either  $x$  or  $b$  are  $\text{NaN}$ ;  $\text{log}(x, b)$  is  $\text{NaN}$  when  $x < 0$  or  $b \leq 0$  or  $b == 1.0$ ;  $\text{log}(+\text{Inf}, +\text{Inf})$  is  $\text{NaN}$ ;  $\text{log}(+\text{Inf}, b)$  is  $+\text{Inf}$  for  $b > 1$  and  $-\text{Inf}$  for  $b < 1$ ;  $\text{log}(0.0, b)$  is  $-\text{Inf}$  for  $b > 1$  and  $+\text{Inf}$  for  $b < 1$ . See also logarithm functions for common fixed bases: [ln], [log10] and [log2].

`fun ln(x: Double): Double` Computes the natural logarithm (base  $E$ ) of the value [x]. Special cases:  $\text{ln}(\text{NaN})$  is  $\text{NaN}$ ;  $\text{ln}(x)$  is  $\text{NaN}$  when  $x < 0.0$ ;  $\text{ln}(+\text{Inf})$  is  $+\text{Inf}$ ;  $\text{ln}(0.0)$  is  $-\text{Inf}$ .

`fun ln(x: Double): Double` Computes the common logarithm (base 10) of the value [x]. @see [ln]

function for special cases.  
`@SinceKotlin("1.2")\npublic expect fun log10(x: Double): Double\n\n**\n * Computes the binary logarithm (base 2) of the value [x].\n * @see [ln] function for special cases.`  
`@SinceKotlin("1.2")\npublic expect fun log2(x: Double): Double\n\n**\n * Computes  $\ln(x + 1)$ .  
This function can be implemented to produce more precise result for [x] near zero.  
Special cases:  
 $\ln1p(\text{NaN})$  is  $\text{NaN}$   
 $\ln1p(x)$  is  $\text{NaN}$  where  $x < -1.0$   
 $\ln1p(-1.0)$  is  $-\text{Inf}$   
 $\ln1p(+\text{Inf})$  is  $+\text{Inf}$   
@see [ln] function  
@see [expm1] function  
@SinceKotlin("1.2")\npublic expect fun ln1p(x: Double): Double\n\n**\n * Rounds the given value [x] to an integer towards positive infinity.  
@return the smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.  
Special cases:  
 $\text{ceil}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
@SinceKotlin("1.2")\npublic expect fun ceil(x: Double): Double\n\n**\n * Rounds the given value [x] to an integer towards negative infinity.  
@return the largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.  
Special cases:  
 $\text{floor}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
@SinceKotlin("1.2")\npublic expect fun floor(x: Double): Double\n\n**\n * Rounds the given value [x] to an integer towards zero.  
@return the value [x] having its fractional part truncated.  
Special cases:  
 $\text{truncate}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
@SinceKotlin("1.2")\npublic expect fun truncate(x: Double): Double\n\n**\n * Rounds the given value [x] towards the closest integer with ties rounded towards even integer.  
Special cases:  
 $\text{round}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
@SinceKotlin("1.2")\npublic expect fun round(x: Double): Double\n\n**\n * Returns the absolute value of the given value [x].  
Special cases:  
 $\text{abs}(\text{NaN})$  is  $\text{NaN}$   
@see absoluteValue extension property for [Double]  
@SinceKotlin("1.2")\npublic expect fun abs(x: Double): Double\n\n**\n * Returns the sign of the given value [x]:  
 $-1.0$  if the value is negative,  
zero if the value is zero,  
 $1.0$  if the value is positive  
Special case:  
 $\text{sign}(\text{NaN})$  is  $\text{NaN}$   
@SinceKotlin("1.2")\npublic expect fun sign(x: Double): Double\n\n**\n * Returns the smaller of two values.  
If either value is  $\text{NaN}$ , then the result is  $\text{NaN}$ .  
@SinceKotlin("1.2")\npublic expect fun min(a: Double, b: Double): Double\n\n**\n * Returns the greater of two values.  
If either value is  $\text{NaN}$ , then the result is  $\text{NaN}$ .  
@SinceKotlin("1.2")\npublic expect fun max(a: Double, b: Double): Double\n\n// extensions\n\n**\n * Raises this value to the power [x].  
Special cases:  
 $\text{b.pow}(0.0)$  is  $1.0$   
 $\text{b.pow}(1.0) == b$   
 $\text{b.pow}(\text{NaN})$  is  $\text{NaN}$   
 $\text{NaN.pow}(x)$  is  $\text{NaN}$  for  $x != 0.0$   
 $\text{b.pow}(\text{Inf})$  is  $\text{NaN}$  for  $\text{abs}(b) == 1.0$   
 $\text{b.pow}(x)$  is  $\text{NaN}$  for  $b < 0$  and  $x$  is finite and not an integer  
@SinceKotlin("1.2")\npublic expect fun Double.pow(x: Double): Double\n\n**\n * Raises this value to the integer power [n].  
See the other overload of [pow] for details.  
@SinceKotlin("1.2")\npublic expect fun Double.pow(n: Int): Double\n\n**\n * Returns the absolute value of this value.  
Special cases:  
 $\text{NaN.absoluteValue}$  is  $\text{NaN}$   
@see abs function  
@SinceKotlin("1.2")\npublic expect val Double.absoluteValue: Double\n\n**\n * Returns the sign of this value:  
 $-1.0$  if the value is negative,  
zero if the value is zero,  
 $1.0$  if the value is positive  
Special case:  
 $\text{NaN.sign}$  is  $\text{NaN}$   
@SinceKotlin("1.2")\npublic expect val Double.sign: Double\n\n**\n * Returns this value with the sign bit same as of the [sign] value.  
If [sign] is  $\text{NaN}$  the sign of the result is undefined.  
@SinceKotlin("1.2")\npublic expect fun Double.withSign(sign: Double): Double\n\n**\n * Returns this value with the sign bit same as of the [sign] value.  
@SinceKotlin("1.2")\npublic expect fun Double.withSign(sign: Int): Double\n\n**\n * Returns the ulp (unit in the last place) of this value.  
An ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude.  
Special Cases:  
 $\text{NaN.ulp}$  is  $\text{NaN}$   
 $x.ulp$  is  $+\text{Inf}$  when  $x$  is  $+\text{Inf}$  or  $-\text{Inf}$   
 $0.0.ulp$  is  $\text{Double.MIN\_VALUE}$   
@SinceKotlin("1.2")\npublic expect val Double.ulp: Double\n\n**\n * Returns the [Double] value nearest to this value in direction of positive infinity.  
@SinceKotlin("1.2")\npublic expect fun Double.nextUp(): Double\n\n**\n * Returns the [Double] value nearest to this value in direction of negative infinity.  
@SinceKotlin("1.2")\npublic expect fun Double.nextDown(): Double\n\n**\n * Returns the [Double] value nearest to this value in direction from this value towards the value [to].  
Special cases:`



`x.nextTowards(y)` is `NaN` if either `x` or `y` are `NaN`.  
`x.nextTowards(x) == x`.  
`@SinceKotlin("1.2")` public expect fun Double.nextTowards(to: Double): Double  
Rounds this [Double] value to the nearest integer and converts the result to [Int].  
Ties are rounded towards positive infinity.  
Special cases:  
`x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`  
`x.roundToInt() == Int.MIN_VALUE` when `x < Int.MIN_VALUE`  
@throws IllegalArgumentException when this value is `NaN`.  
`@SinceKotlin("1.2")` public expect fun Double.roundToInt(): Int  
Rounds this [Double] value to the nearest integer and converts the result to [Long].  
Ties are rounded towards positive infinity.  
Special cases:  
`x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE`  
`x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE`  
@throws IllegalArgumentException when this value is `NaN`.  
`@SinceKotlin("1.2")` public expect fun Double.roundToLong(): Long  
// endregion  
// region ===== Float Math  
===== Compute the sine of the angle [x] given in radians.  
Special cases:  
`sin(NaN|+Inf|-Inf)` is `NaN`.  
`@SinceKotlin("1.2")` public expect fun sin(x: Float): Float  
Compute the cosine of the angle [x] given in radians.  
Special cases:  
`cos(NaN|+Inf|-Inf)` is `NaN`.  
`@SinceKotlin("1.2")` public expect fun cos(x: Float): Float  
Compute the tangent of the angle [x] given in radians.  
Special cases:  
`tan(NaN|+Inf|-Inf)` is `NaN`.  
`@SinceKotlin("1.2")` public expect fun tan(x: Float): Float  
Compute the arc sine of the value [x].  
the returned value is an angle in the range from `-PI/2` to `PI/2` radians.  
Special cases:  
`asin(x)` is `NaN`, when `abs(x) > 1` or `x` is `NaN`.  
`@SinceKotlin("1.2")` public expect fun asin(x: Float): Float  
Compute the arc cosine of the value [x].  
the returned value is an angle in the range from `0.0` to `PI` radians.  
Special cases:  
`acos(x)` is `NaN`, when `abs(x) > 1` or `x` is `NaN`.  
`@SinceKotlin("1.2")` public expect fun acos(x: Float): Float  
Compute the arc tangent of the value [x].  
the returned value is an angle in the range from `-PI/2` to `PI/2` radians.  
Special cases:  
`atan(NaN)` is `NaN`.  
`@SinceKotlin("1.2")` public expect fun atan(x: Float): Float  
Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond to the rectangular coordinates `(x, y)` by computing the arc tangent of the value `[y] / [x]`.  
the returned value is an angle in the range from `-PI` to `PI` radians.  
Special cases:  
`atan2(0.0, 0.0)` is `0.0`  
`atan2(0.0, x)` is `0.0` for `x > 0` and `PI` for `x < 0`  
`atan2(-0.0, x)` is `-0.0` for `x > 0` and `-PI` for `x < 0`  
`atan2(y, +Inf)` is `0.0` for `0 < y < +Inf` and `-0.0` for `-Inf < y < 0`  
`atan2(y, -Inf)` is `PI` for `0 < y < +Inf` and `-PI` for `-Inf < y < 0`  
`atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`  
`atan2(+Inf, x)` is `PI/2` for finite `x`  
`atan2(-Inf, x)` is `-PI/2` for finite `x`  
`atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`.  
`@SinceKotlin("1.2")` public expect fun atan2(y: Float, x: Float): Float  
Compute the hyperbolic sine of the value [x].  
Special cases:  
`sinh(NaN)` is `NaN`  
`sinh(+Inf)` is `+Inf`  
`sinh(-Inf)` is `-Inf`.  
`@SinceKotlin("1.2")` public expect fun sinh(x: Float): Float  
Compute the hyperbolic cosine of the value [x].  
Special cases:  
`cosh(NaN)` is `NaN`  
`cosh(+Inf|-Inf)` is `+Inf`.  
`@SinceKotlin("1.2")` public expect fun cosh(x: Float): Float  
Compute the hyperbolic tangent of the value [x].  
Special cases:  
`tanh(NaN)` is `NaN`  
`tanh(+Inf)` is `1.0`  
`tanh(-Inf)` is `-1.0`.  
`@SinceKotlin("1.2")` public expect fun tanh(x: Float): Float  
Compute the inverse hyperbolic sine of the value [x].  
The returned value is `y` such that `sinh(y) == x`.  
Special cases:  
`asinh(NaN)` is `NaN`  
`asinh(+Inf)` is `+Inf`  
`asinh(-Inf)` is `-Inf`.  
`@SinceKotlin("1.2")` public expect fun asinh(x: Float): Float  
Compute the inverse hyperbolic cosine of the value [x].  
The returned value is positive `y` such that `cosh(y) == x`.  
Special cases:  
`acosh(NaN)` is `NaN`  
`acosh(x)` is `NaN` when `x < 1`  
`acosh(+Inf)` is `+Inf`.  
`@SinceKotlin("1.2")` public expect fun acosh(x: Float): Float  
Compute the inverse hyperbolic tangent of the value [x].  
The returned value is `y` such that `tanh(y) == x`.  
Special cases:  
`atanh(NaN)` is `NaN`  
`atanh(x)` is `NaN` when `x > 1` or `x < -1`  
`atanh(1.0)` is `+Inf`  
`atanh(-1.0)` is `-Inf`.  
`@SinceKotlin("1.2")` public expect fun atanh(x: Float): Float  
Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow.  
Special cases:  
returns `+Inf` if any of arguments is

infinite\n \* - returns `NaN` if any of arguments is `NaN` and the other is not infinite\n

\*\n@SinceKotlin("1.2")\npublic expect fun hypot(x: Float, y: Float): Float\n\n/\*\*\n \* Computes the positive square root of the value [x].\n \* Special cases:\n \* - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`\n

\*\n@SinceKotlin("1.2")\npublic expect fun sqrt(x: Float): Float\n\n/\*\*\n \* Computes Euler's number `e` raised to the power of the value [x].\n \* Special cases:\n \* - `exp(NaN)` is `NaN`\n \* - `exp(+Inf)` is `+Inf`\n \* - `exp(-Inf)` is `0.0`\n

\*\n@SinceKotlin("1.2")\npublic expect fun exp(x: Float): Float\n\n/\*\*\n \* Computes `exp(x) - 1`.\n \* This function can be implemented to produce more precise result for [x] near zero.\n \* Special cases:\n \* - `expm1(NaN)` is `NaN`\n \* - `expm1(+Inf)` is `+Inf`\n \* - `expm1(-Inf)` is `-1.0`\n \* @see [exp] function.\n

\*\n@SinceKotlin("1.2")\npublic expect fun expm1(x: Float): Float\n\n/\*\*\n \* Computes the logarithm of the value [x] to the given [base].\n \* Special cases:\n \* - `log(x, b)` is `NaN` if either `x` or `b` are `NaN`\n \* - `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0`\n \* - `log(+Inf, +Inf)` is `NaN`\n \* - `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1`\n \* - `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1`\n

\*\n \* See also logarithm functions for common fixed bases: [ln], [log10] and [log2].\n

\*\n@SinceKotlin("1.2")\npublic expect fun log(x: Float, base: Float): Float\n\n/\*\*\n \* Computes the natural logarithm (base `E`) of the value [x].\n \* Special cases:\n \* - `ln(NaN)` is `NaN`\n \* - `ln(x)` is `NaN` when `x < 0.0`\n \* - `ln(+Inf)` is `+Inf`\n \* - `ln(0.0)` is `-Inf`\n

\*\n@SinceKotlin("1.2")\npublic expect fun ln(x: Float): Float\n\n/\*\*\n \* Computes the common logarithm (base 10) of the value [x].\n \* @see [ln] function for special cases.\n

\*\n@SinceKotlin("1.2")\npublic expect fun log10(x: Float): Float\n\n/\*\*\n \* Computes the binary logarithm (base 2) of the value [x].\n \* @see [ln] function for special cases.\n

\*\n@SinceKotlin("1.2")\npublic expect fun log2(x: Float): Float\n\n/\*\*\n \* Computes `ln(a + 1)`.\n \* This function can be implemented to produce more precise result for [x] near zero.\n \* Special cases:\n \* - `ln1p(NaN)` is `NaN`\n \* - `ln1p(x)` is `NaN` where `x < -1.0`\n \* - `ln1p(-1.0)` is `-Inf`\n \* - `ln1p(+Inf)` is `+Inf`\n \* @see [ln] function\n \* @see [expm1] function\n

\*\n@SinceKotlin("1.2")\npublic expect fun ln1p(x: Float): Float\n\n/\*\*\n \* Rounds the given value [x] to an integer towards positive infinity.\n \* @return the smallest Float value that is greater than or equal to the given value [x] and is a mathematical integer.\n \* Special cases:\n \* - `ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n

\*\n@SinceKotlin("1.2")\npublic expect fun ceil(x: Float): Float\n\n/\*\*\n \* Rounds the given value [x] to an integer towards negative infinity.\n \* @return the largest Float value that is smaller than or equal to the given value [x] and is a mathematical integer.\n \* Special cases:\n \* - `floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n

\*\n@SinceKotlin("1.2")\npublic expect fun floor(x: Float): Float\n\n/\*\*\n \* Rounds the given value [x] to an integer towards zero.\n \* @return the value [x] having its fractional part truncated.\n \* Special cases:\n \* - `truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n

\*\n@SinceKotlin("1.2")\npublic expect fun truncate(x: Float): Float\n\n/\*\*\n \* Rounds the given value [x] towards the closest integer with ties rounded towards even integer.\n \* Special cases:\n \* - `round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n

\*\n@SinceKotlin("1.2")\npublic expect fun round(x: Float): Float\n\n/\*\*\n \* Returns the absolute value of the given value [x].\n \* Special cases:\n \* - `abs(NaN)` is `NaN`\n \* @see absoluteValue extension property for [Float]\n

\*\n@SinceKotlin("1.2")\npublic expect fun abs(x: Float): Float\n\n/\*\*\n \* Returns the sign of the given value [x]:\n \* - `-1.0` if the value is negative,\n \* - zero if the value is zero,\n \* - `1.0` if the value is positive\n \* Special case:\n \* - `sign(NaN)` is `NaN`\n

\*\n@SinceKotlin("1.2")\npublic expect fun sign(x: Float): Float\n\n/\*\*\n \* Returns the smaller of two values.\n \* If either value is `NaN`, then the result is `NaN`.\n

\*\n@SinceKotlin("1.2")\npublic expect fun min(a: Float, b: Float): Float\n\n/\*\*\n \* Returns the greater of two values.\n \* If either value is `NaN`, then the result is `NaN`.\n

\*\n@SinceKotlin("1.2")\npublic expect fun max(a: Float, b: Float): Float\n\n/\*\*\n \* Raises this value to the power [x].\n \* Special cases:\n \* - `b.pow(0.0)` is `1.0`\n \* - `b.pow(1.0) == b`\n \* - `b.pow(NaN)` is `NaN`\n \* - `NaN.pow(x)` is `NaN` for `x != 0.0`\n \* - `b.pow(Inf)` is `NaN` for `abs(b) == 1.0`\n \* - `b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not an integer\n

\*\n@SinceKotlin("1.2")\npublic expect fun Float.pow(x: Float): Float\n\n/\*\*\n \* Raises this value to the integer power [n].\n \* See the other overload of [pow] for details.\n

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*\n@SinceKotlin("1.2")\npublic expect fun Float.pow(n: Int): Float\n\n**\n * Returns the absolute value of this value.\n * * Special cases:\n * - `NaN.absoluteValue` is `NaN`\n * * @see abs function\n
*\n@SinceKotlin("1.2")\npublic expect val Float.absoluteValue: Float\n\n**\n * Returns the sign of this value:\n * * - `-1.0` if the value is negative,\n * * - zero if the value is zero,\n * * - `1.0` if the value is positive\n * * * Special case:\n * * - `NaN.sign` is `NaN`\n * * @\n@SinceKotlin("1.2")\npublic expect val Float.sign: Float\n\n**\n * Returns this value with the sign bit same as of the [sign] value.\n * * If [sign] is `NaN` the sign of the result is undefined.\n * * @\n@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Float): Float\n\n**\n * Returns this value with the sign bit same as of the [sign] value.\n * * @\n@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Int): Float\n\n**\n * Rounds this [Float] value to the nearest integer and converts the result to [Int].\n * * Ties are rounded towards positive infinity.\n * * * Special cases:\n * * - `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`\n * * - `x.roundToInt() == Int.MIN_VALUE` when `x < Int.MIN_VALUE`\n * * * @throws IllegalArgumentException when this value is `NaN`\n * * @\n@SinceKotlin("1.2")\npublic expect fun Float.roundToInt(): Int\n\n**\n * Rounds this [Float] value to the nearest integer and converts the result to [Long].\n * * Ties are rounded towards positive infinity.\n * * * Special cases:\n * * - `x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE`\n * * - `x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE`\n * * * @throws IllegalArgumentException when this value is `NaN`\n * * @\n@SinceKotlin("1.2")\npublic expect fun Float.roundToLong(): Long\n\n\n// endregion\n\n// region\n\n==== Integer Math ==== \n\n**\n * Returns the absolute value of the given value [n].\n * * * Special cases:\n * * - `abs(Int.MIN_VALUE)` is `Int.MIN_VALUE` due to an overflow\n * * * @see absoluteValue extension property for [Int]\n * * @\n@SinceKotlin("1.2")\npublic expect fun abs(n: Int): Int\n\n**\n * Returns the smaller of two values.\n * * @\n@SinceKotlin("1.2")\npublic expect fun min(a: Int, b: Int): Int\n\n**\n * Returns the greater of two values.\n * * @\n@SinceKotlin("1.2")\npublic expect fun max(a: Int, b: Int): Int\n\n**\n * Returns the absolute value of this value.\n * * * Special cases:\n * * - `Int.MIN_VALUE.absoluteValue` is `Int.MIN_VALUE` due to an overflow\n * * * @see abs function\n * * @\n@SinceKotlin("1.2")\npublic expect val Int.absoluteValue: Int\n\n**\n * Returns the sign of this value:\n * * - `-1` if the value is negative,\n * * - `0` if the value is zero,\n * * - `1` if the value is positive\n * * @\n@SinceKotlin("1.2")\npublic expect val Int.sign: Int\n\n\n// endregion\n\n**\n * Returns the absolute value of the given value [n].\n * * * Special cases:\n * * - `abs(Long.MIN_VALUE)` is `Long.MIN_VALUE` due to an overflow\n * * * @see absoluteValue extension property for [Long]\n * * @\n@SinceKotlin("1.2")\npublic expect fun abs(n: Long): Long\n\n**\n * Returns the smaller of two values.\n * * @\n@SinceKotlin("1.2")\npublic expect fun min(a: Long, b: Long): Long\n\n**\n * Returns the greater of two values.\n * * @\n@SinceKotlin("1.2")\npublic expect fun max(a: Long, b: Long): Long\n\n**\n * Returns the absolute value of this value.\n * * * Special cases:\n * * - `Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n * * * @see abs function\n * * @\n@SinceKotlin("1.2")\npublic expect val Long.absoluteValue: Long\n\n**\n * Returns the sign of this value:\n * * - `-1` if the value is negative,\n * * - `0` if the value is zero,\n * * - `1` if the value is positive\n * * @\n@SinceKotlin("1.2")\npublic expect val Long.sign: Int\n\n\n// endregion\n\nendregion\n", "names": [], "mappings": "AAWC,CAXA,yB;EACG,IAAI,OAAO,MAAO,KAAI,UAAW,IAAG,MAA M,IAA1C,C;IACI,MAAM,CAAC,QAAD,EAAW,CAAC,SAAD,CAAX,EAAwB,OAAxB,C;SAEL,IAAI,OAAO,O AAQ,KAAl,QAAvB,C;IACD,OAAO,CAAC,MAAM,QAAP,C;;IAGP,IAAI,OAAQ,GAAE,E;IACd,OAAO,CAAC ,IAAI,OAAL,C;;CAEd,CAAC,IAAD,EAAO,kB;EACJ,IAAI,IAAI,M;ECPZ,MAAM,eAAgB,GAAE,a;IACpB,OA AoD,CAA5C,KAAK,QAAQ,CAAC,CAAD,CAAI,IAAG,CAAE,YAAW,SAAW,KAAG,CAAC,OAAQ,KAAl,c;G ;EAGxE,MAAM,YAAa,GAAE,a;IACjB,OAAO,CAAE,YAAW,SAAU,IAAG,CAAC,OAAQ,KAAl,c;G;EAGID,M AAM,aAAc,GAAE,a;IACIB,OAAO,CAAE,YAAW,U;G;EAGxB,MAAM,YAAa,GAAE,a;IACjB,OAAO,CAAE,Y AAW,WAAy,IAAG,CAAC,OAAQ,KAAl,W;G;EAGpD,MAAM,WAAy,GAAE,a;IAChB,OAAO,CAAE,YAAW, U;G;EAGxB,MAAM,aAAc,GAAE,a;IACIB,OAAO,CAAE,YAAW,Y;G;EAGxB,MAAM,cAAe,GAAE,a;IACnB,O AAO,CAAE,YAAW,Y;G;EAGxB,MAAM,YAAa,GAAE,a;IACjB,OAAO,KAAK,QAAQ,CAAC,CAAD,CAAI,IA AG,CAAC,OAAQ,KAAl,W;G;EAG5C,MAAM,QAAS,GAAE,a;IACb,OAAO,KAAK,QAAQ,CAAC,CAAD,CAA I,IAAG,CAAC,CAAC,O;G;EAGjC,MAAM,WAAy,GAAE,a;IAChB,OAAO,KAAK,QAAQ,CAAC,CAAD,CAAI,

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B,e;.....;gCCIDhD,yC;+BCVA,uC;+BCAA,sC;;gCCyJ/B,+B;+BAIW,sC;gCCqwCc,+B;0BAHvB,kC;uBAr6B

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Oz/UX,aPy/UgC,GOz/UhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPs/UA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAIQ  
T,OAoQO,W;O;KA7QX,C;sFAYA,yB;MAAA,wE;MAoQA,+D;MApQA,yC;QASW,kBAAU,oB;QAoQD,Q;QAA  
hB,iD;UAAgB,cAAhB,e;UACI,UArQuD,WaqQ7C,CAAY,OAAZ,C;UO3gVP,U;UADP,YP6gVe,W07gVH,WP6  
gVwB,GO7gVxB,C;UACL,IAAI,aAAJ,C;YACH,aP2gVuC,gB;YAA5B,W01gVX,aP0gVgC,GO1gVhC,EAAS,M  
AAT,C;YACA,e;;YAEA,c;;UPugVA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAvQT,OAYQO,W;O;KAIRX,C;sFAYA,  
yB;MAAA,wE;MAyQA,oC;MAAA,+D;MAAA,gC;MAzQA,yC;QASW,kBAAU,oB;QAYQD,Q;QAAhB,iD;UAA  
gB,cAAhB,0B;UACI,UA1QoD,WA0Q1C,CAAY,oBAAZ,C;UO5hVP,U;UADP,YP8hVe,W09hVH,WP8hVwB,G  
O9hVxB,C;UACL,IAAI,aAAJ,C;YACH,aP4hVuC,gB;YAA5B,W03hVX,aP2hVgC,GO3hVhC,EAAS,MAAT,C;Y  
ACA,e;;YAEA,c;;UPwhVA,iB;UACA,IAAK,WAAI,oBAAJ,C;;QA5QT,OA8QO,W;O;KAvRX,C;sFAYA,yB;MA  
AA,wE;MA8QA,+D;MA9QA,yD;QAUW,kBAAU,oB;QA8QD,Q;QAAhB,iD;UAAgB,cAAhB,e;UACI,UA/QiD,  
WA+QvC,CAAY,OAAZ,C;UO9iVP,U;UADP,YPgjVe,WohjVH,WPgjVwB,GOhjVxB,C;UACL,IAAI,aAAJ,C;Y  
ACH,aP8iVuC,gB;YAA5B,W07iVX,aP6iVgC,GO7iVhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UP0iVA,iB;UACA  
,IAAK,WajRyD,cAiRrD,CAAE,OAAf,CAAJ,C;;QAJRT,OAmRO,W;O;KA7RX,C;sFAaA,yB;MAAA,wE;MAmR  
A,+D;MAmRA,yD;QAUW,kBAAU,oB;QAmRD,Q;QAAhB,iD;UAAgB,cAAhB,e;UACI,UApRiD,WaORvC,CAA  
Y,OAAZ,C;UOhkVP,U;UADP,YPkkVe,WolkVH,WPkkVwB,GOlkVxB,C;UACL,IAAI,aAAJ,C;YACH,aPkgVuC  
,gB;YAA5B,W0jVX,aP+jVgC,GOjVhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UP4jVA,iB;UACA,IAAK,WAtRy  
D,cAsRrD,CAAE,OAAf,CAAJ,C;;QATRT,OAwRO,W;O;KAISX,C;uFAaA,yB;MAAA,wE;MAwRA,+D;MAxRA,  
yD;QAUW,kBAAU,oB;QAwRD,Q;QAAhB,iD;UAAgB,cAAhB,e;UACI,UAzRiD,WaYRvC,CAAY,OAAZ,C;UOI  
IVP,U;UADP,YPolVe,WOpIVH,WPoIVwB,GOpIVxB,C;UACL,IAAI,aAAJ,C;YACH,aPkiVuC,gB;YAA5B,Wojl



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R,C;YACI,IAAK,WAAI,CAAJ,C;;QAEb,OAAO,I;O;KAjBX,C;4FAoBA,yB;MAAA,2D;MAAA,+D;MAAA,s  
C;QAWc,Q;QAFV,UAAU,c;QACV,WAAW,gB;QACX,wBAAU,SAAV,gB;UAAU,QAAA,SAAV,M;UACI,UAA  
U,SAAS,CAAT,C;UACV,IAAI,GAAL,WAAI,GAAL,CAAJ,CAAR,C;YACI,IAAK,WAAI,CAAJ,C;;QAEb,OAAO,I;O;K  
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R,C;YACI,IAAK,WAAI,CAAJ,C;;QAEb,OAAO,I;O;KAhBX,C;4FAMBA,yB;MAAA,2D;MAAA,+D;MAAA,sC;  
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X,0B;MAMI,OAAO,EA9mJA,qBAAQ,CA8mJR,C;K;IAGX,0B;MAMI,OAAO,EA/mJA,qBAAQ,CA+mJR,C;K;I  
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F/+DjB,C;;UEi/Dd,qBAAO,Q;;;QI10DP,yB;O;KAXJ,C;+FACa,+B;MASmB,kBAAR,iB;MAAQ,sB;;QJ00Df,eAA  
e,sB;QACf,IAAI,CAAC,QAAS,UAAAd,C;UAAyB,qBAAO,I;UAAP,uB;SACzB,eI50D2B,QJ40DZ,CAAS,QAAS,O  
AAIB,C;QACf,OAAO,QAAS,UAAhB,C;UACI,QI90DuB,QJ80Df,CAAS,QAAS,OAAIB,C;UACR,IAAI,2BAAW,  
CAAX,KAAJ,C;YACI,WAAW,C;;QAGnB,qBAAO,Q;;;MIn1DP,yB;K;0FAGJ,yB;MJm1DA,sE;MIn1DA,kD;QJ8  
1DI,eIn1DO,iBjM1DQ,W;QACf,IAAI,CAAC,QAAS,UAAAd,C;UAAyB,MAAM,6B;QAC/B,eIrlDqC,QJq1DtB,CA  
AS,QAAS,OAAIB,C;QACf,OAAO,QAAS,UAAhB,C;UACI,QIv1DiC,QJu1DzB,CAAS,QAAS,OAAIB,C;UACR,I  
Ix1DqB,UJw1DN,SAAQ,QAAR,EAakB,CAaIB,CAAX,GAakC,CAAtC,C;YACI,WAAW,C;;QIz1DnB,OJ41DO,  
Q;O;KIv2DX,C;sGAcA,2C;MASmB,kBAAR,iB;MAAQ,0B;;QJ41Df,eAAe,sB;QACf,IAAI,CAAC,QAAS,UAAAd,  
C;UAAyB,yBAAO,I;UAAP,2B;SACzB,eI91D2C,QJ81D5B,CAAS,QAAS,OAAIB,C;QACf,OAAO,QAAS,UAAh  
B,C;UACI,QIh2DuC,QJg2D/B,CAAS,QAAS,OAAIB,C;UACR,IJ2D2B,UJi2DZ,SAAQ,QAAR,EAakB,CAaIB,C  
AAX,GAakC,CAAtC,C;YACI,WAAW,C;;QAGnB,yBAAO,Q;;;Mlr2DP,6B;K;IAGJ,0C;MAGI,OASe,gBAAR,iB  
AAQ,EATM,UASN,C;K;kGANnB,yB;MAAA,8D;MAAA,wC;QAMI,OAAe,cAAR,iBAAQ,EAAC,UAAAd,C;O;KA  
NnB,C;IASA,4B;MAMI,OAAO,mB;K;iFAGX,gC;MAOoB,Q;MADhB,IAAI,mBAAJ,C;QAAe,OAAO,I;MACN,O  
AAA,SjBnJoE,QAAQ,W;MiBmJ5F,OAAGB,cAAhB,C;QAAGB,yB;QAAM,IAAI,UAAU,OAAV,CAAJ,C;UAAw  
B,OAAO,K;;MACrD,OAAO,I;K;oFAGX,6B;MAKmC,Q;MAAA,OjB5JqD,iBAAQ,W;MiB4J7E,OAAGB,cAAhB,  
C;QAAGB,yB;QAAM,OAAO,OAAP,C;;MAArC,gB;K;kGAGJ,yB;MAAA,6B;MAAA,sC;MJwyCA,wE;MIxyCA,  
2BAQIB,yB;QJgyCjB,wE;eIhYCiB,0B;UAAA,4B;YAAU,kBAAR,iB;YAAQ,aAAe,c;YJuyCzB,gB;YADb,YAAY,  
C;YACC,6B;YAAb,OAAa,cAAb,C;cAAa,sB;cAAM,OAAO,oBAAmB,cAAnB,EAAMB,sBAAnB,UAAP,EAAoC,  
IAAPC,C;;YIvyC2B,W;W;S;OAAjC,C;MARjB,oC;QJ+yCiB,gB;QADb,YAAY,C;QACC,OIvyCE,iBjuyCF,W;QA  
Ab,OAAa,cAAb,C;UAAa,sB;UAAM,OAAO,oBAAmB,cAAnB,EAAMB,sBAAnB,UAAP,EAAoC,IAAPC,C;;QIvy  
CnB,gB;O;KARJ,C;4FAWA,qB;MAKI,OAAO,iB;K;IAGX,iC;MAII,OAAe,aAAR,iBAAQ,C;K;IC9hBnB,kC;MA  
EI,gBCmE2D,8BAAy,c;MDIEvE,IAAI,SAAU,OAAV,GAAMB,CAAvB,C;QACW,Q;QAAA,IAAI,cAAQ,GAAZ,  
C;UAAA,OAAsB,S;;uBAAe,qBAAU,CAAV,C;UAAA,YAAe,SEiNc,WFjNM,CEiNN,CAff,c;UFIMnD,OG8MoD,  
2BAAL,GAakB,K;;QH9MxE,W;OAEJ,OAAuB,oBAAhB,wBAAgB,C;K;gFxBD3B,yB;MAAA,mC;MAAA,2C;M  
AAA,4B;QAQI,OAAO,kBAAO,cAAP,C;O;KARX,C;gFAWA,yB;MAAA,mC;MAAA,2C;MAAA,4B;QAQI,OAA  
O,kBAAO,cAAP,C;O;KARX,C;gFAWA,yB;MAAA,mC;MAAA,2C;MAAA,4B;QAQI,OAAO,kBAAO,cAAP,C;O  
;KARX,C;IAWA,sC;;QAQQ,OAAc,QAAP,MAAO,EAAQ,SAAR,C;;QACHB,+C;UACE,MAAM,2BAAuB,CAAE  
,QAAzB,C;;UAHV,O;;K;IAOJ,sC;;QAQQ,OAAc,SAAP,MAAO,EAAS,SAAT,C;;QACHB,+C;UACE,MAAM,2B  
AAuB,CAAE,QAAzB,C;;UAHV,O;;K;IAOJ,sC;;QAQQ,OAAiD,OAA1C,MAAO,iBAAQ,e4BtCgB,I5BsCxB,EA  
AoB,CAAA,c4BtCI,I5BsCJ,IAAY,CAAZ,IAApB,CAAmC,C;;QACnD,+C;UACE,MAAM,2BAAuB,CAAE,QAAz  
B,C;;UAHV,O;;K;4FAOJ,yB;MAAA,mC;MAAA,uD;MAAA,4B;QAOI,OAAO,wBAAa,cAAb,C;O;KAPX,C;4FA  
UA,yB;MAAA,mC;MAAA,uD;MAAA,4B;QAOI,OAAO,wBAAa,cAAb,C;O;KAPX,C;4FAUA,yB;MAAA,mC;M  
AAA,uD;MAAA,4B;QAOI,OAAO,wBAAa,cAAb,C;O;KAPX,C;IAUA,4C;MAMI,IAAI,mBAAJ,C;QACI,OAAO,  
I;MACX,OAAc,QAAP,MAAO,EAAQ,SAAR,C;K;IAGIB,4C;MAMI,IAAI,mBAAJ,C;QACI,OAAO,I;MACX,OA  
Ac,SAAP,MAAO,EAAS,SAAT,C;K;IAGIB,4C;MAMI,IAAI,mBAAJ,C;QACI,OAAO,I;MACX,OAAiD,OAA1C,  
MAAO,iBAAQ,e4BxGoB,I5BwG5B,EAAoB,CAAA,c4BxGQ,I5BwGR,IAAY,CAAZ,IAApB,CAAmC,C;K;mFA  
GrD,8B;MAQI,OAAO,mBAAmB,2BAAS,OAAT,C;K;oFAG9B,8B;MAQI,OAAO,mBAAmB,2BAAS,OAAT,C;K  
;oFAG9B,8B;MAQI,OAAO,mBAAmB,2BAAS,OAAT,C;K;IAG9B,uC;MAKI,OAAO,2BAAe,KAAf,C;K;IAGX,u  
C;MAKI,OAAO,2BAAe,oBAAN,KAAM,CAAF,C;K;IAGX,uC;MAKI,OAAO,2BAAe,KAAf,C;K;IAGX,uC;MAO  
I,OAAO,2BAAe,KAAf,C;K;IAGX,uC;MAOI,OAAO,2BAAe,KAAf,C;K;IAGX,uC;MgBzHW,ShBgIM,mBAAN,  
KAAM,C;MAAb,OAA0C,UAAJ,GAAgB,2BAAS,EAAT,CAAhB,GAakC,K;K;IAG5E,uC;MgBnIW,ShB0IM,kB  
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,OAAO,2BAAe,KAAf,C;K;IAGX,uC;MgBzKW,ShBgLM,mBAAN,KAAM,C;MAAb,OAA0C,UAAJ,GAAgB,2B  
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gB,2BAAS,EAAT,CAAhB,GAakC,K;K;IAG7E,uC;MgB7LW,ShBoMM,oBAAN,KAAM,C;MAAb,OAA2C,UAA

J,GAAgB,2BAAS,EAAT,CAAhB,GAakC,K;K;IAG7E,uC;MgBvMW,ShB8MM,qBAAN,KAAM,C;MAAb,OAA4C,UAAJ,GAAgB,2BAAS,EAAT,CAAhB,GAakC,K;K;IAG9E,uC;MAKI,OAAO,2BA Ae,KAAf,C;K;IAGX,uC;MAKI,OAAO,2BA Ae,oBAAN,KAAM,CAAf,C;K;IAGX,uC;MgBjOW,ShBsOM,kBAAN,KAAM,C;MAAb,OAA2C,UAAJ,GAAgB,2BAAS,EAAT,CAAhB,GAakC,K;K;IAG7E,uC;MgBzOW,ShB8OM,mBAAN,KAAM,C;MAAb,OAA4C,UAAJ,GAAgB,2BAAS,EAAT,CAAhB,GAakC,K;K;IAG9E,uC;MAOI,OAAO,2BA Ae,KAAf,C;K;IAGX,uC;MAOI,OAAO,2BA Ae,KAAf,C;K;IAGX,uC;MgBrQW,ShB0QM,iBAAN,KAAM,C;MAAb,OAA0C,UAAJ,GAAgB,2BAAS,EAAT,CAAhB,GAakC,K;K;IAG5E,uC;MgB7QW,ShBkRM,oBAAN,KAAM,C;MAAb,OAA2C,UAAJ,GAAgB,2BAAS,EAAT,CAAhB,GAakC,K;K;IAG7E,uC;MgBrRW,ShB0RM,qBAAN,KAAM,C;MAAb,OA A4C,UAAJ,GAAgB,2BAAS,EAAT,CAAhB,GAakC,K;K;IAG9E,uC;MAOI,OAAO,2BAAS,KAAM,WAAf,C;K;I AGX,uC;MAOI,OAAO,2BAAS,KAAM,WAAf,C;K;IAGX,uC;MAKI,OAAO,2BA Ae,KAAf,C;K;IAGX,uC;MAKI ,OAAO,2BA Ae,oBAAN,KAAM,CAAf,C;K;IAGX,uC;MgBjUW,ShBsUM,oBAAN,KAAM,C;MAAb,OAA2C,UA AJ,GAAgB,2BAAS,EAAT,CAAhB,GAakC,K;K;IAG7E,uC;MAOI,OAAO,2BA Ae,KAAf,C;K;IAGX,uC;MAOI, OAAO,2BA Ae,KAAf,C;K;IAGX,+B;MAOI,OAAO,sCAAe,yBAAgB,SAAhB,EAAyB,EAAzB,EAAkC,EAAiC,C; K;IAG1B,iC;MAOI,OAAO,uCAAgB,yBAAgB,SAAhB,EAAyB,oBAAH,EAAG,CAAzB,M;K;IAG3B,iC;MAOI,O AAO,sCAAe,yBAAqB,SAArB,EAAiC,EAAjC,EAA0C,EAA1C,C;K;IAG1B,iC;MAOI,OAAO,sCAAe,yBAAqB,S AArB,EAAiC,EAAjC,EAA0C,EAA1C,C;K;IAG1B,iC;MAOI,OAAO,uCAAgB,yBAAgB,SAAhB,EAAyB,EAAzB, EAA0B,EAA1B,C;K;IAG3B,iC;MAOI,OAAO,sCAAe,yBAAgB,SAAhB,EAAyB,EAAzB,EAA0B,EAA1B,C;K;IA G1B,iC;MAOI,OAAO,uCAAgB,yBAAgB,SAAhB,EAAyB,oBAAH,EAAG,CAAzB,M;K;IAG3B,iC;MAOI,OAA O,sCAAe,yBAAqB,SAArB,EAA8B,EAA9B,EAAkC,EAAiC,C;K;IAG1B,iC;MAOI,OAAO,sCAAe,yBAAqB,SA A rB,EAA8B,EAA9B,EAAkC,EAAiC,C;K;IAG1B,iC;MAOI,OAAO,uCAAgB,yBAAqB,oBAAL,SAAK,CAArB,EA A+B,EAA/B,M;K;IAG3B,iC;MAOI,OAAO,uCAAgB,yBAAgB,SAAhB,EAAyB,EAAzB,EAA0B,EAA1B,C;K;IAG 3B,kC;MAOI,O AAO,uCAAgB,yBAAqB,oBAAL,SAAK,CAArB,EAA+B,EAA/B,M;K;IAG3B,kC;MAOI,OAAO,uCAAgB,yBAA qB,oBAAL,SAAK,CAArB,EAA+B,EAA/B,M;K;IAG3B,kC;MAOI,OAAO,sCAAe,yBAAgB,SAAhB,EAAyB,EA AzB,EAAkC,EAAiC,C;K;IAG1B,kC;MAOI,OAAO,uCAAgB,yBAAgB,SAAhB,EAAyB,oBAAH,EAAG,CAAzB, M;K;IAG3B,kC;MAOI,OAAO,sCAAe,yBAAqB,SAArB,EAAiC,EAAjC,EAA0C,EAA1C,C;K;IAG1B,kC;MAOI, OAAO,sCAAe,yBAAqB,SAArB,EAAiC,EAAjC,EAA0C,EAA1C,C;K;IAG1B,+B;MAII,OAAO,sCAAe,yBAAgB, cAAhB,EAAyB,eAAzB,EAA6B,CAAC,cAAD,IAA7B,C;K;IAG1B,gC;MAII,OAAO,uCAAgB,yBAAgB,cAAhB,E AAsB,eAAzB,EAA8B,cAAD,aAA7B,C;K;IAG3B,gC;MAII,OAAO,uCAAgB,yBAAgB,cAAhB,EAAyB,eAAzB,E AA6B,CAAC,cAAD,IAA7B,C;K;IAG3B,+B;MAII,oBAAoB,OAAO,CAA3B,EAA8B,IAA9B,C;MACA,OAAO,s CAAe,yBAAgB,eAAhB,EAAuB,cAAvB,EAAiC,SAAK,KAAL,GAAY,CAAhB,GAAMB,IAANB,GAA6B,CAAC, IAAD,IAA1D,C;K;IAG1B,iC;MAII,oBAAoB,kBAAO,CAA3B,EAA8B,IAA9B,C;MACA,OAAO,uCAAgB,yBAA gB,eAAhB,EAAuB,cAAvB,EAAiC,SAAK,KAAL,cAAY,CAAhB,GAAMB,IAANB,GAA8B,IAAD,aAA1D,C;K;I AG3B,iC;MAII,oBAAoB,OAAO,CAA3B,EAA8B,IAA9B,C;MACA,OAAO,uCAAgB,yBAAgB,eAAhB,EAAuB,c AA vB,EAAiC,SAAK,KAAL,GAAY,CAAhB,GAAMB,IAANB,GAA6B,CAAC,IAAD,IAA1D,C;K;IAG3B,sC;MA CI,OAAMB,IAAR,8BAAGC,GAAPC,GAaiE,OAAL,SAAK,CAAjE,GAA+E,I;K;IAG1F,wC;MACI,OAAMW,mEA AJ,GAAMe,OAAL,SAAK,SAANe,GAaiF,I;K;IAG5F,wC;MACI,OAAMW,YAAQ,aAAA,sCAAe,UAAf,EAA0B,s CAAe,UAAzC,CAAR,YAAJ,GAAqE,OAAL,SAAK,CAArE,GAAMF,I;K;IAG9F,wC;MACI,OAAMB,UAAA,sCA Ae,UAAf,EAA2B,sCAAe,UAA1C,CAAR,4BAAJ,GAA+E,OAAR,YAAL,SAAK,CAAQ,CAA/E,GAA6F,I;K;IAG xG,wC;MACI,OAAMB,UAAA,sCAAe,UAAf,EAA0B,sCAAe,UAAzC,CAAR,4BAAJ,GAA6E,OAAR,YAAL,SA AK,CAAQ,CAA7E,GAA2F,I;K;IAGtG,qC;MACI,OAAMW,iFAAJ,GAA4D,SAAK,QAAjE,GAA8E,I;K;IAGzF,uC; MACI,OAAMB,UAAc,WAAAd,EAAwC,UAAxC,CAAR,4BAAJ,GAAqE,YAAL,SAAK,CAArE,GAakF,I;K;IAG7 F,uC;MACI,OAAMB,UAAc,WAAAd,EAAuC,UAAvC,CAAR,4BAAJ,GAAmE,YAAL,SAAK,CAAnE,GAAGF,I;K; IAG3F,sC;MACI,OAAMB,UAAe,mCAAf,EAA0C,mCAA1C,CAAR,4BAAJ,GAAuE,uBAAL,SAAK,CAAvE,GA AqF,I;K;IAGhG,wC;MACI,OAAMB,UAAe,mCAAf,EAAyC,mCAAzC,CAAR,4BAAJ,GAAqE,uBAAL,SAAK,C AArE,GAAMF,I;K;IAG9F,uC;MACI,OAAMB,MAAR,8BAAiC,KAArC,GAAMe,QAAL,SAAK,CAAnE,GAakF, I;K;IAG7F,yC;MACI,OAAMW,uEAAJ,GAAqE,QAAL,SAAK,SAArE,GAAoF,I;K;IAG/F,yC;MACI,OAAMB,UAA A,uCAAgB,UAAhB,EAA4B,uCAAgB,UAA5C,CAAR,4BAAJ,GAAiF,QAAR,YAAL,SAAK,CAAQ,CAAjF,GAA gG,I;K;IAG3G,yC;MACI,OAAMB,UAAA,uCAAgB,UAAhB,EAA2B,uCAAgB,UAA3C,CAAR,4BAAJ,GAA+E,



QAAR, YAAL, SAAK, CAAQ, CAA/E, GAA8F, I;K; IAGzG, 8B; MAMI, OAAO, wBAAY, EAAa, GAAH, CAAG, IAAz  
B, C; K; IAGX, gC; MAMI, OAAO, kBAAY, oBAAH, EAAG, CAAC, 8BAAH, CAAG, EAA1B, C; K; IAGX, gC; MAMI, O  
AAO, aAAK, SAAL, EAAoB, EAAa, GAAH, CAAG, IAAjC, C; K; IAGX, gC; MAMI, OAAO, aAAK, SAAL, EAAoB, EA  
Aa, GAAH, CAAG, IAAjC, C; K; IAGX, gC; MAMI, IAAI, MAAM, CAAV, C; QAAoB, OAAO, iCAAU, M; MACrC, OAA  
O, yBAAiB, OAAO, EAAQ, GAAH, CAAG, CAAjB, C; K; IAGX, gC; MAMI, IAAI, MAAM, WAAV, C; QAAyB, OAAO,  
gCAAS, M; MACzC, OAAO, wBAAS, EAAQ, GAAH, CAAG, IAAjB, C; K; IAGX, gC; MAMI, OAAO, kBAAY, oBAAH,  
EAAG, CAAC, 8BAAH, CAAG, EAA1B, C; K; IAGX, gC; MAMI, IAAI, MAAM, WAAV, C; QAAyB, OAAO, gCAAS, M;  
MACzC, OAAO, aAAK, SAAL, EAAiB, EAAQ, GAAH, CAAG, IAAzB, C; K; IAGX, gC; MAMI, IAAI, MAAM, WAAV,  
C; QAAyB, OAAO, gCAAS, M; MACzC, OAAO, aAAK, SAAL, EAAiB, EAAQ, GAAH, CAAG, IAAzB, C; K; IAGX, gC;  
MAMI, IAAI, iDAAJ, C; QAA0B, OAAO, iCAAU, M; MAC3C, OAAO, oBAAL, SAAK, CAAL, SAAkB, EAAQ, 8BAAH  
, CAAG, EAA1B, C; K; IAGX, gC; MAMI, IAAI, iDAAJ, C; QAA0B, OAAO, iCAAU, M; MAC3C, OAAO, kBAAS, EAAQ  
, 8BAAH, CAAG, EAAjB, C; K; IAGX, iC; MAMI, IAAI, iDAAJ, C; QAA0B, OAAO, iCAAU, M; MAC3C, OAAO, oBAA  
L, SAAK, CAAL, SAAkB, EAAQ, 8BAAH, CAAG, EAA1B, C; K; IAGX, iC; MAMI, IAAI, iDAAJ, C; QAA0B, OAAO, iC  
AAU, M; MAC3C, OAAO, oBAAL, SAAK, CAAL, SAAkB, EAAQ, 8BAAH, CAAG, EAA1B, C; K; IAGX, iC; MAMI, O  
AAO, wBAAY, EAAa, GAAH, CAAG, IAAzB, C; K; IAGX, iC; MAMI, OAAO, kBAAY, oBAAH, EAAG, CAAC, 8BAAH  
, CAAG, EAA1B, C; K; IAGX, iC; MAMI, OAAO, aAAK, SAAL, EAAoB, EAAa, GAAH, CAAG, IAAjC, C; K; IAGX, iC;  
MAMI, OAAO, aAAK, SAAL, EAAoB, EAAa, GAAH, CAAG, IAAjC, C; K; IAGX, gD; MAQI, OAAW, 4BAAO, YAAP,  
KAAJ, GAAyB, YAAzB, GAA2C, S; K; IAGtD, kD; MAQI, OAAW, YAAO, YAAX, GAAyB, YAAzB, GAA2C, S; K; IAG  
tD, kD; MAQI, OAAW, YAAO, YAAX, GAAyB, YAAzB, GAA2C, S; K; IAGtD, kD; MAQI, OAAW, YAAO, YAAX, GA  
AyB, YAAzB, GAA2C, S; K; IAGtD, kD; MAQI, OAAW, 0BAAO, YAAP, KAAJ, GAAyB, YAAzB, GAA2C, S; K; IAGtD  
, kD; MAQI, OAAW, YAAO, YAAX, GAAyB, YAAzB, GAA2C, S; K; IAGtD, kD; MAQI, OAAW, YAAO, YAAX, GA  
AyB, YAAzB, GAA2C, S; K; IAGtD, +C; MAQI, OAAW, 4BAAO, YAAP, KAAJ, GAAyB, YAAzB, GAA2C, S; K; IAGtD, iD  
; MAQI, OAAW, YAAO, YAAX, GAAyB, YAAzB, GAA2C, S; K; IAGtD, iD; MAQI, OAAW, YAAO, YAAX, GAAyB, Y  
AAzB, GAA2C, S; K; IAGtD, iD; MAQI, OAAW, YAAO, YAAX, GAAyB, YAAzB, GAA2C, S; K; IAGtD, iD; MAQI, OA  
AW, 0BAAO, YAAP, KAAJ, GAAyB, YAAzB, GAA2C, S; K; IAGtD, iD; MAQI, OAAW, YAAO, YAAX, GAAyB, YAA  
zB, GAA2C, S; K; IAGtD, iD; MAQI, OAAW, YAAO, YAAX, GAAyB, YAAzB, GAA2C, S; K; IAGtD, yD; MAQI, IAAI, i  
BAAiB, IAAjB, IAAyB, iBAAiB, IAA9C, C; QACI, IAAI, +BAAe, YAAf, KAAJ, C; UAAiC, MAAM, gCAAyB, 6DAAiD  
, YAAjD, wCAAoF, YAApF, OAAzB, C; QACvC, IAAI, 4BAAO, YAAP, KAAJ, C; UAAyB, OAAO, Y; QACChC, IAAI, 4B  
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D, OAAO, Y; QACzD, IAAI, iBAAiB, IAAjB, IAAyB, 4BAAO, YAAP, KAA7B, C; UAAkD, OAAO, Y; MAE7D, OAAO,  
S; K; IAGX, 2D; MAQI, IAAI, eAAe, YAAAnB, C; QAAiC, MAAM, gCAAyB, oDAAiD, YAAjD, 8BAAoF, YAApF, MA  
AzB, C; MACvC, IAAI, YAAO, YAAX, C; QAAyB, OAAO, Y; MACHC, IAAI, YAAO, YAAX, C; QAAyB, OAAO, Y; MAC  
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ApF, MAAzB, C; MACvC, IAAI, YAAO, YAAX, C; QAAyB, OAAO, Y; MACHC, IAAI, YAAO, YAAX, C; QAAyB, OAA  
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B;;;cACI,yBAAc,6BAAU,oBAAmB,uBAAnB,EAAmB,+BAAnB,QAAY,EAAuC,sBAAvC,EAAoD,mBAAS,OA  
A7D,C;cACd,gB;8BAAA,iCAAM,sBAAN,O;kBAAA,2C;uBAAA,yB;cAAA,Q;;cAFJ,gB;;;cAJJ,gB;;;cASJ,W;;;;  
;K;IAXgB,uF;MAAA,yD;uBAAA,8H;YAAA,S;iBAAA,Q;;iBAAA,uB;O;K;IAhBpB,sD;MAGBI,OAAO,SAAS,  
iDAAT,C;K;IAcX,+C;MAkBI,OAAO,yBAAy,OAAZ,EAAqB,SAArB,C;K;IAGX,sD;MAmBI,OAAO,gCAAmB  
,OAAAnB,EAA4B,SAA5B,C;K;gFAGX,+B;MASoB,Q;MADhB,UAAe,C;MACC,2B;MAAhB,OAAGB,cAAhB,C;Q  
AAgB,yB;QACZ,YAAO,SAAS,OAAT,CAAP,I;;MAEJ,OAAO,G;K;4FAGX,+B;MASoB,Q;MADhB,UAAkB,G;  
MACF,2B;MAAhB,OAAGB,cAAhB,C;QAAGB,yB;QACZ,OAAO,SAAS,OAAT,C;;MAEX,OAAO,G;K;iFAGX,+  
B;MAYoB,Q;MADhB,UAAoB,C;MACJ,2B;MAAhB,OAAGB,cAAhB,C;QAAGB,yB;QACZ,OAAO,SAAS,OAAT  
,C;;MAEX,OAAO,G;K;iFAGX,+B;MAYoB,Q;MADhB,UAAe,C;MACC,2B;MAAhB,OAAGB,cAAhB,C;QAAGB,  
yB;QACZ,YAAO,SAAS,OAAT,CAAP,I;;MAEJ,OAAO,G;K;iFAGX,yB;MAAA,SAWoB,gB;MAXpB,sC;QAYoB  
,Q;QADhB,Y;QACgB,2B;QAAhB,OAAGB,cAAhB,C;UAAgB,yB;UACZ,cAAO,SAAS,OAAT,CAAP,C;;QAEJ,O  
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A,+B;MAUoB,Q;MADhB,UAAkB,G;MACF,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QACZ,OAAO,SAAS,O  
AAT,C;;MAEX,OAAO,G;K;+FAGX,+B;MAUoB,Q;MADhB,UAAkB,G;MACF,2B;MAAhB,OAAGB,cAAhB,C;  
QAAgB,yB;QACZ,OAAO,SAAS,OAAT,C;;MAEX,OAAO,G;K;+FAGX,+B;MAUoB,Q;MADhB,UAAkB,G;MA  
CF,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QACZ,OAAO,SAAS,OAAT,C;;MAEX,OAAO,G;K;+FAGX,+B;  
MAUoB,Q;MADhB,UAAkB,G;MACF,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QACZ,OAAO,SAAS,OAAT,  
C;;MAEX,OAAO,G;K;kFAGX,+B;MAYoB,Q;MADhB,UAAoB,C;MACJ,2B;MAAhB,OAAGB,cAAhB,C;QAAg  
B,yB;QACZ,OAAO,SAAS,OAAT,C;;MAEX,OAAO,G;K;mFAGX,+B;MAYoB,Q;MADhB,UAAoB,C;MACJ,2B;  
MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QACZ,OAAO,SAAS,OAAT,C;;MAEX,OAAO,G;K;mFAGX,+B;MAYo  
B,Q;MADhB,UAAoB,C;MACJ,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QACZ,OAAO,SAAS,OAAT,C;;MAE  
X,OAAO,G;K;mFAGX,+B;MAYoB,Q;MADhB,UAAe,C;MACC,2B;MAAhB,  
OAAGB,cAAhB,C;QAAgB,yB;QACZ,YAAO,SAAS,OAAT,CAAP,I;;MAEJ,OAAO,G;K;mFAGX,+B;MAYoB,Q;  
MADhB,UAAe,C;MACC,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QACZ,YAAO,SAAS,OAAT,CAAP,I;;MAE  
J,OAAO,G;K;mFAGX,+B;MAYoB,Q;MADhB,UAAe,C;MACC,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QAC  
Z,YAAO,SAAS,OAAT,CAAP,I;;MAEJ,OAAO,G;K;mFAGX,+B;MAYoB,Q;MADhB,UAAe,C;MACC,2B;MAAh  
B,OAAGB,cAAhB,C;QAAgB,yB;QACZ,YAAO,SAAS,OAAT,CAAP,I;;MAEJ,OAAO,G;K;mFAGX,yB;MAAA,S  
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DhB,Y;QACgB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,cAAO,SAAS,OAAT,CAAP,C;;QAEJ,OAAO,G;O;KAFx,C;mFAkBA,yB;MAAA,SAWoB,gB;MAXpB,sC;QAYoB,Q;QADhB,Y;QACgB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,cAAO,SAAS,OAAT,CAAP,C;;QAEJ,OAAO,G;O;KAFx,C;mFAkBA,yB;MAAA,SAWoB,gB;MAXpB,sC;QAYoB,Q;QADhB,Y;QACgB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,cAAO,SAAS,OAAT,CAAP,C;;QAEJ,OAAO,G;O;KAFx,C;mFAkBA,yB;MnC5xSA,6B;MmC4xSA,sC;QAaoB,Q;QADhB,UnC9xSmC,cmC8xSnB,CnC9xSmB,C;QmC+xSnB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,MnClmTiD,cmCkmTjD,GnClmT2D,KAAK,GmCkmTzD,SAAS,OAAT,CnClmToE,KAAx,IAAf,C;;QmComTrD,OAAO,G;O;KAhBX,C;mFAmBA,yB;MnC/ySA,6B;MmC+ySA,sC;QAaoB,Q;QADhB,UnCjzSmC,cmCizSnB,CnCjzSmB,C;QmCkzSnB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,MnCrnTiD,cmCqnTjD,GnCrnT2D,KAAK,GmCqnTzD,SAAS,OAAT,CnCrnToE,KAAx,IAAf,C;;QmCunTrD,OAAO,G;O;KAhBX,C;mFAmBA,yB;MnC10SA,6B;MmCk0SA,sC;QAaoB,Q;QADhB,UnCp0SmC,cmCo0SnB,CnCp0SmB,C;QmCq0SnB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,MnCxoTiD,cmCwoTjD,GnCxoT2D,KAAK,GmCwoTzD,SAAS,OAAT,CnCxoToE,KAAx,IAAf,C;;QmC0oTrD,OAAO,G;O;KAhBX,C;mFAmBA,yB;MnCr1SA,6B;MmCq1SA,sC;QAaoB,Q;QADhB,UnCv1SmC,cmCu1SnB,CnCv1SmB,C;QmCw1SnB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,MnC3pTiD,cmC2pTjD,GnC3pT2D,KAAK,GmC2pTzD,SAAS,OAAT,CnC3pToE,KAAx,IAAf,C;;QmC6pTrD,OAAO,G;O;KAhBX,C;mFAmBA,yB;MnBr2SA,+B;MmBq2SA,sC;QAaoB,Q;QADhB,UnBt2SqC,eAAW,oBmBs2S/B,CnBt2S+B,CAAX,C;QmBu2SrB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,MnB3qTmD,emB2qTnD,GnB3qT8D,KAAK,KmB2qT5D,SAAS,OAAT,CnB3qTuE,KAAx,CAAhB,C;;QmB6qTvD,OAAO,G;O;KAhBX,C;mFAmBA,yB;MnBx3SA,+B;MmBw3SA,sC;QAaoB,Q;QADhB,UnBz3SqC,eAAW,oBmBy3S/B,CnBz3S+B,CAAX,C;QmB03SrB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,MnB9rTmD,emB8rTnD,GnB9rT8D,KAAK,KmB8rT5D,SAAS,OAAT,CnB9rTuE,KAAx,CAAhB,C;;QmBgsTvD,OAAO,G;O;KAhBX,C;mFAmBA,yB;MnB34SA,+B;MmB24SA,sC;QAaoB,Q;QADhB,UnB54SqC,eAAW,oBmB44S/B,CnB54S+B,CAAX,C;QmB64SrB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,MnBjtTmD,emBitTnD,GnBjtT8D,KAAK,KmBitT5D,SAAS,OAAT,CnBjtTuE,KAAx,CAAhB,C;;QmBmtTvD,OAAO,G;O;KAhBX,C;mFAmBA,yB;MnB95SA,+B;MmB85SA,sC;QAaoB,Q;QADhB,UnB/5SqC,eAAW,oBmB+5S/B,CnB/5S+B,CAAX,C;QmBg6SrB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,MnBpuTmD,emBouTnD,GnBpuT8D,KAAK,KmBouT5D,SAAS,OAAT,CnBpuTuE,KAAx,CAAhB,C;;QmBsuTvD,OAAO,G;O;KAhBX,C;IAmBA,kC;MA2DI,WpBnnTO,MAAO,KoBmnTG,cpBnnTH,EoBikTH,KAkDkB,OpBnnTf,C;MoBonTd,WAAW,iBAaA,IAAb,C;MACX,aAAU,CAAV,MAAkB,IAAIB,M;QACI,IAAK,WArDqB,GAqDP,sBAAK,CAAL,CArDO,EAAAnB,KAqDqB,CAAM,CAAN,CArDF,CAqDrB,C;;MArDT,OAuDO,I;K;IApDX,kC;MAkEI,WpBtoTO,MAAO,KoBsoTG,cpBtoTH,EoB6kTH,KAyDkB,OpBtoTf,C;MoBuoTd,WAAW,iBAaA,IAAb,C;MACX,aAAU,CAAV,MAAkB,IAAIB,M;QACI,IAAK,WA5DqB,GA4DP,sBAAK,CAAL,CA5DO,EAAAnB,KA4DqB,CAAM,CAAN,CA5DF,CA4DrB,C;;MA5DT,OA8DO,I;K;IA3DX,kC;MAyEI,WpBzpTO,MAAO,KoBypTG,cpBzpTH,EoBylTH,KAgEkB,OpBzpTf,C;MoB0pTd,WAAW,iBAaA,IAAb,C;MACX,aAAU,CAAV,MAAkB,IAAIB,M;QACI,IAAK,WAnEqB,GAmEP,sBAAK,CAAL,CAnEO,EAAAnB,KAmEqB,CAAM,CAAN,CAnEF,CAmErB,C;;MAnET,OAqEO,I;K;IAIEX,kC;MAGFI,WpB5qTO,MAAO,KoB4qTG,cpB5qTH,EoBqmTH,KAuEkB,OpB5qTf,C;MoB6qTd,WAAW,iBAaA,IAAb,C;MACX,aAAU,CAAV,MAAkB,IAAIB,M;QACI,IAAK,WA1EqB,GA0EP,sBAAK,CAAL,CA1EO,EAAAnB,KA0EqB,CAAM,CAAN,CA1EF,CA0ErB,C;;MA1ET,OA4EO,I;K;+EAzEX,yB;MAAA,gE;MpB9mTA,iB;MoB8mTA,8C;QAWI,WpBnnTO,MAAO,KoBmnTG,cpBnnTH,EoBmnTS,KAAAM,OpBnnTf,C;QoBonTd,WAAW,eAAa,IAAb,C;QACX,aAAU,CAAV,MAAkB,IAAIB,M;UACI,IAAK,WAAI,UAAU,sBAAK,CAAL,CAAV,EAAmB,MAAM,CAAN,CAAnB,CAAJ,C;;QAET,OAAO,I;O;KAhBX,C;+EAmBA,yB;MAAA,gE;MpBjoTA,iB;MoBioTA,8C;QAWI,WpBtoTO,MAAO,KoBsoTG,cpBtoTH,EoBsoTS,KAAAM,OpBtoTf,C;QoBuoTd,WAAW,eAAa,IAAb,C;QACX,aAAU,CAAV,MAAkB,IAAIB,M;UACI,IAAK,WAAI,UAAU,sBAAK,CAAL,CAAV,EAAmB,MAAM,CAAN,CAAnB,CAAJ,C;;QAET,OAAO,I;O;KAhBX,C;+EAmBA,yB;MAAA,gE;MpBppTA,iB;MoBopTA,8C;QAWI,WpBzpTO,MAAO,KoBypTG,cpBzpTH,EoBypTS,KAAAM,OpBzpTf,C;QoB0pTd,WAAW,eAAa,IAAb,C;QACX,aAAU,CAAV,MAAkB,IAAIB,M;UACI,IAAK,WAAI,UAAU,sBAAK,CAAL,CAAV,EAAmB,MAAM,CAAN,CAAnB,CAAJ,C;;QAET,OAAO,I;O;KAhBX,C;+EAmBA,yB;MAAA,gE;MpBvqTA,iB;MoBuqTA,8C;QAWI,WpB5qTO,MAAO,KoB4qTG,cpB5qTH,EoB4qTS,KAAAM,OpB5qTf,C;QoB6qTd,WAAW,eAAa,IAAb,C;QACX,aAAU,CAAV,MAAkB,IAAIB,M;UACI,IAAK,WAAI,UAAU,sBAAK,CAAL,CAAV,EAAm

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,C;QACQ,uB;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,IAAI,KAAK,SAAT,C;YAAoB,K;UACpB,IAAK,W  
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DqB,GAqDP,sBAAK,CAAL,CARDO,EAAnB,KAqDqB,aAAM,CAAN,CARDF,CAqDrB,C;;MARDT,OAuDO,I;K;I  
ApDX,kC;MAkEL,WpBt4TO,MAAO,KoBs4TG,cpBt4TH,EoB60TH,KAYdkB,KpBt4Tf,C;MoBu4Td,WAAW,iBA  
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B,gB;;MAHZ,W;K;IAOJ,uC;MAcW,Q;MAJP,IAAI,8CAAJ,C;QACI,OAAy,WAAL,SAAK,EAAG,KAHb,C;O  
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nB,C;eAChB,a;YAhBwD,OAgBvC,oBAAoB,KAApB,C;kBACT,MAAM,6BAAsB,2DAA+C,IAA/C,CAAtB,C;;K;  
IAIuC,2D;MAAA,kC;MAAS,0B;MAC9D,aAAY,C;K;2DACZ,Y;MAAyB,oBAAQ,kBAAM,O;K;+DACvC,Y;MA  
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;QAAU,QAAA,KAaV,M;QAAiB,MA/IV,MAAO,KA+Ie,GA/If,EA+IoB,CA/IpB,C;;MAGJd,OAAO,G;K;IAGX,w  
B;MAOI,OAAW,oBAAK,CAAL,MAAJ,GAAY,CAAZ,GAaMB,C;K;mFAG9B,yB;MAkBA,iB;MAIbA,uB;QAM  
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,C;QAAgB,yB;QACZ,IAAI,eAAI,OAAJ,CAAJ,C;UAAkB,WAAW,I;;MAEjC,OAAO,Q;K;IAKuC,sE;MAAA,qB;QAAE,OAAM,gBAAN,mB;O;K;4DAFpD,oB;MAEY,Q;MADR,qB;MACA,OAAoC,YAA5B,iEAA4B,EAAU,oDAAV,C;K;IAKU,sE;MAAA,qB;QAAE,QAAO,gBAAP,mB;O;K;4DAFpD,oB;MAEY,Q;MADR,qB;MACA,OAAoC,YAA5B,iEAA4B,EAAU,oDAAV,C;K;gDAGx C,Y;MACI,qB;MACA,eAAe,IAAK,W;MACpB,OAAO,QAAS,UAAhB,C;QACI,QAAS,O;QACT,QAAS,S;;K;iDAIjB,Y;MAE8B,OAAA,IAAK,U;K;yDAGn C,Y;K;;IC3CgD,+B;MAAiC,oC;MACjF,gBAA8B,C;K;8CAM9B,mB;MAMI,qB;MACA,iBAAI,SAAJ,EAAU,OAAV,C;MACA,OAAO,I;K;mDAGX,2B;MAMc,UACF,M;MANR,oCAAa,4BAAmB,KAA nB,EAA0B,SA A1B,C;MAEb,qB;MACA,aAAa,K;MACb,cAAc,K;MACJ,0B;MAAV,OAAU,cAAV,C;QAAU,mB;QACN,kBAAI,eAAJ,EAAI,uBAAJ,WAAc,CAAd,C;QACA,UAAU,I;;MAEd,OAAO,O;K;0CAGX,Y;MACI,qB;MACA,yBAAY,CAAZ,EAAe,SAAf,C;K;IAKiB,gE;MAAA,qB;QAAE,OAAM,gBAAN,mB;O;K;sDAFvB,oB;MACI,qB;MACA,OAAO,kBAAU,8CAAV,C;K;IAKU,gE;MAAA,qB;QAAE,QAAO,gBAAP,mB;O;K;sDAFvB,oB;MACI,qB;MACA,OAAO,kBAAU,8CAAV,C;K;6CAIX,Y;MAAqD,iD;K;mDAErD,mB;MAAoD,0BAAQ,OAAR,KAAoB,C;K;kDAExE,mB;MACqB,Q;MAAA,6B;MAAjB,iBAAc,CAAd,yB;QACI,IAAI,wBAAI,KAAJ,GAAC,OAAd,CAAJ,C;UACI,OAAO,K;;MAGf,OAAO,E;K;sDAGX,mB;MACI,iBAAc,sBAAd,WAA+B,CAA/B,U;QACI,IAAI,wBAAI,KAAJ,GAAC,OAAd,CAAJ,C;UACI,OAAO,K;;MAGf,OAAO,E;K;iDAGX,Y;MAA6D,iCAAa,CAAb,C;K;yDAC7D,iB;MAAuE,sDAAiB,KAAjB,C;K;oDAGvE,8B;MAA4E,uCAAQ,IAAR,EAAc,SAAd,EAAyB,OA AzB,C;K;wDAE5E,8B;MAII,eAAe,0BAAa,SAAb,C;MACf,YAAO,UAAU,SAAV,I;MnEuDX,iBAAc,CAAd,UAA sB,KAA tB,U;QmEtDiB,e;QACA,iB;;K;2CAIjB,iB;MAMI,IAAI,UAAU,IAAd,C;QAAoB,OAAO,I;MAC3B,IAAI,2BAAJ,C;QAAuB,OAAO,K;MAE9B,OAAO,oCAAa,uBAAc,IAAd,EAAoB,KAApB,C;K;6CAGxB,Y;MAG+B,OAAA,oCAAa,yBAAGB,IAAhB,C;K;IAG5C,kD;MAAA,oB;MACI,eACsB,C;MACtB,cAIqB,E;K;yDAErB,Y;MAAkC,sBAAQ,gB;K;sDAE1C,Y;MAEW,Q;MADP,IAAI,CAAC,cAAL,C;QAAgB,MAAM,6B;MACtB,eAAO,mBAAP,EAAO,2BAAP,O;MACA,OAAO,wBAAI,WAAJ,C;K;wDAGX,Y;MtE5CJ,IAAI,EsE6CU,gBAAQ,EtE7CIB,CAAJ,C;QACI,csE4CwB,sE;QtE3CxB,MAAM,6BAAsB,OAAQ,WAA9B,C;OsE6CF,6BAAS,WAA T,C;MACA,eAAQ,W;MACR,cAAO,E;K;;IAOqB,6D;MAHpC,oB;MAGmD,wD;MAG3C,oCAAa,4BAAmB,KAA nB,EAA0B,WAAyB,KAA nD,C;MACb,eAAa,K;K;iEAGjB,Y;MAAsC,sBAAQ,C;K;+DAE9C,Y;MAAgC,mB;K;8DAEhC,Y;MACI,IAAI,CAAC,kBAAL,C;QAAoB,MAAM,6B;MAE1B,eAAO,mCAAP,EAAO,YAAP,C;MACA,OAAO,wBAAI,WAAJ,C;K;mEAGX,Y;MAAoC,sBAAQ,CAAR,I;K;+DAEpC,mB;MACI,wBAAI,YAAJ,EAAW,OAAX,C;MACA,mC;MACA,cAAO,E;K;+DAGX,mB;MtEIFJ,IAAI,EsEmFU,gBAAQ,EtEnFIB,CAAJ,C;QACI,csEkFwB,4E;QtEjFxB,MAAM,6BAAsB,OAAQ,WAA9B,C;OsEkFF,wBAAI,WAAJ,EAAU,OAAV,C;K;;IAIgB,+D;MAAuF,8B;MAAtF,kB;MAA0C,4B;MAC/D,eAAyB,C;MAGrB,oCAAa,2BAAkB,gBAAIB,EAA6B,OAA7B,EAA sC,WAAK,KAA3C,C;MACb,eAAa,UAAU,gBAAV,I;K;wDAGjB,0B;MACI,oCAAa,4BAAmB,KAA nB,EAA0B,YAA1B,C;MAEb,WAAK,aAAI,mBAAY,KAAZ,IAAJ,EAAuB,OA AvB,C;MACL,mC;K;wDAGJ,iB;MACI,oCAAa,2BAAkB,KAAIB,EAAyB,YAAzB,C;MAEb,OAAO,wBAAK,mBAA Y,KAAZ,IAAL,C;K;6DAGX,iB;MACI,oCAAa,2BAAkB,KAAIB,EAAyB,YAAzB,C;MAEb,aAAa,WAAK,kBAAS,mBAAY,KAAZ,IAAT,C;MACIB,mC;MACA,OAAO,M;K;wDAGX,0B;MACI,oCAAa,2BAAkB,KAAIB,EAAyB,YAAzB,C;MAEb,OAAO,WAAK,aAAI,mBAAY,KAAZ,IAAJ,EAAuB,OA AvB,C;K;mGAGO,Y;MAAQ,mB;K;2DAE/B,Y;MAA+C,WAAK,iB;K;;ICxMN,8B;MAAiC,sB;MAwCnF,uBAAoC,I;MA+CpC,yBAA6C,I;K;IAIFR,oD;MAAC,wB;MAGIC,gBAAqB,K;K;iFAHa,Y;MAAA,yB;K;uGAKZ,Y;MAAQ,oB;K;8DAE9B,oB;MAKI,eAAe,IAAK,S;MACpB,gBAAc,Q;MACd,OAAO,Q;K;wDAGX,Y;MAA+B,iEAAc,IAAd,C;K;wDAC/B,Y;MAAkC,iEAAc,IAAd,C;K;sDACIC,iB;MAA4C,+DAAY,IAAZ,EAAkB,KAAIB,C;K;;IAIB5C,8E;MAAA,wE;MAAsC,2CAAK,KAAAM,IAAX,EAAgB,KAAAM,MAAtB,C;MAAtC,Y;K;IASBJ,+C;MACsE,6B;K;mEACIE,mB;MAAmD,kCAAc,OAAd,C;K;iEAEnD,mB;MAAiD,gCAAY,OAAZ,C;K;;yCAIrD,Y;MACI,YAAQ,Q;K;IAOQ,+F;MAAA,sD;MAAS,6B;K;uFACb,mB;MAAwC,MAAM,qCAA8B,8BAA9B,C;K;mFAC9C,Y;MACI,4BAAwB,Q;K;4FAG5B,mB;MAAsD,sDAAY,OAAZ,C;K;IAI3C,oH;MAAA,kD;K;4GACH,Y;MAAkC,OAAA,0BAAc,U;K;yGACHd,Y;MAAyB,OAAA,0BAAc,OAAO,I;K;2GAC9C,Y;MAAwB,0BAAc,S;K;;sFAL9C,Y;MACI,oBAAoB,oCAAQ,W;MAC5B,6G;K;0FAOJ,mB;MACI,qB;MACA,IAAI,+CAAY,OAAZ,CAAJ,C;QACI,4BAAwB,cAAO,OAAP,C;QACxB,OAAO,I;OAEX,OAAO,K;K;oIAGY,Y;MAAQ,OAAA,4BAAwB,K;K;4FAEvD,Y;MAAsC,4BAAwB,iB;K;;0FA9B1E,Y;MACI,IAAI,4BAAJ,C;QACI,6F;OA+BJ,OAAO,mC;K;kDAKf,gB;MAEyB,Q;MADrB,qB;MACqB,OAAA,I9E8Q2D,QAAQ,W;M8E9QxF,OAAqB,cAArB,C;QAAqB,wB;QAAf,U9EiMsD,U;Q8EjMjD,Y9E8MiD,Y;Q8E7M

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AO,I;K;kDAIX,Y;K;;IC3I+C,8B;MAAiC,oC;K;0CAEHf,iB;MAMI,IAAI,UAAU,IAAd,C;QAAoB,OAAO,I;MAC3  
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,qC;K;yCAGJ,oB;MACI,qB;MACA,IAAI,QAAS,UAAb,C;QAAwB,OAAO,K;MAE/B,uBAAA,oBxEioDoB,QMjr  
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D,YkE6D7C,QIE7D6C,CNirD1C,QwEpnD6B,oBxEonD7B,C;;QwEnnDR,uBAAoC,cAA5B,oBAA4B,EAAV,CA  
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4CAErD,mB;MAAmD,OAAM,YAAN,oBAAM,EAAY,OAAZ,C;K;mCAEzD,Y;MAA0B,uBAAc,oBAAd,C;K;0C  
AE1B,iB;MAGe,UAGL,MAHK,EAMO,M;MAPIB,IAAI,KAAM,OAAN,GAAa,SAAjB,C;QACI,OAAO,2D;OAG  
c,gBAAxB,eAAK,SAAL,IAAK,gBAAL,yB;MxEuwBL,UAAU,SAAV,EwEwBsC,KxEuwBtC,EAD+F,CAC/F,E  
ADoH,CACpH,EADuI,gBACvI,C;MwErwBI,IAAI,KAAM,OAAN,GAAa,SAAjB,C;QACI,MAAM,SAAN,IAAc,6  
E;OAGIB,OAAO,K;K;kCAGX,Y;MACI,OAAO,EAAS,MAAM,MAAK,oBAAL,C;K;yCAI1B,Y;MACI,IAAI,yBA  
AJ,C;QAAGB,MAAM,oC;K;+CAG1B,iB;MACI,oCAAa,kCAAYB,SAAzB,C;MADoB,Y;K;wDAIrC,iB;MACI,oC  
AAa,mCAA0B,SAAIb,C;MAD6B,Y;K;;IAIJ9C,+B;MAAA,mD;MAG8B,sB9BRa,E8BQb,C;MAH9B,Y;K;IAKA,  
kD;MAAA,mD;MAIkD,sB9BdP,E8BcO,C;MAJID,Y;K;IAMA,2C;MAAA,mD;MAGqD,sBIENa,YkEMR,QIENQ,  
CkEMb,C;MAHrD,Y;K;ICrBJ,0C;MACI,IAAI,6BAAJ,C;QACU,KAAY,MAAK,UAAL,C;;QAEIB,UAAU,KA  
AV,EAAwC,CAAxC,EAAiD,cAAN,KAAM,CAAjD,EAA4D,eAAW,UAAx,CAA5D,C;;K;IAMiB,kD;MAAA,uB;QA  
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ACX,KAAY,MAAK,UAAL,C;;QAEIB,UAAU,KAAY,EAAwC,CAAxC,EAAiD,cAAN,KAAM,CAAjD,EAA4D,  
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K;IAF3C,0B;MACI,IAAI,6BAAJ,C;QACI,iBAAiB,gB;QACX,KAAY,MAAK,UAAL,C;;QAEIB,UAAU,KAAY,E  
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AL,C;MACIB,mBAAc,CAAd,YAAsB,KAAM,OAA5B,Y;QACI,QAAQ,MAAM,UAAQ,CAAR,IAAN,C;QACR,Q  
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AsC,OAAO,K;;MAEjD,4BAA4B,I;MAC5B,OAAO,I;K;IAIX,2D;MACI,aAAa,gBAAmB,KAAM,OAAzB,O;MAC

b,aAAa,YAAU,KAAV,EAAiB,MAAjB,EAAyB,KAAzB,EAAgC,YAAhC,EAA8C,UAA9C,C;MACb,IAAI,WAA W,KAAf,C;QACI,aAAU,KAAV,OAAiB,YAAjB,M;UAA+B,MAAM,CAAN,IAAW,OAAO,CAAP,C;Q;IAIId,4D; MAEI,IAAI,UAAS,GAAb,C;QACI,OAAO,K;OAGX,aAAa,CAAC,QAAQ,GAAR,IAAD,IAAgB,CAAhB,I;MACb ,WAAW,YAAU,KAAV,EAAiB,MAAjB,EAAyB,KAAzB,EAAgC,MAAhC,EAAwC,UAAxC,C;MACX,YAAy,Y AAU,KAAV,EAAiB,MAAjB,EAAyB,SAAS,CAAT,IAAzB,EAAqC,GAAR,C,EAA0C,UAA1C,C;MAEZ,aAAiB,S AAS,MAAb,GAAqB,KAArB,GAAgC,M;MAG7C,gBAAgB,K;MACHb,iBAAiB,SAAS,CAAT,I;MACjB,aAAU,K AAV,OAAiB,GAAjB,M;QAEQ,iBAaA,MAAb,IAAuB,cAAc,GAAR,C;UACI,gBAAgB,KAAK,SAAL,C;UACHb ,iBAAiB,MAAM,UAAN,C;UAEjB,IAAI,UAAW,SAAQ,SAAR,EAAMB,UAAAnB,CAAX,IAA6C,CAAjD,C;YACI ,OAAO,CAAP,IAAY,S;YACZ,6B;;YAEA,OAAO,CAAP,IAAY,U;YACZ,+B;;eAGR,iBAaA,MAAb,C;UACI,OA AO,CAAP,IAAY,KAAK,SAAL,C;UACZ,6B;;UGA,OAAO,CAAP,IAAY,MAAM,UAAN,C;UACZ,+B;;MAMZ ,OAAO,M;K;ICrGX,4C;MAMoB,UACM,M;MAHtB,IAAI,iBAAJ,C;QAAkB,OAAO,C;MACzB,aAAa,C;MACb, wBAAgB,SAAhB,gB;QAAgB,cAAA,SAAhB,M;QAEQ,oB;UAAmB,U;;UACnB,I1BFiC,MAAa,Y0BEnC,O1BFm C,C0BE9C,C;YAAwD,iCAAhC,OAAgC,C;iBAExD,uC;YAAmC,2BAAR,OAAQ,C;eACnC,wC;YAAmC,2BAAR ,OAAQ,C;eACnC,sC;YAAmC,2BAAR,OAAQ,C;eACnC,uC;YAAmC,2BAAR,OAAQ,C;;YAEA,kBAAR,OAAQ, C;;QATvC,wB;QAYA,SAAS,MAAK,MAAL,QAAc,WAAAd,I;;MAEb,OAAO,M;K;;ICTP,uC;MAAA,2C;K;2DAC I,0B;MAA2D,sBAAU,MAAV,C;K;gEAE3D,iB;MAA6C,Q;MAAA,wEAAqB,C;K;;IAHtE,mD;MAAA,kD;QAA A,iC;OAAA,2C;K;;MC0BA,iC;MAKA,8B;MA6CA,0BAAMe,I;;IAzEnE,kC;MAAA,oB;MAA+B,8C;K;2CAE3B, mB;MAAyD,MAAM,qCAA8B,iCAA9B,C;K;uCAC/D,Y;MACI,WAAa,Q;K;uDAGjB,mB;MAAgE,OAAA,WAAa ,uBAAc,OAAAd,C;K;0CAE7E,Y;MAAwE,OAAA,iCAAY,W;K;qDAEpF,mB;MACI,IAAI,iBAAS,OAAT,CAAJ,C; QACI,WAAa,cAAO,OAAQ,IAAf,C;QACb,OAAO,I;OAEX,OAAO,K;K;wFAGY,Y;MAAQ,OAAA,WAAa,K;K;; 8BA6ChD,Y;MACI,0BAAY,Q;K;0CAIhB,e;MAAmD,OAAA,0BAAY,gBAAS,GAAT,C;K;4CAE/D,iB;MAAmE, gBAAZ,0B;MAAY,c;;QvE+mDnD,Q;QADhB,IAAI,wCAAsB,mBAA1B,C;UAAqC,aAAO,K;UAAp,e;SACrB,2B; QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UAAm,IuE/mDmD,uBAAS,gBvE+mD9C,OuE/mDwD,MAAV,QvE+mD 5D,C;YAAwB,aAAO,I;YAAP,e;;QAC9C,aAAO,K;;MuEhnDgD,iB;K;kFAInD,Y;MACI,IAAI,+BAAJ,C;QACI,0 BAAW,qB;OAEf,OAAO,sC;K;uCAGf,Y;MAAgF,iC;K;kCAEHf,e;MAA+C,OAAA,0BAAY,WAAI,GAAJ,C;K;o CAE3D,sB;MAAgD,OAAA,0BAAY,aAAI,GAAJ,EAAS,KAAT,C;K;qCAE5D,e;MAAyC,OAAA,0BAAY,cAAO, GAAP,C;K;+EAEvB,Y;MAAQ,OAAA,0BAAY,K;K;;IA5DID,0C;MAAA,iD;MAAuD,8B;MAvC3D,mB;MAwCQ ,8BAAmB,W;MACnB,2BAAgB,WAAy,S;MAFhC,Y;K;IAKA,+B;MAAA,iD;MAGuB,aAAK,kEAAL,Q;MAHvB ,Y;K;IAKA,4D;MAAA,iD;MAQ8D,qB;M7EpC9D,IAAI,E6EsCQ,mBAAMB,C7EtC3B,CAAJ,C;QACI,c6EqCgC, +C;Q7EpChC,MAAM,gCAAyB,OAAQ,WAAjC,C;OAFV,IAAI,E6EuCQ,cAAc,C7EvCtB,CAAJ,C;QACI,gB6EsC 2B,yC;Q7ErC3B,MAAM,gCAAyB,SAAQ,WAAjC,C;O6E0BV,Y;K;IAcA,gD;MAAA,iD;MAA2C,eAAK,eAAL,E AAsB,GAAtB,Q;MAA3C,Y;K;IAGA,yC;MAAA,iD;MAG8C,qB;MAC1C,KAAK,gBAAO,QAAP,C;MAJT,Y;K;I AqCJ,4B;MAK8E,gBAAnE,aAAMB,gEAAAnB,C;MAA2E,wB;MAAIF,O1EvCO,S;K;;M2EjEP,uB;;kCAyCA,mB; MACI,UAAU,gBAAI,aAAI,OAAJ,EAAa,IAAb,C;MACd,OAAO,W;K;8BAGX,Y;MACI,gBAAI,Q;K;uCAOR,mB ;MAA6D,OAAA,gBAAI,mBAAY,OAAZ,C;K;gCAEjE,Y;MAAyC,OAAA,gBAAI,U;K;ICAE7C,Y;MAAqD,OAA A,gBAAI,KAAK,W;K;qCAE9D,mB;MAAkD,OAAA,gBAAI,cAAO,OAAP,CAAJ,Q;K;+EAEpB,Y;MAAQ,OAA A,gBAAI,K;K;;IA5D1C,6B;MAAA,iD;MAGoB,8B;MAZxB,mB;MAaQ,oBAAM,gB;MAJV,Y;K;IAOA,yC;MAA A,iD;MAG2C,8B;MANB/C,mB;MAoBQ,oBAAM,eAAGB,QAAS,KAAzB,C;MACN,qBAAO,QAAP,C;MALJ,Y;K ;IAQA,4D;MAAA,iD;MAQ2D,8B;MAhC/D,mB;MAiCQ,oBAAM,eAAGB,eAAhB,EAAiC,UAAjC,C;MATV,Y;K; IAYA,gD;MAAA,iD;MAA2C,eAAK,eAAL,EAAAsB,GAAtB,Q;MAA3C,Y;K;IAEA,oC;MAAA,iD;MAM0C,8B;M A5C9C,mB;MA6CQ,oBAAW,G;MAPf,Y;K;IAmCJ,+B;MAKuC,gBAA5B,eAAQ,eAAR,C;MAAoC,6B;MAA3C, O3ENO,S;K;I4EzD6B,uC;MAAC,kC;MAErC,oBAaKc,kB;MACiC,sBAAyB,C;K;2EAHY,Y;MAAA,8B;K;2FAG rC,Y;MAAA,0B;K,OAAA,gB;MAAA,0B;K;gDAGA,sB;MACI,eAAe,aAAS,qBAAy,GAAZ,C;MACxB,mBAAM B,6BAAsB,QAAtB,C;MACnB,IAAI,oBAAJ,C;QAEI,kBAAW,QAAX,IAAuB,mCAAY,GAAZ,EAAiB,KAAjB,C; ;QAEvB,IAAI,6BAAJ,C;UAEI,YAA+B,Y;UAC/B,IAAI,aAAS,gBAAO,KAAM,IAAb,EAakB,GAaIB,CAAb,C;Y ACI,OAAO,KAAM,gBAAS,KAAT,C;;YAEb,kBAAW,QAAX,IAAuB,CAAQ,KAAr,EAae,mCAAY,GAAZ,EA AiB,KAAjB,CAAf,C;YACvB,6B;YACA,OAAO,I;;UAIX,YAAuC,Y;UACvC,cAAkB,wBAAN,KAAM,EAAiB,G AAjB,C;UACIB,IAAI,eAAJ,C;YACI,OAAO,OAAM,gBAAS,KAAT,C;WAEX,KAAy,MAAK,mCAAY,GAAZ,E

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AZ,C;MACL,oCAAsB,QAAtB,C;MAAA,iB;QAAMc,OAAO,I;OAA7D,mBAAMb,I;MACnB,IAAI,6BAAJ,C;QA  
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;M6FhoCH,yB;K;IAIO,8E;MAAA,wD;MACH,aAAy,E;MAEZ,YAA0B,MAAa,MAAK,qCAAL,C;MACvC,gBA  
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O,C;;;QAEp,oBAAe,I;QACf,OAAO,C;;;K;mEAI,f,Y;MACI,IAAI,eAAS,EAAb,C;QACI,aAAQ,oB;MACZ,OAAO,e  
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X,Y;M/E/CR,I+EgDyB,c/EhDrB,QAaj,C;QACI,cAhByB,0B;QAIbZB,MAAM,6BAAsB,OAAQ,WAA9B,C;O+E+  
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C,oB;MACI,WAAmB,iB;MACnB,OAAa,mEAAS,QAAT,C;K;;;IAIrB,wC;MAAA,oB;MAA+B,8C;K;IAE3B,sD;M  
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,IAAI,EkFvBc,eAAQ,IFuBtB,CAAJ,C;QACI,cAdW,e;QAEX,MAAM,6BAAsB,OAAQ,WAA9B,C;OkFxBE,WA  
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,C;QACI,cAdW,e;QAeX,MAAM,6BAAsB,OAAQ,WAA9B,C;OkF0BN,YAA Y,mB;MACZ,IAAI,SAAS,IAAb,C;  
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SjB,+B;MAC7B,2BAAO,CAAP,C;QADqC,OACzB,E;WACZ,2BAAO,CAAP,C;QAFqC,OAExB,C;;QAFyB,OAG  
7B,C;K;IC1kCZ,4B;MAI4C,qBAAQ,S;K;IAEpD,4B;MAI2C,qBAAQ,S;K;IAEnD,+B;MAGiD,qBAAQ,wCAAO,k  
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,kD;K;mEAFa,Y;MAAA,gC;K;kEACA,Y;MAAA,+B;K;yEACA,Y;MAAA,sC;K;iCAEA,iB;MACI,0CACQ,wBA  
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B;MACI,4BAAwC,I;MACxC,2BAAGD,W;MACHD,kCAAYC,K;K;0FAFzC,Y;MAAA,gC;K;yFACA,Y;MAAA,+  
B;K;gGACA,Y;MAAA,sC;K;sCACA,Y;MAAkC,gB;K;;IAJtC,oC;MAAA,mC;QAAA,kB;OAAA,4B;K;IAOA,iC;  
MACI,QAAM,SAAN,M;aACI,W;UADJ,OAC2B,E;aACvB,I;UAFJ,OAEoB,K;aAChB,K;UAHJ,OAGqB,M;gBAH  
rB,mC;;K;IC3CkC,oE;MACIC,0B;MACA,wC;MACA,kC;MACA,oC;K;sEAHA,Y;MAAA,0B;K;6EACA,Y;MAA  
A,iC;K;0EACA,Y;MAAA,8B;K;2EACA,Y;MAAA,+B;K;4CAEA,Y;MAAkC,gB;K;;8CANtC,Y;MACI,gB;K;8CA  
DJ,Y;MAEI,uB;K;8CAFJ,Y;MAGI,oB;K;8CAHJ,Y;MAIL,qB;K;gDAJJ,kD;MAAA,8BACI,kCADJ,EAEL,uDAFJ,E  
AGI,8CAHJ,EAI,iDAJJ,C;K;4CAA,Y;MAAA,c;MACI,qD;MACA,4D;MACA,yD;MACA,0D;MAJJ,a;K;0CAA  
A,iB;MAAA,4IACI,oCADJ,IAEL,kDAFJ,IAGI,4CAHJ,IAII,8CAJJ,I;K;ICAA,4B;MAAA,gC;MAEI,gBACe,wBA  
AoB,MAApB,EAA6D,KAA7D,EAAoE,gCAApE,C;MAEf,mBACkB,wBAAoB,MAApB,EAAGe,QAaHE,EAA0E  
,mCAA1E,C;MAEIB,oBACmB,+B;MAEnB,oBACmB,wBAAoB,OAApB,EAaKE,SAaIE,EAA6E,oCAA7E,C;M  
AEnB,iBACgB,wBAAoB,MAApB,EAA8D,MAA9D,EAAsE,iCAAtE,C;MAEhB,kBACiB,wBAAoB,MAApB,EA  
A+D,OAA/D,EAAwE,kCAAxE,C;MAEjB,gBACe,wBAAoB,MAApB,EAA6D,KAA7D,EAAoE,gCAApE,C;MAE  
f,kBACiB,wBAAoB,MAApB,EAA+D,OAA/D,EAAwE,kCAAxE,C;MAEjB,mBACkB,wBAAoB,MAApB,EAAGe  
,QAaHE,EAA0E,mCAA1E,C;MAEIB,kBACiB,wBAAoB,KAAPB,EAaIE,OAAjE,EAA0E,kCAA1E,C;MAEjB,m  
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qB,wBAAoB,WAApB,EAAwE,WAAxE,EAAqF,sCAArF,C;MAErB,sBACqB,wBAAoB,SAAPB,EAAsE,WAAtE,  
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BAAoB,UAApB,EAAsE,UAAtE,EAakF,qCAAlF,C;MAEpB,sBACqB,wBAAoB,KAAPB,EAaKE,WAAIE,EAA+  
E,sCAA/E,C;MAErB,uBACsB,wBAAoB,YAApB,EAA0E,YAA1E,EAAwF,uCAAxF,C;MAEtB,wBACuB,wBAA  
oB,YAApB,EAA2E,aAA3E,EAA0F,wCAA1F,C;K;IAMkB,qE;MAAA,qB;QAAE,OtE/DD,OsE+DU,EAAT,KAAi  
B,UAAjB,IAAkC,EAAY,OAAf,KAA0B,a;O;K;+CAJpG,iB;MAE2B,Q;MAAhB,U;MAAA,KAAgB,OAAhB,eAA  
gB,CAAI,KAJJ,CAAhB,U;QAAA,a;;QACH,aAAa,wBAAoB,QAApB,EAA+D,kBAA/D,EACoB,mDADpB,C;QA  
EG,eAAhB,UAAqC,M;QAHIC,SAIH,M;;MAJJ,a;K;IA7D+E,8C;MAAE,6B;K;IAGO,iD;MAAE,0B;K;IAME,kD;

MAAE,8B;K;IAGZ,+C;MAAE,6B;K;IAGC,gD;MAAE,6B;K;IAGR,8C;MAAE,6B;K;IAGI,gD;MAAE,6B;K;IAGC,iD;MAAE,6B;K;IAGH,gD;MAAE,yB;K;IAGD,iD;MAAE,6B;K;IAGM,oD;MAAE,mC;K;IAGO,uD;MAAE,gC;K;IAGL,oD;MAAE,6B;K;IAGJ,oD;MAAE,6B;K;IAGE,qD;MAAE,8B;K;IAGR,mD;MAAE,4B;K;IAGJ,oD;MAAE,6B;K;IAGQ,qD;MAAE,8B;K;IAGC,sD;MAAE,+B;K;;IA5DvH,wC;MAAA,uC;QAAA,sB;OAAA,gC;K;;ICCA,2B;MAEW,Q;MAAA,IAAI,KAAY,SAAQ,MAAR,CAAhB,C;QACH,kBAAW,MAAX,C;;QAEA,kBAAW,MAAX,C;;MAHJ,W;K;IAOJ,8B;MAC4E,QAAM,QAAS,OAAf,C;aACxE,C;UADwE,OACnE,WAAW,SAAS,CAAT,CAAX,C;aACL,C;UAFwE,OAEnE,+B;gBAFmE,OAGhE,iB;;K;IAGZ,oC;MAEU,IAAN,I;MAAA,QvEhB0C,OuEgB3B,CAAf,C;aACI,Q;UAA6B,OAAjB,8BAAiB,Y;UAA7B,K;aACA,Q;UAAy,OAAI,CAAY,C9DbhC,G8DamC,CAAf,MAAkC,CAAtC,GAAyC,8BAAiB,SAA1D,GAAwE,8BAAiB,Y;UAArG,K;aACA,S;UAA8B,OAAjB,8BAAiB,a;UAA9B,K;aACA,U;UAA+B,OAAjB,8BAAiB,eAAGB,CAAY,OAA5B,C;UAA/B,K;gBAGQ,6B;YAAAsC,OAAjB,8BAAiB,kB;eACtC,0B;YAAmC,OAAjB,8BAAiB,e;eACnC,0B;YAAmC,OAAjB,8BAAiB,e;eACnC,2B;YAAoC,OAAjB,8BAAiB,gB;eACpC,yB;YAAkC,OAAjB,8BAAiB,c;eAClC,0B;YAAmC,OAAjB,8BAAiB,e;eACnC,2B;YAAoC,OAAjB,8BAAiB,gB;eACpC,4B;YAAqC,OAAjB,8BAAiB,iB;eACrC,6B;;eACA,sB;YAAkC,OAAjB,8BAAiB,W;;YAE9B,kBAAkB,MAAA,gBA Ae,CAAf,CAAKB,Y;YAE7C,oBAAGB,MAAhB,C;cAAiD,OAAjB,8BAAiB,S;iBACjD,oBAAGB,KAAhB,C;cAAGD,OAAjB,8BAAiB,e;;cAE5C,cAA0B,W;cAC1B,kBAAW,OAAX,C;;;UAXBxB,K;;MAAA,W;K;IAGCJ,4B;MAMW,Q;MAJP,IAAI,WAAW,MAAf,C;QAA6B,OAAO,8BAAiB,Y;OAErD,eAAsB,MAAY,W;MAE3B,IAAI,gBAAJ,C;QACH,IAAI,QAAS,SAAT,QA AJ,C;UACI,aAAa,qBAAiB,MAAjB,C;UACb,oBAAsB,M;UACtB,a;;UAES,OAAT,QAAS,S;;;QAGb,4BAAiB,MAAjB,C;;MATJ,W;K;ICrCJ,0B;MAIL,sBAA Y,C;K;qEACH,4B;MAIkE,iBAAY,KAAZ,C;K;2EAEIE,qB;MAI8D,gB;K;ICIDb,2C;MAC7C,qBAAwC,Q;K;iDAExC,Y;MACmB,Q;MAAA,yB;MAAA,iB;QA Ae,MAAM,6BAAsB,0CAAtB,C;OAApC,eAAe,I;MACf,qBAAC,I;M ACd,OAAO,QAAS,W;K;;;ICLa,kD;MADrC,e;MACsC,0B;MAAyB,gB;MAD/D,iB;MAAA,uB;K;IAAA,mC;MAAA,sC;O;MAEI,qEAGW,CAHX,EAGc,IAHd,C;MAKA,iFAGiB,CAHjB,EAGoB,IAHpB,C;MAKA,iFAGiB,CAHjB,EAGoB,IAHpB,C;MAKA,iFAGiB,CAHjB,EAGoB,IAHpB,C;MAKA,+EAGgB,CAHhB,EAGmB,IAHnB,C;MAKA,yEAGa,CAHb,EAGgB,IAHhB,C;MAKA,iFAGiB,CAHjB,EAGoB,IAHpB,C;MAKA,6EAGe,CAHf,EAGkB,I AHIB,C;MAKA,6FAGuB,CAHvB,EAG0B,IAH1B,C;MAKA,yFAGqB,CAHrB,EAGwB,IAHxB,C;MAKA,4EAGc,EAHd,EAGkB,IAHIB,C;MAKA,0EAGa,EAHb,EAGiB,IAHjB,C;MAKA,gFAGgB,EAHhB,EAGoB,IAHpB,C;M AKA,8EAGe,EAHf,EAGmB,IAHnB,C;MAKA,wFAGoB,EAHpB,EAGwB,IAHxB,C;MAKA,gEAGQ,EAHR,EA GY,IAHZ,C;MAKA,8DAGO,EAHP,EAGW,IAHX,C;MAKA,wEAGY,EAHZ,EAGgB,IAHhB,C;MAKA,oEAGU,EAHV,EAGc,IAHd,C;MAKA,kFAGiB,EAHjB,EAGqB,IAHrB,C;MAKA,oFAGkB,EAHIB,EAGsB,IAHtB,C;MA KA,gFAGgB,EAHhB,EAGoB,IAHpB,C;MAKA,4FAGsB,EAHtB,EAG0B,IAH1B,C;MAKA,oFAGkB,EAHIB,EA GsB,IAHtB,C;MAKA,wEAGY,EAHZ,EAGgB,IAHhB,C;MAKA,gFAGgB,EAHhB,EAGoB,IAHpB,C;MAKA,gF AGgB,EAHhB,EAGoB,IAHpB,C;MAKA,0EAGa,EAHb,EAGiB,IAHjB,C;MAKA,oGAG0B,EAH1B,EAG8B,IAH 9B,C;MAKA,gGAGwB,EAHxB,EAG4B,IAH5B,C;MAUA,oC;K;;IA3JA,+C;MAAA,yB;MAAA,uC;K;;IAKA,qD; MAAA,yB;MAAA,6C;K;;IAKA,qD;MAAA,yB;MAAA,6C;K;;IAKA,qD;MAAA,yB;MAAA,6C;K;;IAKA,oD;MA AA,yB;MAAA,4C;K;;IAKA,iD;MAAA,yB;MAAA,yC;K;;IAKA,qD;MAAA,yB;MAAA,6C;K;;IAKA,mD;MAAA ,yB;MAAA,2C;K;;IAKA,2D;MAAA,yB;MAAA,mD;K;;IAKA,yD;MAAA,yB;MAAA,iD;K;;IAKA,kD;MAAA,yB ;MAAA,0C;K;;IAKA,iD;MAAA,yB;MAAA,yC;K;;IAKA,oD;MAAA,yB;MAAA,4C;K;;IAKA,mD;MAAA,yB;M AAA,2C;K;;IAKA,wD;MAAA,yB;MAAA,gD;K;;IAKA,4C;MAAA,yB;MAAA,oC;K;;IAKA,2C;MAAA,yB;MAA A,mC;K;;IAKA,gD;MAAA,yB;MAAA,wC;K;;IAKA,8C;MAAA,yB;MAAA,sC;K;;IAKA,qD;MAAA,yB;MAAA, 6C;K;;IAKA,sD;MAAA,yB;MAAA,8C;K;;IAKA,oD;MAAA,yB;MAAA,4C;K;;IAKA,0D;MAAA,yB;MAAA,kD; K;;IAKA,sD;MAAA,yB;MAAA,8C;K;;IAKA,gD;MAAA,yB;MAAA,wC;K;;IAKA,oD;MAAA,yB;MAAA,4C;K;; IAKA,oD;MAAA,yB;MAAA,4C;K;;IAKA,iD;MAAA,yB;MAAA,yC;K;;IAKA,8D;MAAA,yB;MAAA,sD;K;;IAK A,4D;MAAA,yB;MAAA,oD;K;8CAKA,gB;MAG2D,OAAK,iBAAL,IAAK,CAAL,KAA2B,IAAK,c;K;IAE3F,kC; MAAA,sC;K;uDACL,oB;MAEQ,IADE,QACF,IAAG,CAAH,IADE,QACF,IAAM,EAAN,C;QADJ,OACgB,sBAAS ,QAAT,C;WACZ,IAFE,QA EF,IAAG,EA AH,IAFE,QA EF,IAAO,EAAP,C;QAFJ,OAEiB,sBAAS,WAAW,CAAX,IA AT,C;;QACL,MAAM,gCAAYB,eAAY,QA AZ,qBAAzB,C;K;;IAL1B,8C;MAAA,yB;MAAA,6C;QAAA,4B;OA AA,sC;K;;IA7JJ,+B;MAAA,+yC;K;;IAAA,oC;MAAA,a;AAAA,Y;UAAA,4C;aAAA,kB;UAAA,kD;aAAA,kB;UA AA,kD;aAAA,kB;UAAA,kD;aAAA,iB;UAAA,iD;aAAA,c;UAAA,8C;aAAA,kB;UAAA,kD;aAAA,gB;UAAA,gD;

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,2C;aAAA,kB;UAAA,kD;aAAA,mB;UAAA,mD;aAAA,iB;UAAA,iD;aAAA,uB;UAAA,uD;aAAA,mB;UAAA,m  
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X,gD;MAQqD,kBAA1B,gBAAhB,sCAAgB,EAAc,IAAd,EAAoB,IAApB,C;MAAiC,sB7HoEID,W6HpEkD,C;MA  
AxD,O7HqEO,W;K;I8HzFX,yC;MAEKD,8B;MAAA,OCGN,aDHwB,yBAAa,QAAb,mCCGxB,C/G+xBgC,sB;K;I  
8GhyB5E,2C;M/IggIW,kBAAY,gB;MAoGH,Q;MAAhB,wB+I7IIqB,U/I6IIrB,gB;QAAgB,c+I7IIK,U/I6IIrB,M;QA  
AsB,IAAI,C+I7IIkB,sB/I6IIP,O+I7IIO,C/I6IItB,C;UAAyB,WAAy,WAAI,OAAJ,C;;M+I7II3D,qB/I8IIO,W;M+I7II  
P,IzIgNwD,CyIhNpD,czIgNqD,UyIhNzD,C;Q9GgKuC,U;Q8G/JnC,qB9G+JyD,OAAtB,+B8G/Jd,mB9G+Jc,uBAA  
sB,CAAO,W;QsGkO7C,kBAAhB,sB;QQ/XC,0C;QACA,IAAI,E9G8QoC,0BAAU,C8G9Q9C,CAAJ,C;UACI,2BA  
AO,GAAP,C;SAEW,sCAAa,GAAb,C;QALnB,sB9H4DG,WsHoUqC,W;QQzXxC,OAAO,I;OAGX,OAAO,K;K;IA  
GX,8C;MAOmB,c;;Q/li3YC,Q;QAAhB,wB+Ij3YI,U/Ii3YJ,gB;UAAgB,c+Ij3YZ,U/Ii3YJ,M;UAAsB,I+Ij3YD,sB/I  
i3Ye,O+Ij3Yf,C/li3YC,C;YAAwB,aAAO,I;YAAP,e;;QAC9C,aAAO,K;;M+II3YP,e;QACI,kBAA6B,MAAX,UAA  
W,C;Q9GyIM,U;Q8GxIb,a9GwImC,OAAtB,+B8GxIvB,mB9GwIuB,uBAAAsB,CAAO,W;Q8GxIX,kBC/BjB,aD+B  
D,MC/BC,C/Gg1C6C,uBAAzB,CAAyB,C;QbnmB9E,kBAAS,gB;QA2FA,U;QAAA,+B;QAAhB,OAAgB,gBAAh  
B,C;UAAgB,6B;UAAAM,I2HzyB4C,4B3HyyB9B,S2HzyB8B,C3HyyB5C,C;YAAwB,WAAy,WAAI,SAAJ,C;;Q2  
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C;K;+GAw0BX,wD;MAEwC,6B;QAAA,gBAAYB,E;MAAI,uB;QAAA,UAAoB,K;MAAO,0B;QAAA,aAAuB,K;  
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B;MAAA,wE;MAAA,uC;QAQkB,Q;QADd,aAAa,oB;QACC,OAAA,SA3FsE,QAAQ,W;QA2F5F,OAAc,cAAAd,C;  
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AlB,C;UACI,sBAAK,UAAU,EAAMb,OAAnB,C;QAEJ,+B;;MAEJ,IAAI,aAAa,cAAjB,C;QACwB,oC;QAAiB,mB  
;QAARc,oE;UACI,2BAAS,WAAT,C;QAEJ,OOAO,I;;QAEp,OOAO,K;;K;IChS+B,wC;MAAkC,uB;MAAjC,0B;K;  
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T,C;K;yCAEHd,0B;MAA8C,OOAA,eAAS,aAAI,0BAAoB,KAApB,CAAJ,EAAGC,OAaHc,C;K;yCACvD,0B;MA  
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CI,C;YAAA,K;eACA,C;YACI,IAAI,kCAAE,UAAAnB,C;cACI,eAAQ,C;cACR,OOAO,I;;cAEP,sBAAE,I;;YALvB,  
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HoBH,eAAQ,C;K;kGAIR,Y;MAAQ,0C;K;;IxK1LhB,oD;MAQuF,wC;K;IARvF,8CASI,Y;MAAuC,8B;K;IAT3C,g  
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AS,E;K;IAEzE,8B;MAK6D,OAAl,Qb2rPtD,YAAQ,Ca3rP0C,GAAwB,eAAxB,GAAsD,WAAT,QAAS,C;K;IAEn  
H,yB;MAG8C,kC;K;IAE9C,yB;MAAA,6B;K;uCACI,Y;MAA6C,kC;K;2CAC7C,a;MAA4B,kC;K;2CAC5B,a;MA  
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;K;;0CARxB,Y;MAAqD,wD;K;;IAmBzD,0D;MACI,4B;MACA,4B;MACA,4B;K;IAEuC,sE;MAAA,gD;MACnC,i  
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;+DAEjC,Y;MACI,IAAI,CAAC,2BAAL,C;QACI,MAAM,6B;MACV,OAAO,gCAaE,O;K;kEAG1B,Y;MACI,OA  
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C,iB;MAGIE,UAQ1C,MAR0C,EAe1C,MAf0C,EAqBtD,M;MatBP,aACQ,KAAM,OAAN,GAAa,IAAK,KAAtB,G  
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,C;;UaiId,W;S;O;MATR,kD;QAQI,sBAAW,wDAAX,C;O;KARJ,C;kGAcA,yB;MAAA,oC;MAOe,wE;QAAA,uB;  
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OAA6C,8BAAAtC,c;K;8EAZX,yB;MAAA,oE;MAAA,6E;MAYiD,gD;QAAA,oB;UACzC,WAAW,sBAAmB,YAA  
F,CAAE,CAAnB,C;UACX,cAAM,IAAN,C;UADA,OAEA,IAAK,a;S;O;MAfb,sC;QAYW,mBAAcS,8BAAAtC,6B;  
QAAP,OAAO,kD;O;KAZX,C;qGA0BI,yB;MAAA,2D;MAAA,mB;QACI,MAAM,6BAAoB,0BAApB,C;O;KADV  
,C;;M6HzIA,yC;;IAAA,uC;MAAA,2C;K;;IAAA,mD;MAAA,kD;QAAA,iC;OAAA,2C;K;+EAKBA,wB;K;oDAaA  
,e;MAK2C,IAAI,IAAJ,EAGK,M;MAL5C,IAAI,+CAAJ,C;QAEI,OAAW,GAAL,kBAAS,IAAK,IAAd,CAAR,GAA  
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ArC,GAAoD,I;K;yDAI/D,e;MAGI,IAAI,+CAAJ,C;QACI,OAAW,GAAL,kBAAS,IAAK,IAAd,CAAJ,IAA0B,GAA  
I,iBAAQ,IAAR,CAAJ,QAA9B,GAAyD,mCAAZD,GAAoF,I;OAE/F,OAAW,8CAA4B,GAAhC,GAAqC,mCAArC  
,GAAgE,I;K;;;ICtChD,oD;MACf,cAAc,GAAL,kBAAS,OAAQ,IAAjB,C;MACIB,IAAI,YAAY,mCAAhB,C;QAD  
A,OACuC,O;;QAEEnC,kBAAkB,oBAAQ,yCAAR,C;QACIB,IAAI,mBAAJ,C;UAJJ,OAI6B,oBAAgB,OAAhB,EA  
AyB,OAAzB,C;;UACrB,WAAW,OAAQ,kBAAS,yCAAT,C;UAL3B,OAMY,SAAS,mCAAb,GAAoC,oBAAgB,O  
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K;8CADxB,mB;MAKI,OAAI,YAAY,mCAAhB,GAAuC,IAAvC,GACI,OAAQ,cAAK,IAAL,EAAW,4BAAx,C;K;  
;;;qDAiCZ,e;MAEyB,Q;MADrB,OACI,OAAA,IAAK,IAAL,EAAY,GAAZ,CAAJ,GAAqB,0EAArB,GAAoC,I;K;  
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C;MAEA,4BAAqC,mDAAJ,GAAkD,OAAQ,qBAA1D,GAA0E,O;K;4DAE3G,mB;MAA6C,+BAAS,OAAT,C;K;6  
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AyD,mCAAZD,GAAoF,S;OAE/F,OAAW,SAAK,IAAL,KAAa,GAAjB,GAAsB,mCAAtB,GAAiD,S;K;IAG5D,iC;  
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mB;MAAwE,c;K;uDACxE,e;MAA8D,W;K;+CAC9D,Y;MAAsC,Q;K;+CACtC,Y;MAAyC,8B;K;;Iab7C,6C;MA  
AA,4C;QAAA,2B;OAAA,qC;K;IAqB8B,wC;MACIB,kB;MACA,wB;K;4CAGA,e;MAGQ,Q;MAFJ,UAAU,I;MA  
CV,OAAO,IAAP,C;QACI,YAAA,GAAL,UAAJ,aAAy,GAAZ,W;UAAwB,W;SACxB,WAAW,GAAL,O;QACf,IA  
AI,oCAAJ,C;UACI,MAAM,I;;UAEN,OAAO,iBAAK,GAAL,C;;K;6CAKnB,8B;MACI,iBAAU,WAAK,cAAK,O  
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MACV,WAAW,C;MACX,OAAO,IAAP,C;QACU,uBAAI,OAAJ,GAAL,OAAJ,gC;QAAA,mB;UAAgC,OAAO,I;S  
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;MACf,gBAAy,CAAZ,C;MACA,kBAAK,kBAAL,EAAW,oDAAX,C;M9KtFJ,IAAI,E8KuFM,YAAS,C9KvFf,CA  
AJ,C;QACI,cAdW,e;QAEX,MAAM,6BAAsB,OAAQ,WAA9B,C;O8KuFN,OAAO,+BAAW,qDAAX,C;K;IAGa,8  
C;MACpB,kD;MADqB,wB;K;IACrB,gD;MAAA,oD;MACI,4B;K;;IADJ,4D;MAAA,2D;QAAA,0C;OAAA,oD;K;

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B,KAAM,KAAN,yBAAa,CAAb,EAAtB,C;WAC/B,IAAA,KAAM,MAAN,+C;QAHiD,OAGjB,2BAAS,KAAM,M  
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f,GAAyC,CAAX,CAAC,QAAD,IAAW,KAAL,E;K;IAEjD,uC;MvLtVI,IAAI,EuLsVuD,QAAQ,IvLtV/D,CAAJ,C;  
QACI,cuLqVuE,+B;QvLpVvE,MAAM,gCAAYB,OAAQ,WAAjC,C;Q;IuLqVd,yC;MvLvVI,IAAI,EuLuVyD,sBA  
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vLxVI,IAAI,EuLwV6D,QAAQ,IvLxVrE,CAAJ,C;QACI,cuLuV6E,+B;QvLtV7E,MAAM,gCAAYB,OAAQ,WAAj  
C,C;Q;IuLwVd,yC;MAAYD,oCAA0B,IAA1B,qBAAiC,KAAjC,kB;K;ICrXzD,6B;MAOqC,OnMmYE,SmMnYF,m  
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tB,C;;UAC/B,InMEkE,YmMFIE,KAAM,MnME6E,KAAjB,EmMFpD,4BAAK,UnME4E,KAA7B,CmMFIE,K;YA  
HiD,OnMuBI,SmMpBrB,sBnMiCsB,SmMjCb,KAAM,MnMiCiB,KAAK,GAA Y,CmMjC1B,WnMiC0B,MAAZ,IA

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J,OAIzC,mB;;;K;IAGZ,8B;MAOuC,OnL0VG,Uml1VH,oBnL0VG,C;K;ImLxV1C,uC;MASmD,8BAAU,2BAAV,  
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6TsC,Uml7T/B,YnL6T+B,C;K;ImL1T1C,uC;MAWI,IAAA,KAAM,UAAAN,C;QAAMB,MAAM,gCAAYB,uCAAo  
C,KAA7D,C;;QACzB,InL7CmE,amL6CnE,KAAM,KnL7C+E,KAAiB,EmL6CtD,6BAAM,UnL7C8E,KAA9B,Cm  
L6CnE,K;UAFoD,OAEPB,uBAAU,KAAM,MAAhB,EnLhCuB,UmlgCA,KAAM,KnLhCK,KAAK,KAAW,ChBs  
Q7C,UAAW,oBAAL,CmMtOyB,WnMsOzB,MAAK,CAAL,iBAAN,CgBtQ6C,MAAX,CAAhB,CmLgCvB,C;;UA  
ChC,InL9CmE,amL8CnE,KAAM,MnL9C+E,KAAiB,EmL8CrD,6BAAM,UnL9C6E,KAA9B,CmL8CnE,K;YAHo  
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c,WnMqOd,MAAK,CAAL,iBAAN,CgBzP+C,MAAZ,CAAhB,CmLoBvB,EAA4B,KAAM,KAAIC,CnLjCiC,KAA  
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;;YmL8BH,OAI5C,oB;;;K;IAGZ,sC;MAQI,4BAAU,KhK4+FH,QgK5+FP,C;MACA,OAAO,K;K;IAGX,uC;MAKs  
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O,K;K;IAIX,2C;MxLrHI,IAAI,EX2B8D,YmM0FD,KnM1FkB,KAAjB,EmM0FO,InM1FsB,KAA7B,CmM0FD,Ix  
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O,C;MACIB,WAAI,Q;MACJ,WAAI,Q;MACJ,WAAI,Q;MACJ,SAAS,Q;MACT,WAAI,E;MACJ,IAAK,IAAO,KA  
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B,EAAsB,CAAtB,EAA+B,CAAN,KAAzB,EAAuC,SAAU,EAAX,GAAoB,UAAW,CAArE,C;MADR,Y;K;ICbiD,  
8C;MACjD,4B;MACA,0C;K;oEADA,Y;MAAA,2B;K;2EACA,Y;MAAA,kC;K;uCAGA,iB;MACI,OAAO,0CAA  
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K;yCAIX,Y;MACI,OAAW,cAAJ,GAAe,EAaf,GAAuB,MAAW,SAAN,UAAAM,CAAX,QAAqC,SAAb,iBAaA,CA  
ArC,I;K;yCAGIC,Y;MAAkC,OAAE,UAAf,qBAAU,iB;K;;IAGhd,kC;MAM6E,2BAAGB,SAAhB,EAAsB,IAAtB,  
C;K;;0DAYzE,iB;MAA2C,qCAAiB,UAAjB,EAawB,KAAxB,KAAkC,8BAAiB,KAAjB,EAawB,iBAAxB,C;K;i  
DAC7E,Y;MAAkC,QAAC,8BAAiB,UAAjB,EAawB,iBAAxB,C;K;;IAcR,gD;MAI3B,gBAAqB,K;MACrB,uBAA  
4B,Y;K;0FACD,Y;MAAQ,oB;K;iGACD,Y;MAAQ,2B;K;2DAE1C,gB;MAA+D,YAAK,C;K;mDAEPe,iB;MAAG  
D,gBAAS,aAAT,IAAmB,SAAS,oB;K;0CAC5E,Y;MAAkC,SAAE,iBAAU,oBAAZ,C;K;yCAEIC,iB;MACI,OAA  
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B,C;K;IAQvD,+C;MAI1B,gBAAqB,K;MACrB,uBAA4B,Y;K;yFACF,Y;MAAQ,oB;K;gGACD,Y;MAAQ,2B;K;0  
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B,+C;MACI,IAAI,CAAC,UAAL,C;QAAiB,MAAM,gCAAYB,iCAA8B,IAA9B,iBAAZB,C;K;IC5I3B,gC;MAcW,  
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;;;;ICvBhB,yC;MA2B9B,uC;MA1BA,wB;MAIA,gB;M5LQA,IAAI,E4LDS,iBAAY,IAAb,MAAuB,iBAAvB,C5L

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F,SAAL,SAAK,C;WAC5B,6C;QAH8B,OAGd,iBAAK,SAAL,C;WACHB,8C;QAJ8B,OAIb,kBAAM,SAAN,C;;Q  
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A/B,C;K;;IArCR,iD;MAAA,gD;QAAA,+B;OAAA,yC;K;;2CArCJ,Y;MAWI,oB;K;2CAXJ,Y;MAeI,gB;K;6CAfJ,0  
B;MAAA,2BAWI,8CAXJ,EAeI,kCAfJ,C;K;yCAAA,Y;MAAA,c;MAWI,yD;MAIA,qD;MAfJ,a;K;uCAAA,iB;MA  
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D;MAKA,8C;MAKA,gD;K;;IAVA,2C;MAAA,sB;MAAA,mC;K;;IAKA,oC;MAAA,sB;MAAA,4B;K;;IAKA,qC;  
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AAA,K;UAAA,kC;gBAAA,6D;;K;;6ECAA,yB;MAAA,4F;MAAA,2B;QASI,MAAM,mCAA8B,0EAA9B,C;O;KA  
TV,C;ICkCA,+D;MAAw,Q;MAAP,OAAO,8CAAO,KAAP,EAAC,UAAAd,EAA0B,QAA1B,oC;K;IAGX,kC;MAIiB  
,Q;MAAb,wBAAa,KAAb,gB;QAAa,WAAA,KAAb,M;QACI,yBAAO,IAAP,C;;MACJ,OAAO,S;K;mFAGX,qB;M  
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8B;MAWSc,+B;K;0EAEtC,4B;MAM8D,OAAK,oBAAL,SAAK,CAAL,GAaKb,K;K;IAEHf,gD;MAQoC,0B;QA  
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7CF,EAAO,mBAAc,kBAAd,CAAP,EAA0C,IAA1C,CACA,W;K;IAvET,+B;MAeyC,gCAAc,EAAd,C;K;IAEzC,6  
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OR,S4LjOe,C5LiOrB,C;O;KAFjC,C;gFAIA,Y;MASmC,gB;K;kFACnC,yB;M4L1OJ,4B;M5L0OI,mB;QASqC,O4  
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ACID,yB;MAAA,WASqD,wB;MATrD,mB;QASmC,OAAK,oBAAL,SAAK,CAAL,U;O;KATnC,C;kFAWA,Y;M  
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AAN,C;O;KATrC,C;kFAWA,Y;MAMqC,OApDC,SAAL,GAAiB,G;K;oFAqDID,Y;MAMuC,OA3DD,SAAL,GA  
AiB,G;K;+BA6DID,Y;MAAyC,OAAQ,CA7DX,SAAL,GAAiB,GA6DD,Y;K;+;+BA1UrD,Y;MAAA,c;MAG4D,q  
D;MAH5D,a;K;6BAAA,iB;MAAA,2IAG4D,oCAH5D,G;K;wEA8UA,yB;MAAA,+B;MAAA,4B;QAU0C,sBAAM  
,SAAN,C;O;KAV1C,C;0EAWA,yB;MAAA,0B;MAAA,+B;MAAA,4B;QAW2C,sBAAW,OAAL,SAAK,CAAX,C;  
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,C;0EAYA,yB;MAAA,0B;MAAA,+B;MAAA,4B;QAW0C,sBAAW,OAAL,SAAK,SAAX,C;O;KAX1C,C;IgC9W  
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,C;O;KANpD,C;wFAOA,yB;MA+LA,kBAS6D,sB;MAT7D,+B;MgB/LA,oD;MhBAA,wB;QAMsD,OgBAA,ehBk  
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uBG,U5NvBc,KAAjB,E4NuBW,S5NvBkB,KAA7B,C4NuBG,I;K;uCAErE,iB;MAEY,UAAwB,M;MADhC,iDAA  
6B,kBAAa,KAAM,UAAAnB,KACrB,2CAAS,KAAM,MAAf,cAAwB,6CAAQ,KAAM,KAAd,QAAxB,KAA8C,cA  
AQ,KAAM,KADvC,CAA7B,C;K;yCAGJ,Y;MACI,OAAI,cAAJ,GAAe,EAAf,GAAwB,OAAM,MAAK,U5NiNN,  
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AEhF,qC;MAAA,yC;K;kEACI,sC;MAQ2F,2BAAgB,UAAhB,EAA4B,QAA5B,EAAc,IAAT,C,C;K;;IAT/F,iD;M  
AAA,gD;QAAA,+B;OAAA,yC;K;;IAoBiC,oD;MAAuC,uB;MACxE,sBAA2B,I;MAC3B,iBAAmC,OAAO,CAA1  
C,G5NxDe,Y4NwDrB,K5NxDsC,KAAjB,E4NwDZ,I5NxDyC,KAA7B,C4NwDrB,KAA7C,G5NxDe,Y4NwDF,  
K5NxDbM,KAAjB,E4NwDO,I5NxDsB,KAA7B,C4NwDF,K;MACHe,c5N2RmC,S4N3RhB,I5N2RgB,C;M4N1Rn  
C,cAAuB,cAAJ,GAAa,KAAb,GAAwB,mB;K;gDAE3C,Y;MAAkC,qB;K;iDAEIC,Y;MACI,YAAY,W;MACZ,IA  
AI,6BAAS,mBAAT,QAAJ,C;QACI,IAAI,CAAC,cAAL,C;UAAc,MAAA,6B;QAC3B,iBAAU,K;;QAEV,c5NID6C,  
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Y;MAA4B,uB;K;;IAMhC,0B;K;oCAII,Y;MAA4B,wB;K;;IAMhC,wB;K;kCAII,Y;MAA4B,sB;K;;IAMhC,yB;K;m  
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,yB;MjBqRA,WAS6D,wB;MAT7D,+B;MiB7PA,gD;MAxBA,wB;QAM0D,OAYBS,aAAa,IAAK,KAAIB,EAA8B,  
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B,KhB4R7B,KAACK,CAAL,iBAAN,CgBnR4D,MAA9B,C;O;KafnE,C;kGAQA,yB;MAAA,gD;MAAA,wB;QAO  
mE,oBAAa,IAAK,KAAIB,EAAwB,KAAM,KAA9B,C;O;KAPnE,C;4FASA,yB;MjBoPA,WAS6D,wB;MAT7D,+B  
;MiBpPA,wB;QAEuD,OASA,eAAM,IAAK,KAACK,KAAM,CjBkP7C,eAAW,oBiB3PiB,KjB2PtB,KAACK,CAAL,  
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,OAMD,eAAM,IAAK,KAACK,KAAM,CfmP7C,eAAW,oBezPkB,KfyPvB,KAACK,CAAL,YAAN,CenP6C,MAAX,  
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W,oBe5OoB,Kf4OzB,KAACK,CAAL,YAAN,CetO+C,MAAZ,CAAhB,C;O;KARxD,C;8FAGA,yB;MhBqPA,kBAS  
6D,sB;MAT7D,+B;MgBrPA,wB;QAEuD,OAGC,eAAM,IAAK,KAACK,UAAy,ChByP/C,eAAW,oBgB5PkB,KhB4  
PvB,KAACK,CAAL,iBAAN,CgBzP+C,MAAZ,CAAhB,C;O;KALxD,C;8FAGA,yB;MAAA,+B;MAAA,wB;QAEw  
D,sBAAM,IAAK,KAACK,UAAM,KAAM,KAAX,CAAhB,C;O;KAFxD,C;8FAIA,yB;MjB0NA,WAS6D,wB;MAT7  
D,+B;MiB1NA,wB;QAEwD,OASA,eAAM,IAAK,KAACK,UAAy,CjBwN/C,eAAW,oBiBjOmB,KjBiOxB,KAACK,  
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B;QAEyD,OAMD,eAAM,IAAK,KAACK,UAAy,CfyN/C,eAAW,oBe/NoB,Kf+NzB,KAACK,CAAL,YAAN,CezN+  
C,MAAZ,CAAhB,C;O;KARxD,C;8FAGA,yB;MhBwOA,kBAS6D,sB;MAT7D,+B;MgBxOA,wB;QAEuD,OAGC,  
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,CAAhB,C;O;KAFxD,C;0FAIA,yB;MjB6MA,WAS6D,wB;MAT7D,+B;MiBpMA,8C;MATA,wB;QAEsD,OASA,

YAA Y,IAAZ,EjB2MjB,eAAW,oBiBpNe,KjBoNpB,KAAK,CAAL,UAAN,CiB3MiB,C;O;KAXtD,C;OFAGA,yB;Mf2MA,aAS6D,OB;MAT7D,+B;MerMA,8C;MANA,wB;QAEuD,OAMD,YAA Y,IAAZ,Ef4MjB,eAAW,oBelNgB,KfkNrB,KAAK,CAAL,YAAN,Ce5MiB,C;O;KARtD,C;OFAGA,yB;MhB2NA,kBAS6D,sB;MAT7D,+B;MgBxNA,8C;MAHA,wB;QAEqD,OAGC,YAA Y,IAAZ,EhB+NjB,eAAW,oBgBIoc,KhBkOnB,KAAK,CAAL,iBAAN,CgB/NiB,C;O;KALtD,C;OFAGA,yB;MAAA,8C;MAAA,wB;QAEsD,mBAAY,IAAZ,EAaKB,KAAIB,C;O;KAFtD,C;OF AIA,yB;MjBgmA,WAS6D,wB;MAT7D,+B;MiB3KA,oD;MARBA,wB;QAMsD,OAqBA,eAAe,IAAf,EjB8KjB,eA AW,oBiBnMe,KjBmMpB,KAAK,CAAL,UAAN,CiB9KiB,C;O;KA3BtD,C;0FAOA,yB;Mf0LA,aAS6D,OB;MAT7 D,+B;Me5KA,oD;MAdA,wB;QAMuD,OAcD,eAAe,IAAf,Ef+KjB,eAAW,oBe7LgB,Kf6LrB,KAAK,CAAL,YAA N,Ce/KiB,C;O;KApBtD,C;0FAOA,yB;MhBsMA,kBAS6D,sB;MAT7D,+B;MgB/LA,oD;MAPA,wB;QAMqD,OA OC,eAAe,IAAf,EhBkMjB,eAAW,oBgBzMc,KhByMnB,KAAK,CAAL,iBAAN,CgBIMiB,C;O;KAbtD,C;0FAOA,yB;MAAA,oD;MAAA,wB;QAMsD,sBA Ae,IAAf,EAAqB,KAArB,C;O;KANtD,C;oGAQA,yB;MjBmKA,WAS6D,wB;MAT7D,+B;MiBpMA,8C;MAiCA,wB;QAMkD,OArcI,YAA Y,IAAZ,EjB2MjB,eAAW,oBiBtKgB,KjBsKrB,KAAK,CAAL,UAAN,CiB3MiB,C;O;KA+BtD,C;oGAOA,yB;Mf6JA,aAS6D,OB;MAT7D,+B;MerMA,8C;MAwC A,wB;QAMmD,OA5CG,YAA Y,IAAZ,Ef4MjB,eAAW,oBehKiB,KfGktB,KAAK,CAAL,YAAN,Ce5MiB,C;O;KA sCtD,C;oGAOA,yB;MhByKA,kBAS6D,sB;MAT7D,+B;MgBxNA,8C;MA+CA,wB;QAMiD,OA nDK,YAA Y,IAA Z,EhB+NjB,eAAW,oBgB5Ke,KhB4KpB,KAAK,CAAL,iBAAN,CgB/NiB,C;O;KA6CtD,C;oGAOA,yB;MatDA,8 C;MASDA,wB;QAMkD,OA1DI,YAA Y,IAAZ,EA0DA,KA1DA,C;O;KAOtD,C;0FAQA,yB;MjBsIA,WAS6D,wB ;MAT7D,+B;MiB3KA,oD;MjB4OJ,OB;MAAA,+B;MiBvMI,wB;QAQ6C,OjB0MP,eAAW,OiBjPK,eAAe,IAAf,Ej B8KjB,eAAW,oBiBvIM,KjBuIX,KAAK,CAAL,UAAN,CiB9KiB,CA4KjB,KjBqEY,SAAX,C;O;KiBInTc,C;0FAS A,yB;Mf8HA,aAS6D,OB;MAT7D,+B;Me5KA,oD;Mf6OJ,4B;MAAA,iC;Me/LI,wB;QAQ+C,OfkMP,gBAA Y,QeIP E,eAAe,IAAf,Ef+KjB,eAAW,oBe/HQ,Kf+Hb,KAAK,CAAL,YAAN,Ce/KiB,CAsLf,Kf4Da,SAAZ,C;O;Ke1MxC, C;0FASA,yB;MhBwIA,kBAS6D,sB;MAT7D,+B;MgB/LA,oD;MhBkJ,6B;MgB3MI,wB;QAQ2C,OhB8MP,cgBv QkB,eAAe,IAAf,EhBkMjB,eAAW,oBgBzII,KhByIT,KAAK,CAAL,iBAAN,CgBIMiB,CAGMnB,KhBuEW,QAA V,C;O;KgBtNpC,C;0FASA,yB;MAhEA,oD;MAGEA,wB;QAQ6C,OAIES,eAAe,IAAf,EAKEL,KAIEK,C;O;KA0DtD ,C;0EAUA,yB;MAAA,+B;MAAA,mB;QAM0C,sBAAM,SAAK,MAAX,C;O;KAN1C,C;0EAQA,yB;MAAA,+B; MAAA,mB;QAM0C,sBAAM,SAAK,MAAX,C;O;KAN1C,C;kGAQA,yB;MAAA,gD;MAAA,wB;QAE+D,2BAA W,IAAX,EAAiB,KAAjB,C;O;KAF/D,C;0FAIA,yB;MAAA,+B;MAAA,2B;QAOoD,sBAAM,oBAAS,QAAT,CAA N,C;O;KAPpD,C;0FASA,yB;MAAA,+B;MAAA,2B;QAOoD,sBAAM,6BAAU,QAAV,CAAN,C;O;KAPpD,C;0F ASA,yB;MAAA,+B;MAAA,wB;QAEmD,sBAAM,IAAK,KAAL,KAAc,KAAM,KAApB,CAAN,C;O;KAFnD,C;w FAGA,yB;MAAA,+B;MAAA,wB;QAEkD,sBAAM,IAAK,KAAL,IAAa,KAAM,KAA nB,CAAN,C;O;KAFID,C;0 FAGA,yB;MAAA,+B;MAAA,wB;QAEmD,sBAAM,IAAK,KAAL,KAAc,KAAM,KAApB,CAAN,C;O;KAFnD,C;0 EAGA,yB;MAAA,+B;MAAA,mB;QAEiC,sBAAM,SAAK,MAAX,C;O;KAFjC,C;gFAIA,yB;MAAA,OB;MAAA, mB;QAUmC,OAAK,OAAL,SAAK,S;O;KAVxC,C;kFAWA,yB;MAAA,4B;MAAA,mB;QAUqC,OAAK,QAAL,S AAK,S;O;KAV1C,C;8EAWA,Y;MAUiC,OAAA,SAAK,Q;K;gFACtC,Y;MASmC,gB;K;kFAEnC,yB;MjBmEJ,OB; MAAA,+B;MiBnEI,mB;QASqC,OjBqEC,eAAW,OiBrEz,SjBqEY,SAAX,C;O;KiB9EtC,C;oFAUA,yB;Mf0DJ,4B; MAAA,iC;Me1DI,mB;QASuC,Of4DC,gBAA Y,Qe5Db,Sf4Da,SAAZ,C;O;KerExC,C;gFAUA,yB;MhBqEJ,6B;Mg BrEI,mB;QASmC,OhBuEC,cgBvED,ShBuEW,QAAV,C;O;KgBhFpC,C;kFAUA,Y;MAEqC,W;K;kFAErC,yB;MA SA,kD;MATA,mB;QAQqC,OASE,cAAc,SAAd,C;O;KAjvC,C;oFASA,yB;MAAA,kD;MAAA,mB;QAQuC,qBA Ac,SAAd,C;O;KARvC,C;+BAUA,Y;MAAyC,qBAAc,SAAd,C;K;,,,,+BAnW7C,Y;MAAA,c;MAG4D,qD;MAH5D ,a;K;6BAAA,iB;MAAA,2IAG4D,oCAH5D,G;K;wEAuWA,yB;MAAA,+B;MAAA,4B;QAW0C,sBAAW,oBAAL, SAAK,CAAX,C;O;KAX1C,C;0EAYA,yB;MAAA,+B;MAAA,4B;QAW2C,sBAAW,oBAAL,SAAK,CAAX,C;O;K AX3C,C;0EAYA,yB;MAAA,+B;MAAA,4B;QAWyC,sBAAW,oBAAL,SAAK,CAAX,C;O;KAXzC,C;0EAYA,yB; MAAA,+B;MAAA,4B;QAU0C,sBAAM,SAAN,C;O;KAV1C,C;yEAYA,yB;MAAA,kD;MAAA,4B;QAS2C,qBAA mB,SAAnB,C;O;KAT3C,C;0EAUA,yB;MAAA,kD;MAAA,4B;QAS4C,qBAAc,SAAd,C;O;KAT5C,C;liB9ZA,6B; MACqB,sB;K;uCAKjB,iB;MAM6C,OjBsYP,UiBtYO,aAAQ,KAAr,CjBsYP,C;K;uCiBpYtC,wB;MAOI,aAAQ,K AAR,IAAiB,KjBoRc,K;K;kFiBhRL,Y;MAAQ,OAAA,YAAQ,O;K;oCAE9C,Y;MAC8E,+BAAS,YAAT,C;K;IAGx D,oC;MAAiC,wB;MAAhC,oB;MACnB,eAAoB,C;K;4CACpB,Y;MAAyB,sBAAQ,YAAM,O;K;8CACvC,Y;MAA yD,Q;MAA9B,IAAI,eAAQ,YAAM,OAAIB,C;QAAA,OjBgXO,UiBhXiB,aAAM,mBAAN,EAAM,2BAAN,OjBgX

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;QAC3B,iBAAU,K;;QAEV,c9M/C+C,U8M+C/C,W9M/C0D,KAAK,K8M+CvD,W9M/CkE,KAAX,CAAhB,C;;M  
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X,C;wEAUA,yB;MAAA,8C;MAAA,uB;QAOI,OAAO,MAAM,CAAN,EAAS,CAAT,C;O;KAPX,C;wEAUA,yB;  
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CwDpD,C;4FASA,yB;MA4GA,aAS6D,0B;MAT7D,+B;Me5KA,oD;MfgEA,wB;QAQ6C,OelES,ef+KjB,eAAW,o  
BAAL,SAAK,CAAL,YAAN,Ce/KiB,EfkEU,KeLEV,C;O;Kf0DtD,C;4EAUA,yB;MAAA,4B;MAAA,iC;MAAA,m  
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5B,cAAU,SAAL,GAAiB,KAAtB,CA/E4B,EA+E5B,cA/EqD,KA+E3C,KAAL,GAAiB,KAAtB,CA/E4B,C;O;KAF/  
D,C;4FAIA,yB;MAAA,iC;M0LnNJ,4B;M1LmNI,wB;QAEqD,uB0LINiC,Q1LkN1B,IAAK,K0LINX,G1LkNoB,K  
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B;M1L+MI,wB;QAEqD,uB0L9MiC,Q1L8M1B,IAAK,K0L9MX,G1L8MoB,KAAM,K0L9MM,C1L8MjC,C;O;KA  
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B,C;O;KAFIC,C;kFAIA,yB;MAAA,0B;MAAA,mB;QAUmC,OAAK,OAAL,SAAK,C;O;KAVxC,C;oFAWA,Y;M  
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;SACrB,6B;QAaHb,OAAgB,gBAaHb,C;UAAgB,2B;UiB1nD6B,2BjB0nDR,OiB1nDQ,S;UAAA,W;YAAwB,oB  
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;IAE7E,4B;MACoD,ORiZZ,SAvGI,oBQ1SS,ER0Sd,KAAK,CAAL,iBQ1Sc,KR0ST,oBQ1SuB,ER0S5B,KAAK,C  
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,QRwSZ,oBQxS0B,ERwS/B,KAAK,CAAL,iBQxSiB,CR+YN,QAAV,C;K;IQ1YxC,6B;MAEI,eAAe,EQkSoB,K;  
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# 1.81 libsepol 2.5 10.e17

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## 1.82 swagger-annotations 1.6.9

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No license file was found, but licenses were detected in source scan.

Manifest-Version: 1.0  
Bnd-LastModified: 1668500773188  
Build-Jdk: 1.8.0\_151  
Built-By: frantuma  
Bundle-Description: Sonatype helps open source projects to set up Maven repositories on <https://oss.sonatype.org/>  
Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.html>  
Bundle-ManifestVersion: 2

Bundle-Name: swagger-annotations  
Bundle-SymbolicName: io.swagger.annotations  
Bundle-Version: 1.6.9  
Created-By: Apache Maven Bundle Plugin  
Export-Package: io.swagger.annotations;version="1.6.9"  
implementation-version: 1.6.9  
mode: development  
package: io.swagger  
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.7))"  
Tool: Bnd-3.3.0.201609221906  
url: <https://github.com/swagger-api/swagger-core/modules/swagger-annotations>

Found in path(s):

\* /opt/cola/permits/1536708854\_1674074106.2904868/0/swagger-annotations-1-6-9-jar/META-INF/MANIFEST.MF

## 1.83 dropwizard-request-logging 2.0.34

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```
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/DelegateFactory.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/MapKey.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/MapFactory.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Component.java
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```

\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Collections.java  
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\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/package-info.java  
\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntKey.java  
\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/StringKey.java  
\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/LongKey.java  
\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Beta.java

\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/ClassKey.java

\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/Subcomponent.java

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\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/Bounds.java

\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Preconditions.java

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\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-

jar/dagger/multibindings/ElementsIntoSet.java

\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntoMap.java  
\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/package-info.java  
\* /opt/cola/permits/1257772315\_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntoSet.java  
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*/opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Lazy.java
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## 1.87 error\_prone\_annotations 2.3.3

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*/opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/NoAllocation.java
*/opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/LockMethod.java
*/opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/UnlockMethod.java
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```
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-
jar/com/google/errorprone/annotations/CompatibleWith.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-
jar/com/google/errorprone/annotations/FormatMethod.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-
jar/com/google/errorprone/annotations/MustBeClosed.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-
jar/com/google/errorprone/annotations/RestrictedApi.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-
jar/com/google/errorprone/annotations/FormatString.java
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\* /opt/cola/permits/1264660152\_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/DoNotCall.java  
\* /opt/cola/permits/1264660152\_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/GuardedBy.java  
\* /opt/cola/permits/1264660152\_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/CheckReturnValue.java

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\* /opt/cola/permits/1264660152\_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/SuppressPackageLocation.java

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\* /opt/cola/permits/1264660152\_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/RequiredModifiers.java

\* /opt/cola/permits/1264660152\_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/Var.java

\* /opt/cola/permits/1264660152\_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/ForOverride.java

\* /opt/cola/permits/1264660152\_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/LazyInit.java

\* /opt/cola/permits/1264660152\_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/CanIgnoreReturnValue.java

\* /opt/cola/permits/1264660152\_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/IncompatibleModifiers.java

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# 1.89 berkeley-db 5.3.21-25.el7

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

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<signature of Ty Coon>, 1 April 1990  
Ty Coon, President of Vice

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## 1.101 metrics-jvm 4.1.33

### 1.101.1 Available under license :

No license file was found, but licenses were detected in source scan.

Manifest-Version: 1.0  
Automatic-Module-Name: com.codahale.metrics.jvm  
Build-Jdk-Spec: 1.8  
Bundle-Description: A set of classes which allow you to monitor critical aspects of your Java Virtual Machine using Metrics.  
Bundle-License: <https://www.apache.org/licenses/LICENSE-2.0.html>  
Bundle-ManifestVersion: 2  
Bundle-Name: JVM Integration for Metrics  
Bundle-SymbolicName: io.dropwizard.metrics.jvm  
Bundle-Version: 4.1.33  
Created-By: Apache Maven Bundle Plugin 5.1.8  
Export-Package: com.codahale.metrics.jvm;uses:="com.codahale.metrics,javax.management";version="4.1.33"  
Implementation-Title: JVM Integration for Metrics  
Implementation-Version: 4.1.33  
Import-Package: org.slf4j;version="[1.6.0,2.0.0)",com.sun.management;resolution:=optional,com.codahale.metrics;version="[4.1,5)",javax.management  
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.8))"  
Tool: Bnd-6.3.1.202206071316

Found in path(s):

\* /opt/cola/permits/1480501873\_1668971438.6468465/0/metrics-jvm-4-1-33-jar/META-INF/MANIFEST.MF

# 1.102 annotations 13.0

## 1.103 jetty 9.4.50.v20221201

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\* org.eclipse.jetty.orbit:javafx.security.auth.message

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Oracle

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\* javax.servlet:javax.servlet-api

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Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons  
org.ow2.asm:asm

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Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec  
org.apache.taglibs:taglibs-standard-impl

-----  
MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp  
org.apache.tomcat:tomcat-jasper  
org.apache.tomcat:tomcat-juli  
org.apache.tomcat:tomcat-jsp-api  
org.apache.tomcat:tomcat-el-api  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-api  
org.apache.tomcat:tomcat-util-scan  
org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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Mortbay

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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## 1.104 selinux 2.5-15.el7

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## 1.105 python-object-base 3.22.0-1.el7\_4.1

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## 1.106 yum-utils 1.1.31-54.el7\_8

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Version 3, 29 June 2007

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 */
size: 8388608, sector size: 512, PT: dos, offset: 446, id=0x8f8378c0

#1: 32 7648 0x83
#2: 7680 8704 0xa5
#5: 7936 4864 0x7 (freebsd)
#6: 12544 3584 0x7 (freebsd)
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Initialize empty image

f1c9645dbc14efddc7d8a322685f26eb bsd.img

Create new DOS partition table

57e721e38d1266c2df055067c18f2cf9 bsd.img

---layout-----

\_\_ts\_dev\_\_: 10 MB, 10485760 bytes, 20480 sectors

Units = sectors of 1 \* 512 = 512 bytes

Sector size (logical/physical): 512 bytes / 512 bytes

I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk label type: dos

Disk identifier: 0x00000001

Device	Boot	Start	End	Blocks	Id	System
--------	------	-------	-----	--------	----	--------

-----

Create 1st primary partition

ada64ace122978d00d1d1c0e5ee45d26 bsd.img

---layout-----

\_\_ts\_dev\_\_: 10 MB, 10485760 bytes, 20480 sectors

Units = sectors of 1 \* 512 = 512 bytes

Sector size (logical/physical): 512 bytes / 512 bytes

I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk label type: dos

Disk identifier: 0x00000001

Device	Boot	Start	End	Blocks	Id	System
__ts_dev__1		2048	4095	1024	83	Linux

-----

Create 2st primary partition

1bebf87248e05d6e4e62b749da65d023 bsd.img

Set 2nd partition type

2d8e8dff51a88a045db233418dd73fbe bsd.img

---layout-----

\_\_ts\_dev\_\_: 10 MB, 10485760 bytes, 20480 sectors

Units = sectors of 1 \* 512 = 512 bytes

Sector size (logical/physical): 512 bytes / 512 bytes

I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk label type: dos

Disk identifier: 0x00000001

Device	Boot	Start	End	Blocks	Id	System
__ts_dev__1		2048	4095	1024	83	Linux
__ts_dev__2		4096	20479	8192	a5	FreeBSD

-----

Create default BSD

2e1cee529cb59c9341afef0443f196a1 bsd.img

---layout-----

Changes will remain in memory only, until you decide to write them.

Be careful before using the write command.

Command (m for help):

BSD disklabel command (m for help):

4 partitions:

#	start	end	size	fstype	[fsize	bsize	cpg]
c:	4096	20479	16384	unused	0	0	
d:	0	16064	16065	unused	0	0	

BSD disklabel command (m for help):

Command (m for help):

-----

b5c121c2091b2ff26b880551feac7112 bsd.img

---layout-----

Changes will remain in memory only, until you decide to write them.

Be careful before using the write command.

Command (m for help):

BSD disklabel command (m for help):

4 partitions:

#	start	end	size	fstype	[fsize	bsize	cpg]
a:	4096	6144	2049	4.2BSD	0	0	0
c:	4096	20479	16384	unused	0	0	
d:	0	16064	16065	unused	0	0	

BSD disklabel command (m for help):

Command (m for help):

-----

Changes will remain in memory only, until you decide to write them.

Be careful before using the write command.

Command (m for help):

BSD disklabel command (m for help):

0	unused	5	4.1BSD	9	4.4LFS	d	boot
1	swap	6	Eighth Edition	a	unknown	e	ADOS
2	Version 6	7	4.2BSD	b	HPFS	f	HFS
3	Version 7	8	MS-DOS	c	ISO-9660	10	AdvFS
4	System V						

BSD disklabel command (m for help):

# 1.114 apache-log4j 2.17.1

## 1.114.1 Available under license :

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# 1.116 jackson-datatype-jdk8 2.10.5

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Manifest-Version: 1.0

Bnd-LastModified: 1595301005506

Build-Jdk: 1.8.0\_162

Built-By: tatu

Bundle-Description: Add-on module for Jackson (<http://jackson.codehaus.org>) to supportJDK 8 data types.

Bundle-DocURL: <https://github.com/FasterXML/jackson-modules-java8/jackson-datatype-jdk8>

Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>

Bundle-ManifestVersion: 2

Bundle-Name: Jackson datatype: jdk8

Bundle-SymbolicName: com.fasterxml.jackson.datatype.jackson-datatype-jdk8

Bundle-Vendor: FasterXML

Bundle-Version: 2.10.5

Created-By: Apache Maven Bundle Plugin

Export-Package: com.fasterxml.jackson.datatype.jdk8;version="2.10.5";uses:="com.fasterxml.jackson.core,com.fasterxml.jackson.core.io,com.fasterxml.jackson.databind,com.fasterxml.jackson.databind.deser,com.fasterxml.jackson.databind.deser.std,com.fasterxml.jackson.databind.jsonFormatVisitors,com.fasterxml.jackson.databind.jsontype,com.fasterxml.jackson.databind.ser,com.fasterxml.jackson.databind.ser.impl,com.fasterxml.jackson.databind.ser.std,com.fasterxml.jackson.databind.type,com.fasterxml.jackson.databind.util"

Implementation-Build-Date: 2020-07-21 03:09:44+0000

Implementation-Title: Jackson datatype: jdk8

Implementation-Vendor: FasterXML

Implementation-Vendor-Id: com.fasterxml.jackson.datatype  
Implementation-Version: 2.10.5  
Import-Package: com.fasterxml.jackson.core;version="[2.10,3)",com.fasterxml.jackson.core.io;version="[2.10,3)",com.fasterxml.jackson.core.util;version="[2.10,3)",com.fasterxml.jackson.databind;version="[2.10,3)",com.fasterxml.jackson.databind.deser;version="[2.10,3)",com.fasterxml.jackson.databind.deser.std;version="[2.10,3)",com.fasterxml.jackson.databind.jsonFormatVisitors;version="[2.10,3)",com.fasterxml.jackson.databind.jsontype;version="[2.10,3)",com.fasterxml.jackson.databind.ser;version="[2.10,3)",com.fasterxml.jackson.databind.ser.impl;version="[2.10,3)",com.fasterxml.jackson.databind.ser.std;version="[2.10,3)",com.fasterxml.jackson.databind.type;version="[2.10,3)",com.fasterxml.jackson.databind.util;version="[2.10,3)"  
Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.8))"  
Specification-Title: Jackson datatype: jdk8  
Specification-Vendor: FasterXML  
Specification-Version: 2.10.5  
Tool: Bnd-4.2.0.201903051501  
X-Compile-Source-JDK: 1.8  
X-Compile-Target-JDK: 1.8

Found in path(s):

\* /opt/cola/permits/1154615874\_1618867970.74/0/jackson-datatype-jdk8-2-10-5-5-jar/META-INF/MANIFEST.MF

## 1.117 servlet-api 4.0.4

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 */
```

Found in path(s):

```
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/rmi/Proxy.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/Visitor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/Member.java
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jar/javassist/tools/reflect/CannotInvokeException.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/CtNewWrappedConstructor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/LoaderClassPath.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtConstructor.java
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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-  
jar/javassist/bytecode/InnerClassesAttribute.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-  
jar/javassist/tools/web/Viewer.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-  
jar/javassist/util/proxy/ProxyObject.java

\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/TransformCall.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Symbol.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ByteArrayClassPath.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/AccessorMaker.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/Lex.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/MethodCall.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/TransformBefore.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/runtime/Cflow.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/Transformer.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/AnnotationsAttribute.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/LocalVariableTypeAttribute.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/DuplicateMemberException.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/MethodFilter.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/Loader.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/StackMapTable.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassPoolTail.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassPath.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/HotSwapper.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/Javac.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/analysis/ControlFlow.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/Opcodes.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-

jar/javassist/bytecode/analysis/Executor.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/web/Webserver.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/LongVector.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/ProxyObjectOutputStream.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/CastExpr.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/DeprecatedAttribute.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtClass.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/Translator.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/rmi/Sample.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/CodeAttribute.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/NewArray.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassClassPath.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/IntConst.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/MethodHandler.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/TransformNew.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/scopedpool/ScopedClassPoolRepository.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/Cast.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/NoFieldException.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/SyntaxError.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/TokenId.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/RuntimeSupport.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Pair.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/TransformWriteField.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtNewConstructor.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ConstPool.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/analysis/MultiType.java

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/\*

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Found in path(s):

\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/annotation/MemberValue.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/annotation/EnumMemberValue.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/annotation/Annotation.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/annotation/DoubleMemberValue.java

# 1.119 pycurl 7.19.0 19.el7

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Version 2.1, February 1999

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## 1.122 metrics-health-checks 4.1.33

### 1.122.1 Available under license :

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Manifest-Version: 1.0

Automatic-Module-Name: com.codahale.metrics.health

Build-Jdk-Spec: 1.8

Bundle-Description: An addition to Metrics which provides the ability to run application-specific health checks, allowing you to check your application's health in production.

Bundle-License: <https://www.apache.org/licenses/LICENSE-2.0.html>

Bundle-ManifestVersion: 2

Bundle-Name: Metrics Health Checks

Bundle-SymbolicName: io.dropwizard.metrics.healthchecks

Bundle-Version: 4.1.33

Created-By: Apache Maven Bundle Plugin 5.1.8

Export-Package: com.codahale.metrics.health;uses:="com.codahale.metrics";version="4.1.33",com.codahale.metrics.health.jvm;uses:="com.codahale.metrics.health,com.codahale.metrics.jvm";version="4.1.33",com.codahale.metrics.health.annotation;version="4.1.33"

Implementation-Title: Metrics Health Checks

Implementation-Version: 4.1.33

Import-Package: org.slf4j;version="[1.6.0,2.0.0)",com.codahale.metrics;version="[4.1.5)",com.codahale.metrics.health,com.codahale.metrics.health.annotation,com.codahale.metrics.jvm;version="[4.1.5)";resolution:=optional

Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.8))"

Tool: Bnd-6.3.1.202206071316

Found in path(s):

\* /opt/cola/permits/1480501796\_1668971429.6280649/0/metrics-healthchecks-4-1-33-jar/META-INF/MANIFEST.MF

## 1.123 python 2.7.5

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## A. HISTORY OF THE SOFTWARE

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Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see <http://www.cwi.nl>) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see <http://www.cnri.reston.va.us>) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see <http://www.zope.com>). In 2001, the Python Software Foundation (PSF, see <http://www.python.org/psf/>) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see <http://www.opensource.org> for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

Release	Derived from	Year	Owner	GPL-compatible? (1)
0.9.0 thru 1.2		1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no
2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3	2.1.2	2002	PSF	yes
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes



2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
2.7	2.6	2010	PSF	yes

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### ## Special Recognition ##

One of the key reasons we got delayed on the CentOS-6 release was lack of suitable build resources, especially when we had to repeatedly build large chunks of code. Norwood S came forward and worked with me to setup a large build machine, then tune the build process and help improve the overall build, test and validate process we were using. This build machine he donated to the project was about 5 times more capable than the entire buildsystem we had. And he did this out of his own pocket, from his own time, and has since upgraded the machine as well. It's now a 128GB, 48 core machine, with 4 SSD's and 4 sata disks : but the key metric is that it can build from source, the entire CentOS-7 distro in under 22 hrs.

Having this capability was key in our ability to build, test and deliver CentOS-7 as rapidly as we have been able to.

We'd like to dedicate the CentOS-7 Release to Mr Norwood S, of Phoenix, AZ, USA for his continued support for the project.

Contributors:

The Red Hat developers, without whom CentOS would look very different

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Tru Huynh  
Tuomas Kuosmanen  
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# 1.125 json-c 0.11 4.el7\_0

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## 1.126 zlib 1.2.8

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## 1.127 annotations 4.1.1.4

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jar/android/annotation/SuppressLint.java
* /opt/cola/permits/1258811491_1643111603.33/0/annotations-4-1-1-4-sources-
jar/android/annotation/TargetApi.java
```

## 1.128 xz 5.2.2-2.el7\_9

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## 1.130 popt 1.13 16.el7

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\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

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\* org.eclipse.jetty.orbit:javafx.security.auth.message

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\* org.eclipse.jetty.orbit:javafx.mail.glassfish

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Oracle

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api

\* javax.annotation:javax.annotation-api

\* javax.transaction:javax.transaction-api

\* javax.websocket:javax.websocket-api

-----

Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

-----  
OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons  
org.ow2.asm:asm

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Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec  
org.apache.taglibs:taglibs-standard-impl

-----  
MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp  
org.apache.tomcat:tomcat-jasper  
org.apache.tomcat:tomcat-juli  
org.apache.tomcat:tomcat-jsp-api  
org.apache.tomcat:tomcat-el-api  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-api  
org.apache.tomcat:tomcat-util-scan  
org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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Mortbay

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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## 1.137 jackson-databind 2.13.2.2

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# 1.138 protobuf-java 3.19.4

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Found in path(s):

```
* /opt/cola/permits/1444784973_1666041526.196175/0/protobuf-java-3-19-4-3-jar/google/protobuf/wrappers.proto
* /opt/cola/permits/1444784973_1666041526.196175/0/protobuf-java-3-19-4-3-jar/google/protobuf/descriptor.proto
* /opt/cola/permits/1444784973_1666041526.196175/0/protobuf-java-3-19-4-3-
jar/google/protobuf/timestamp.proto
* /opt/cola/permits/1444784973_1666041526.196175/0/protobuf-java-3-19-4-3-jar/google/protobuf/duration.proto
* /opt/cola/permits/1444784973_1666041526.196175/0/protobuf-java-3-19-4-3-
jar/google/protobuf/field_mask.proto
* /opt/cola/permits/1444784973_1666041526.196175/0/protobuf-java-3-19-4-3-
jar/google/protobuf/source_context.proto
* /opt/cola/permits/1444784973_1666041526.196175/0/protobuf-java-3-19-4-3-jar/google/protobuf/type.proto
* /opt/cola/permits/1444784973_1666041526.196175/0/protobuf-java-3-19-4-3-
jar/google/protobuf/compiler/plugin.proto
* /opt/cola/permits/1444784973_1666041526.196175/0/protobuf-java-3-19-4-3-jar/google/protobuf/empty.proto
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* /opt/cola/permits/1444784973_1666041526.196175/0/protobuf-java-3-19-4-3-jar/google/protobuf/any.proto
```

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Manifest-Version: 1.0

Automatic-Module-Name: com.google.protobuf

Bnd-LastModified: 1643389670477

Build-Jdk: 1.8.0\_181-google-v7

Built-By: acozzette

Bundle-Description: Core Protocol Buffers library. Protocol Buffers are a way of encoding structured data in an efficient yet extensible format.

Bundle-DocURL: <https://developers.google.com/protocol-buffers/>

Bundle-License: <https://opensource.org/licenses/BSD-3-Clause>

Bundle-ManifestVersion: 2

Bundle-Name: Protocol Buffers [Core]



Bundle-SymbolicName: com.google.protobuf  
Bundle-Version: 3.19.4  
Created-By: Apache Maven Bundle Plugin  
Export-Package: com.google.protobuf;version="3.19.4"  
Import-Package: sun.misc;resolution:=optional,com.google.protobuf;version="[3.19,4)"  
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.7))"  
Tool: Bnd-3.0.0.201509101326

Found in path(s):

\* /opt/cola/permits/1444784973\_1666041526.196175/0/protobuf-java-3-19-4-3-jar/META-INF/MANIFEST.MF

# 1.139 jackson-annotations 2.13.3

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\* <https://github.com/eclipse-ee4j/jersey>

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Hibernate Validator CDI, 6.1.2.Final

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\* Project: <https://beanvalidation.org/>

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## 1.141 metrics-annotation 4.1.33

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Manifest-Version: 1.0

Automatic-Module-Name: com.codahale.metrics.annotation

Build-Jdk-Spec: 1.8

Bundle-Description: A dependency-less package of just the annotations used by other Metrics modules.

Bundle-License: <https://www.apache.org/licenses/LICENSE-2.0.html>

Bundle-ManifestVersion: 2

Bundle-Name: Annotations for Metrics

Bundle-SymbolicName: io.dropwizard.metrics.annotation

Bundle-Version: 4.1.33

Created-By: Apache Maven Bundle Plugin 5.1.8

Export-Package: com.codahale.metrics.annotation;version="4.1.33"

Implementation-Title: Annotations for Metrics

Implementation-Version: 4.1.33

Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.8))"

Tool: Bnd-6.3.1.202206071316

Found in path(s):

\* /opt/cola/permits/1480501824\_1668971454.0843751/0/metrics-annotation-4-1-33-jar/META-INF/MANIFEST.MF

## 1.142 pkg-config 0.27.1 4.e17

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```
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jar/org/eclipse/jetty/setuid/SetUIDListener.java
* /opt/ws_local/PERMITS_SQL/1088629606_1599838102.52/0/jetty-setuid-java-1-0-4-sources-
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jar/org/eclipse/jetty/setuid/Group.java
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```

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 * Rob Earhart
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## 1.148 jctools-core 3.1.0

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```
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 *
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 *
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 * distributed under the License is distributed on an "AS IS" BASIS,
 * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
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 * limitations under the License.
 */
```

Found in path(s):

```
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/spec/Ordering.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/SpSCUnboundedAtomicArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/SpmcAtomicArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MessagePassingQueueUtil.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/MpmcAtomicArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/UnsafeJvmInfo.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/LinkedListQueueAtomicNode.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SpSCLinkedListQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscUnboundedXaddArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/spec/Preference.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/MpscAtomicArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MessagePassingQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SupportsIterator.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpmcUnboundedXaddArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscGrowArrayQueue.java
```

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/BaseSpSCLinkedAtomicArrayQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/AtomicQueueFactory.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpmcArrayQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpSCAtomicArrayQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpSCLinkedAtomicQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/SpmcArrayQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/AbstractEntry.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpmcUnboundedXaddChunk.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpscChunkedArrayQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/NonBlockingHashMapLong.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/MpscChunkedAtomicArrayQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/ConcurrentSequencedCircularArrayQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/util/UnsafeLongArrayAccess.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpscBlockingConsumerArrayQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/BaseMpscLinkedAtomicArrayQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/NonBlockingHashMap.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/BaseMpscLinkedArrayQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/MpscGrowableAtomicArrayQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/NonBlockingIdentityHashMap.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/BaseLinkedQueue.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/util/InternalAPI.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/NonBlockingHashSet.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/util/Pow2.java

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/spec/ConcurrentQueueSpec.java



\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpseChunkedAtomicArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/ConcurrentAutoTable.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpscUnboundedXaddChunk.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/MpscUnboundedAtomicArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/LinkedQueueNode.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/SpseUnboundedArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/util/PortableJvmInfo.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/ConcurrentCircularArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/NonBlockingSetInt.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/BaseLinkedAtomicQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SequencedAtomicReferenceArrayQueue.java  
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\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/util/UnsafeRefArrayAccess.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpscCompoundQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/SpseChunkedArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/SpseArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/AtomicReferenceArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/QueueFactory.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpscArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/util/UnsafeAccess.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpscUnboundedArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpseGrowableAtomicArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/IndexedQueueSizeUtil.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/MpscLinkedAtomicQueue.java

```
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SpSCGrowArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/RangeUtil.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/package-info.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/BaseSpSCLinkedListArrayQueue.java
```

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```
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">
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```

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 <artifactId>jctools-core</artifactId>
 <groupId>org.jctools</groupId>
 <version>3.1.0</version>
 <name>Java Concurrency Tools Core Library</name>
 <description>Java Concurrency Tools Core Library</description>
 <packaging>bundle</packaging>
```

```
 <dependencies>
 <dependency>
 <groupId>org.hamcrest</groupId>
 <artifactId>hamcrest-all</artifactId>
 <version>${hamcrest.version}</version>
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 </dependency>
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 <dependency>
 <groupId>junit</groupId>
 <artifactId>junit</artifactId>
 <version>${junit.version}</version>
 <scope>test</scope>
 </dependency>
```

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 <dependency>
 <groupId>com.google.guava</groupId>
 <artifactId>guava-testlib</artifactId>
 <version>${guava-testlib.version}</version>
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 </dependency>
```

```
 </dependencies>
```

```
 <build>
```

```
 <plugins>
```

```
 <plugin>
```

```
 <groupId>org.apache.maven.plugins</groupId>
```

```
 <artifactId>maven-surefire-plugin</artifactId>
```

```

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 </includes>
</configuration>
</plugin>
<plugin>
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 <artifactId>maven-bundle-plugin</artifactId>
 <version>4.2.1</version>
 <extensions>>true</extensions>
 <configuration>
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 <Import-Package>sun.misc;resolution:=optional</Import-Package>
 </instructions>
 </configuration>
</plugin>
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 <id>attach-sources</id>
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</plugin>
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 <artifactId>maven-javadoc-plugin</artifactId>
 <version>3.1.1</version>
 <configuration>
 <additionalOptions>
 <additionalOption>-Xdoclint:none</additionalOption>
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 </configuration>
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 </execution>
 </executions>
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```

```
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</executions>
</plugin>
</plugins>
</build>

<distributionManagement>
 <repository>
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 <name>jctools-jctools</name>
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 </repository>
</distributionManagement>

<url>https://github.com/JCTools</url>
<inceptionYear>2013</inceptionYear>

<licenses>
 <license>
 <name>Apache License, Version 2.0</name>
 <url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
 <distribution>repo</distribution>
 </license>
</licenses>

<scm>
 <url>https://github.com/JCTools/JCTools</url>
 <connection>scm:git:https://github.com/JCTools/JCTools</connection>
 <tag>HEAD</tag>
</scm>

<developers>
 <developer>
 <url>https://github.com/nitsanw</url>
 </developer>
 <developer>
 <url>https://github.com/mjpt777</url>
 </developer>
 <developer>
 <url>https://github.com/RichardWarburton</url>
 </developer>
 <developer>
 <url>https://github.com/kay</url>
 </developer>
 <developer>
 <url>https://github.com/franz1981</url>
 </developer>
</developers>
```

```
<prerequisites>
 <maven>3.5.0</maven>
</prerequisites>

<properties>
 <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
 <java.version>1.6</java.version>
 <java.test.version>1.8</java.test.version>

 <maven.compiler.source>${java.version}</maven.compiler.source>
 <maven.compiler.target>${java.version}</maven.compiler.target>
 <maven.compiler.testSource>${java.test.version}</maven.compiler.testSource>
 <maven.compiler.testTarget>${java.test.version}</maven.compiler.testTarget>

 <hamcrest.version>1.3</hamcrest.version>
 <junit.version>4.12</junit.version>
 <guava-testlib.version>21.0</guava-testlib.version>
</properties>
</project>
```

Found in path(s):

\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/META-INF/maven/org.jctools/jctools-core/pom.xml

# 1.149 jetty-security 9.4.50.v20221201

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\* org.eclipse.jetty.orbit;org.eclipse.jdt.core

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\* org.eclipse.jetty.orbit;javax.security.auth.message

The following artifacts are EPL and CDDL 1.0.

\* org.eclipse.jetty.orbit;javax.mail.glassfish

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Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.  
<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

- \* javax.servlet:javax.servlet-api
- \* javax.annotation:javax.annotation-api
- \* javax.transaction:javax.transaction-api
- \* javax.websocket:javax.websocket-api

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#### Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

- \* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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#### OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

- org.ow2.asm:asm-commons
- org.ow2.asm:asm

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#### Apache

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- org.apache.taglibs:taglibs-standard-spec
- org.apache.taglibs:taglibs-standard-impl

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#### MortBay

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org.mortbay.jasper:apache-jsp  
org.apache.tomcat:tomcat-jasper  
org.apache.tomcat:tomcat-juli  
org.apache.tomcat:tomcat-jsp-api  
org.apache.tomcat:tomcat-el-api  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-api  
org.apache.tomcat:tomcat-util-scan  
org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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Mortbay

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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## 1.150 commons-codec 1.14

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# 1.151 netty-transport-native-unix-common

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Version 2, June 1991

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```
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# 1.158 python-kitchen 1.1.1 5.e17

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## 1.159 jakarta-servlet-api 4.0.4

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\* javax.servlet:javax.servlet-api

\* javax.annotation:javax.annotation-api

\* javax.transaction:javax.transaction-api

\* javax.websocket:javax.websocket-api

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## Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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## OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons

org.ow2.asm:asm

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## Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec

org.apache.taglibs:taglibs-standard-impl

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## MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp

org.apache.tomcat:tomcat-jasper

org.apache.tomcat:tomcat-juli

org.apache.tomcat:tomcat-jsp-api

org.apache.tomcat:tomcat-el-api

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-api

org.apache.tomcat:tomcat-util-scan

org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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Mortbay

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org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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## 1.161 pygobject 3.22.0-1.el7\_4.1

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\*\* CAPI3REF: Configuration Options

\*\* KEYWORDS: {configuration option}

\*\*

\*\* These constants are the available integer configuration options that  
\*\* can be passed as the first argument to the [sqlite3\_config()] interface.

\*\*

\*\* New configuration options may be added in future releases of SQLite.

\*\* Existing configuration options might be discontinued. Applications  
\*\* should check the return code from [sqlite3\_config()] to make sure that  
\*\* the call worked. The [sqlite3\_config()] interface will return a

\*\* non-zero [error code] if a discontinued or unsupported configuration option

\*\* is invoked.

\*\*

\*\* <dl>

\*\* [[SQLITE\_CONFIG\_SINGLETHREAD]] <dt>SQLITE\_CONFIG\_SINGLETHREAD</dt>

\*\* <dd>There are no arguments to this option. ^This option sets the

\*\* [threading mode] to Single-thread. In other words, it disables

\*\* all mutexing and puts SQLite into a mode where it can only be used

\*\* by a single thread. ^If SQLite is compiled with

\*\* the [SQLITE\_THREADSAFE | SQLITE\_THREADSAFE=0] compile-time option then

\*\* it is not possible to change the [threading mode] from its default

\*\* value of Single-thread and so [sqlite3\_config()] will return

\*\* [SQLITE\_ERROR] if called with the SQLITE\_CONFIG\_SINGLETHREAD

```

** configuration option.</dd>
**
** [[SQLITE_CONFIG_MULTITHREAD]] <dt>SQLITE_CONFIG_MULTITHREAD</dt>
** <dd>There are no arguments to this option. ^This option sets the
** [threading mode] to Multi-thread. In other words, it disables
** mutexing on [database connection] and [prepared statement] objects.
** The application is responsible for serializing access to
** [database connections] and [prepared statements]. But other mutexes
** are enabled so that SQLite will be safe to use in a multi-threaded
** environment as long as no two threads attempt to use the same
** [database connection] at the same time. ^If SQLite is compiled with
** the [SQLITE_THREADSAFE | SQLITE_THREADSAFE=0] compile-time option then
** it is not possible to set the Multi-thread [threading mode] and
** [sqlite3_config()] will return [SQLITE_ERROR] if called with the
** SQLITE_CONFIG_MULTITHREAD configuration option.</dd>
**
** [[SQLITE_CONFIG_SERIALIZED]] <dt>SQLITE_CONFIG_SERIALIZED</dt>
** <dd>There are no arguments to this option. ^This option sets the
** [threading mode] to Serialized. In other words, this option enables
** all mutexes including the recursive
** mutexes on [database connection] and [prepared statement] objects.
** In this mode (which is the default when SQLite is compiled with
** [SQLITE_THREADSAFE=1]) the SQLite library will itself serialize access
** to [database connections] and [prepared statements] so that the
** application is free to use the same [database connection] or the
** same [prepared statement] in different threads at the same time.
** ^If SQLite is compiled with
** the [SQLITE_THREADSAFE | SQLITE_THREADSAFE=0] compile-time option then
** it is not possible to set the Serialized [threading mode] and
** [sqlite3_config()] will return [SQLITE_ERROR] if called with the
** SQLITE_CONFIG_SERIALIZED configuration option.</dd>
**
** [[SQLITE_CONFIG_MALLOC]] <dt>SQLITE_CONFIG_MALLOC</dt>
** <dd> ^This option takes a single argument which is a pointer to an
** instance of the [sqlite3_mem_methods] structure. The argument specifies
** alternative low-level memory allocation routines to be used in place of
** the memory allocation routines built into SQLite.)^ ^SQLite makes
** its own private copy of the content of the [sqlite3_mem_methods] structure
** before the [sqlite3_config()] call returns.</dd>
**
** [[SQLITE_CONFIG_GETMALLOC]] <dt>SQLITE_CONFIG_GETMALLOC</dt>
** <dd> ^This option takes a single argument which is a pointer to an
** instance of the [sqlite3_mem_methods] structure. The [sqlite3_mem_methods]
** structure is filled with the currently defined memory allocation routines.)^
** This option can be used to overload the default memory allocation
** routines with a wrapper that simulations memory allocation failure or
** tracks memory usage, for example. </dd>
**

```

**SQLITE\_CONFIG\_MEMSTATUS** `SQLITE_CONFIG_MEMSTATUS`  
 This option takes single argument of type int, interpreted as a boolean, which enables or disables the collection of memory allocation statistics. (When memory allocation statistics are disabled, the following SQLite interfaces become non-operational:
 

- `sqlite3_memory_used()`
- `sqlite3_memory_highwater()`
- `sqlite3_soft_heap_limit64()`
- `sqlite3_status()`

 Memory allocation statistics are enabled by default unless SQLite is compiled with `SQLITE_DEFAULT_MEMSTATUS=0` in which case memory allocation statistics are disabled by default.

**SQLITE\_CONFIG\_SCRATCH** `SQLITE_CONFIG_SCRATCH`  
 This option specifies a static memory buffer that SQLite can use for scratch memory. There are three arguments: A pointer an 8-byte aligned memory buffer from which the scratch allocations will be drawn, the size of each scratch allocation (sz), and the maximum number of scratch allocations (N). The sz argument must be a multiple of 16. The first argument must be a pointer to an 8-byte aligned buffer of at least sz\*N bytes of memory. SQLite will use no more than two scratch buffers per thread. So N should be set to twice the expected maximum number of threads. SQLite will never require a scratch buffer that is more than 6 times the database page size. If SQLite needs needs additional scratch memory beyond what is provided by this configuration option, then `sqlite3_malloc()` will be used to obtain the memory needed.

**SQLITE\_CONFIG\_PAGECACHE** `SQLITE_CONFIG_PAGECACHE`  
 This option specifies a static memory buffer that SQLite can use for the database page cache with the default page cache implementation. This configuration should not be used if an application-define page cache implementation is loaded using the `SQLITE_CONFIG_PCACHE2` option. There are three arguments to this option: A pointer to 8-byte aligned memory, the size of each page buffer (sz), and the number of pages (N). The sz argument should be the size of the largest database page (a power of two between 512 and 32768) plus a little extra for each page header. The page header size is 20 to 40 bytes depending on the host architecture. It is harmless, apart from the wasted memory, to make sz a little too large. The first argument should point to an allocation of at least sz\*N bytes of memory. SQLite will use the memory provided by the first argument to satisfy its memory needs for the first N pages that it adds to cache. If additional page cache memory is needed beyond what is provided by this option, then



\*\* SQLite goes to [sqlite3\_malloc()] for the additional storage space.  
 \*\* The pointer in the first argument must  
 \*\* be aligned to an 8-byte boundary or subsequent behavior of SQLite  
 \*\* will be undefined.</dd>  
 \*\*  
 \*\* [[SQLITE\_CONFIG\_HEAP]] <dt>SQLITE\_CONFIG\_HEAP</dt>  
 \*\* <dd> ^This option specifies a static memory buffer that SQLite will use  
 \*\* for all of its dynamic memory allocation needs beyond those provided  
 \*\* for by [SQLITE\_CONFIG\_SCRATCH] and [SQLITE\_CONFIG\_PAGECACHE].  
 \*\* There are three arguments: An 8-byte aligned pointer to the memory,  
 \*\* the number of bytes in the memory buffer, and the minimum allocation size.  
 \*\* ^If the first pointer (the memory pointer) is NULL, then SQLite reverts  
 \*\* to using its default memory allocator (the system malloc() implementation),  
 \*\* undoing any prior invocation of [SQLITE\_CONFIG\_MALLOC]. ^If the  
 \*\* memory pointer is not NULL and either [SQLITE\_ENABLE\_MEMSYS3] or  
 \*\* [SQLITE\_ENABLE\_MEMSYS5] are defined, then the alternative memory  
 \*\* allocator is engaged to handle all of SQLite's memory allocation needs.  
 \*\* The first pointer (the memory pointer) must be aligned to an 8-byte  
 \*\* boundary or subsequent behavior of SQLite will be undefined.  
 \*\* The minimum allocation size is capped at 2\*\*12. Reasonable values  
 \*\* for the minimum allocation size are 2\*\*5 through 2\*\*8.</dd>  
 \*\*  
 \*\* [[SQLITE\_CONFIG\_MUTEX]] <dt>SQLITE\_CONFIG\_MUTEX</dt>  
 \*\* <dd> ^(This option takes a single argument which is a pointer to an  
 \*\* instance of the [sqlite3\_mutex\_methods] structure. The argument specifies  
 \*\* alternative low-level mutex routines to be used in place  
 \*\* the mutex routines built into SQLite.)^ ^SQLite makes a copy of the  
 \*\* content of the [sqlite3\_mutex\_methods] structure before the call to  
 \*\* [sqlite3\_config()] returns. ^If SQLite is compiled with  
 \*\* the [SQLITE\_THREADSAFE | SQLITE\_THREADSAFE=0] compile-time option then  
 \*\* the entire mutexing subsystem is omitted from the build and hence calls to  
 \*\* [sqlite3\_config()] with the SQLITE\_CONFIG\_MUTEX configuration option will  
 \*\* return [SQLITE\_ERROR].</dd>  
 \*\*  
 \*\* [[SQLITE\_CONFIG\_GETMUTEX]] <dt>SQLITE\_CONFIG\_GETMUTEX</dt>  
 \*\* <dd> ^(This option takes a single argument which is a pointer to an  
 \*\* instance of the [sqlite3\_mutex\_methods] structure. The  
 \*\* [sqlite3\_mutex\_methods]  
 \*\* structure is filled with the currently defined mutex routines.)^  
 \*\* This option can be used to overload the default mutex allocation  
 \*\* routines with a wrapper used to track mutex usage for performance  
 \*\* profiling or testing, for example. ^If SQLite is compiled with  
 \*\* the [SQLITE\_THREADSAFE | SQLITE\_THREADSAFE=0] compile-time option then  
 \*\* the entire mutexing subsystem is omitted from the build and hence calls to  
 \*\* [sqlite3\_config()] with the SQLITE\_CONFIG\_GETMUTEX configuration option will  
 \*\* return [SQLITE\_ERROR].</dd>  
 \*\*  
 \*\* [[SQLITE\_CONFIG\_LOOKASIDE]] <dt>SQLITE\_CONFIG\_LOOKASIDE</dt>

\*\* <dd> ^(This option takes two arguments that determine the default  
 \*\* memory allocation for the lookaside memory allocator on each  
 \*\* [database connection]. The first argument is the  
 \*\* size of each lookaside buffer slot and the second is the number of  
 \*\* slots allocated to each database connection.)^ ^(This option sets the  
 \*\* <i>default</i> lookaside size. The [SQLITE\_DBCONFIG\_LOOKASIDE]  
 \*\* verb to [sqlite3\_db\_config()] can be used to change the lookaside  
 \*\* configuration on individual connections.)^ </dd>  
 \*\*  
 \*\* [[SQLITE\_CONFIG\_PCACHE2]] <dt>SQLITE\_CONFIG\_PCACHE2</dt>  
 \*\* <dd> ^(This option takes a single argument which is a pointer to  
 \*\* an [sqlite3\_pcache\_methods2] object. This object specifies the interface  
 \*\* to a custom page cache implementation.)^ ^SQLite makes a copy of the  
 \*\* object and uses it for page cache memory allocations.</dd>  
 \*\*  
 \*\* [[SQLITE\_CONFIG\_GETPCACHE2]] <dt>SQLITE\_CONFIG\_GETPCACHE2</dt>  
 \*\* <dd> ^(This option takes a single argument which is a pointer to an  
 \*\* [sqlite3\_pcache\_methods2] object. SQLite copies of the current  
 \*\* page cache implementation into that object.)^ </dd>  
 \*\*  
 \*\* [[SQLITE\_CONFIG\_LOG]] <dt>SQLITE\_CONFIG\_LOG</dt>  
 \*\* <dd> The SQLITE\_CONFIG\_LOG option is used to configure the SQLite  
 \*\* global [error log].  
 \*\* (^The SQLITE\_CONFIG\_LOG option takes two arguments: a pointer to a  
 \*\* function with a call signature of void(\*)(void\*,int,const char\*),  
 \*\* and a pointer to void. ^If the function pointer is not NULL, it is  
 \*\* invoked by [sqlite3\_log()] to process each logging event. ^If the  
 \*\* function pointer is NULL, the [sqlite3\_log()] interface becomes a no-op.  
 \*\* ^The void pointer that is the second argument to SQLITE\_CONFIG\_LOG is  
 \*\* passed through as the first parameter to the application-defined logger  
 \*\* function whenever that function is invoked. ^The second parameter to  
 \*\* the logger function is a copy of the first parameter to the corresponding  
 \*\* [sqlite3\_log()] call and is intended to be a [result code] or an  
 \*\* [extended result code]. ^The third parameter passed to the logger is  
 \*\* log message after formatting via [sqlite3\_snprintf()].  
 \*\* The SQLite logging interface is not reentrant; the logger function  
 \*\* supplied by the application must not invoke any SQLite interface.  
 \*\* In a multi-threaded application, the application-defined logger  
 \*\* function must be threadsafe. </dd>  
 \*\*  
 \*\* [[SQLITE\_CONFIG\_URI]] <dt>SQLITE\_CONFIG\_URI  
 \*\* <dd> This option takes a single argument of type int. If non-zero, then  
 \*\* URI handling is globally enabled. If the parameter is zero, then URI handling  
 \*\* is globally disabled. If URI handling is globally enabled, all filenames  
 \*\* passed to [sqlite3\_open()], [sqlite3\_open\_v2()], [sqlite3\_open16()] or  
 \*\* specified as part of [ATTACH] commands are interpreted as URIs, regardless  
 \*\* of whether or not the [SQLITE\_OPEN\_URI] flag is set when the database  
 \*\* connection is opened. If it is globally disabled, filenames are

\*\* only interpreted as URIs if the `SQLITE_OPEN_URI` flag is set when the  
 \*\* database connection is opened. By default, URI handling is globally  
 \*\* disabled. The default value may be changed by compiling with the  
 \*\* `[SQLITE_USE_URI]` symbol defined.  
 \*\*

\*\* `[SQLITE_CONFIG_COVERING_INDEX_SCAN]` `<dt>SQLITE_CONFIG_COVERING_INDEX_SCAN`  
 \*\* `<dd>` This option takes a single integer argument which is interpreted as  
 \*\* a boolean in order to enable or disable the use of covering indices for  
 \*\* full table scans in the query optimizer. The default setting is determined  
 \*\* by the `[SQLITE_ALLOW_COVERING_INDEX_SCAN]` compile-time option, or is "on"  
 \*\* if that compile-time option is omitted.  
 \*\* The ability to disable the use of covering indices for full table scans  
 \*\* is because some incorrectly coded legacy applications might malfunction  
 \*\* malfunction when the optimization is enabled. Providing the ability to  
 \*\* disable the optimization allows the older, buggy application code to work  
 \*\* without change even with newer versions of SQLite.  
 \*\*

\*\* `[SQLITE_CONFIG_PCACHE]` `[SQLITE_CONFIG_GETPCACHE]`  
 \*\* `<dt>SQLITE_CONFIG_PCACHE` and `SQLITE_CONFIG_GETPCACHE`  
 \*\* `<dd>` These options are obsolete and should not be used by new code.  
 \*\* They are retained for backwards compatibility but are now no-ops.  
 \*\* `</dd>`  
 \*\*

\*\* `[SQLITE_CONFIG_SQLLOG]`  
 \*\* `<dt>SQLITE_CONFIG_SQLLOG`  
 \*\* `<dd>` This option is only available if sqlite is compiled with the  
 \*\* `[SQLITE_ENABLE_SQLLOG]` pre-processor macro defined. The first argument should  
 \*\* be a pointer to a function of type `void*(void*,sqlite3*,const char*, int)`.  
 \*\* The second should be of type `(void*)`. The callback is invoked by the library  
 \*\* in three separate circumstances, identified by the value passed as the  
 \*\* fourth parameter. If the fourth parameter is 0, then the database connection  
 \*\* passed as the second argument has just been opened. The third argument  
 \*\* points to a buffer containing the name of the main database file. If the  
 \*\* fourth parameter is 1, then the SQL statement that the third parameter  
 \*\* points to has just been executed. Or, if the fourth parameter is 2, then  
 \*\* the connection being passed as the second parameter is being closed. The  
 \*\* third parameter is passed NULL in this case. An example of using this  
 \*\* configuration option can be seen in the "test\_sqllog.c" source file in  
 \*\* the canonical SQLite source tree.`</dd>`  
 \*\*

\*\* `[SQLITE_CONFIG_MMAP_SIZE]`  
 \*\* `<dt>SQLITE_CONFIG_MMAP_SIZE`  
 \*\* `<dd>` `SQLITE_CONFIG_MMAP_SIZE` takes two 64-bit integer (`sqlite3_int64`) values  
 \*\* that are the default mmap size limit (the default setting for  
 \*\* `[PRAGMA mmap_size]`) and the maximum allowed mmap size limit.  
 \*\* The default setting can be overridden by each database connection using  
 \*\* either the `[PRAGMA mmap_size]` command, or by using the  
 \*\* `[SQLITE_FCNTL_MMAP_SIZE]` file control. The maximum allowed mmap size

\*\* cannot be changed at run-time. Nor may the maximum allowed mmap size  
\*\* exceed the compile-time maximum mmap size set by the  
\*\* [SQLITE\_MAX\_MMAP\_SIZE] compile-time option.  
\*\* If either argument to this option is negative, then that argument is  
\*\* changed to its compile-time default.  
\*\* </dl>  
\*/

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/src/sqlite.h.in  
No license file was found, but licenses were detected in source scan.

application is free to use the same <a href="#sqlite3">database connection</a> or the

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/capi3ref.html  
No license file was found, but licenses were detected in source scan.

<a href="copyright.html">public domain</a> and is thus free for

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/about.html  
No license file was found, but licenses were detected in source scan.

<a href="copyright.html">public domain</a>. No claim of ownership is made

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/faq.html  
No license file was found, but licenses were detected in source scan.

procset Adobe\_CoolType\_Utility\_MAKEOCF 1.23 0

procset Adobe\_CoolType\_Utility\_T42 1.0 0

procset Adobe\_AGM\_Image 1.0 0

Found in path(s):

\* %%BeginResource

No license file was found, but licenses were detected in source scan.

Suppose the demo\_data.boundary field holds some proprietary data description

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/rtrree.html

No license file was found, but licenses were detected in source scan.

License: Public Domain

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite.spec

No license file was found, but licenses were detected in source scan.

[public domain](copyright.html) and so many groups use SQLite

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/famous.html

No license file was found, but licenses were detected in source scan.

# 2006 September 14

#

# The author disclaims copyright to this source code. In place of

# a legal notice, here is a blessing:

#

# May you do good and not evil.

# May you find forgiveness for yourself and forgive others.

# May you share freely, never taking more than you give.

#

\*\*\*\*\*

# This file implements regression tests for SQLite library. The

# focus of this script is testing the FTS1 module.

#

# \$Id: fts1c.test,v 1.11 2006/10/04 17:35:28 drh Exp \$

#

set testdir [file dirname \$argv0]

source \$testdir/tester.tcl

# If SQLITE\_ENABLE\_FTS1 is defined, omit this file.

ifcapable !fts1 {

finish\_test

return

}

# Create a table of sample email data. The data comes from email

# archives of Enron executives that was published as part of the

# litigation against that company.

#

do\_test fts1c-1.1 {

db eval {

CREATE VIRTUAL TABLE email USING fts1([from],[to],subject,body);

BEGIN TRANSACTION;  
INSERT INTO email([from],[to],subject,body) VALUES('savita.puthigai@enron.com', 'traders.eol@enron.com, traders.eol@enron.com', 'EnronOnline- Change to Autohedge', 'Effective Monday, October 22, 2001 the following changes will be made to the Autohedge functionality on EnronOnline.

The volume on the hedge will now respect the minimum volume and volume increment settings on the parent product. See rules below:

- ? If the transaction volume on the child is less than half of the parent's minimum volume no hedge will occur.
- ? If the transaction volume on the child is more than half the parent's minimum volume but less than half the volume increment on the parent, the hedge will volume will be the parent's minimum volume.
- ? For all other volumes, the same rounding rules will apply based on the volume increment on the parent product.

Please see example below:

Parent's Settings:  
Minimum: 5000  
Increment: 1000

Volume on Autohedge transaction	Volume Hedged
1 - 2499	0
2500 - 5499	5000
5500 - 6499	6000');

INSERT INTO email([from],[to],subject,body) VALUES('dana.davis@enron.com', 'laynie.east@enron.com, lisa.king@enron.com, lisa.best@enron.com,', 'Leaving Early', 'FYI:

If it's ok with everyone's needs, I would like to leave @4pm. If you think you will need my assistance past the 4 o'clock hour just let me know; I'll be more than willing to stay.');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concurworkplace.com', 'louise.kitchen@enron.com', '<<Concur Expense Document>> - CC02.06.02', 'The following expense report is ready for approval:

Employee Name: Christopher F. Calger  
Status last changed by: Mollie E. Gustafson Ms  
Expense Report Name: CC02.06.02  
Report Total: \$3,972.93  
Amount Due Employee: \$3,972.93

To approve this expense report, click on the following link for Concur Expense.  
<http://expensexms.enron.com>');

INSERT INTO email([from],[to],subject,body) VALUES('jeff.duff@enron.com', 'julie.johnson@enron.com', 'Work request', 'Julie,

Could you print off the current work request report by 1:30 today?

Gentlemen,

I'd like to review this today at 1:30 in our office. Also, could you provide me with your activity reports so I can have Julie enter this information.

JD');

INSERT INTO email([from],[to],subject,body) VALUES('v.weldon@enron.com', 'gary.l.carrier@usa.dupont.com, scott.joyce@bankofamerica.com', 'Enron News', 'This could turn into something big....

<http://biz.yahoo.com/rf/010129/n29305829.html>');

INSERT INTO email([from],[to],subject,body) VALUES('mark.haedicke@enron.com', 'paul.simons@enron.com', 'Re: First Polish Deal!', 'Congrats! Things seem to be building rapidly now on the Continent. Mark');

INSERT INTO email([from],[to],subject,body) VALUES('e.carter@enron.com', 't.robinson@enron.com', 'FW: Producers Newsletter 9-24-2001', '

The producer lumber pricing sheet.

-----Original Message-----

From: Johnson, Jay

Sent: Tuesday, October 16, 2001 3:42 PM

To: Carter, Karen E.

Subject: FW: Producers Newsletter 9-24-2001

-----Original Message-----

From: Daigre, Sergai

Sent: Friday, September 21, 2001 8:33 PM

Subject: Producers Newsletter 9-24-2001

);

INSERT INTO email([from],[to],subject,body) VALUES('david.delainey@enron.com', 'kenneth.lay@enron.com', 'Greater Houston Partnership', 'Ken, in response to the letter from Mr Miguel San Juan, my suggestion would be to offer up the Falcon for their use; however, given the tight time frame and your recent visit with Mr. Fox that it would be difficult for either you or me to participate.

I spoke to Max and he agrees with this approach.

I hope this meets with your approval.

Regards

Delainey');

INSERT INTO email([from],[to],subject,body) VALUES('lachandra.fenceroy@enron.com', 'lindy.donoho@enron.com', 'FW: Bus Applications Meeting Follow Up', 'Lindy,

Here is the original memo we discussed earlier. Please provide any information that you may have.

Your cooperation is greatly appreciated.

Thanks,

lachandra.fenceroy@enron.com

713.853.3884  
877.498.3401 Pager

-----Original Message-----

From: Bisbee, Joanne  
Sent: Wednesday, September 26, 2001 7:50 AM  
To: Fenceroy, LaChandra  
Subject: FW: Bus Applications Meeting Follow Up

Lachandra, Please get with David Duff today and see what this is about. Who are our TW accounting business users?

-----Original Message-----

From: Koh, Wendy  
Sent: Tuesday, September 25, 2001 2:41 PM  
To: Bisbee, Joanne  
Subject: Bus Applications Meeting Follow Up

Lisa brought up a TW change effective Nov 1. It involves eliminating a turnback surcharge. I have no other information, but you might check with the business folks for any system changes required.

Wendy');

INSERT INTO email([from],[to],subject,body) VALUES('danny.mccarty@enron.com', 'fran.fagan@enron.com', 'RE: worksheets', 'Fran,

If Julie's merit needs to be lump sum, just move it over to that column. Also, send me Eric Gadd's sheets as well.  
Thanks.  
Dan

-----Original Message-----

From: Fagan, Fran  
Sent: Thursday, December 20, 2001 11:10 AM  
To: McCarty, Danny  
Subject: worksheets

As discussed, attached are your sheets for bonus and merit.

Thanks,

Fran Fagan  
Sr. HR Rep  
713.853.5219

<< File: McCartyMerit.xls >> << File: mccartyBonusCommercial\_UnP.xls >>

');

INSERT INTO email([from],[to],subject,body) VALUES('bert.meyers@enron.com', 'shift.dl-portland@enron.com', 'OCTOBER SCHEDULE', 'TEAM,



PLEASE SEND ME ANY REQUESTS THAT YOU HAVE FOR OCTOBER. SO FAR I HAVE THEM FOR LEAF. I WOULD LIKE TO HAVE IT DONE BY THE 15TH OF THE MONTH. ANY QUESTIONS PLEASE GIVE ME A CALL.

BERT');

INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com', 'john.arnold@enron.com, bilal.bajwa@enron.com, john.griffith@enron.com,', 'TRV Notification: (NG - PROPT P/L - 09/27/2001)', 'The report named: NG - PROPT P/L <[http://trv.corp.enron.com/linkFromExcel.asp?report\\_cd=11&report\\_name=NG+-+PROPT+P/L&category\\_cd=5&category\\_name=FINANCIAL&toc\\_hide=1&sTV1=5&TV1Exp=Y&current\\_efct\\_d ate=09/27/2001](http://trv.corp.enron.com/linkFromExcel.asp?report_cd=11&report_name=NG+-+PROPT+P/L&category_cd=5&category_name=FINANCIAL&toc_hide=1&sTV1=5&TV1Exp=Y&current_efct_d ate=09/27/2001)>, published as of 09/27/2001 is now available for viewing on the website.');

INSERT INTO email([from],[to],subject,body) VALUES('patrice.mims@enron.com', 'calvin.eakins@enron.com', 'Re: Small business supply assistance', 'Hi Calvin

I spoke with Rickey (boy, is he long-winded!!). Gave him the name of our credit guy, Russell Diamond.

Thank for your help!');

INSERT INTO email([from],[to],subject,body) VALUES('legal <hall@enron.com>', 'stephanie.panus@enron.com', 'Termination update', 'City of Vernon and Salt River Project terminated their contracts. I will fax these notices to you.');

INSERT INTO email([from],[to],subject,body) VALUES('d..steffes@enron.com', 'richard.shapiro@enron.com', 'EES / ENA Government Affairs Staffing & Outside Services', 'Rick --

Here is the information on staffing and outside services. Call if you need anything else.

Jim

');

INSERT INTO email([from],[to],subject,body) VALUES('gelliott@industrialinfo.com', 'pcopello@industrialinfo.com', 'ECAAR (Gavin), WSCC (Diablo Canyon), & NPCC (Seabrook)', 'Dear Power Outage Database Customer,

Attached you will find an excel document. The outages contained within are forced or rescheduled outages. Your daily delivery will still contain these outages.

In addition to the two excel documents, there is a dbf file that is formatted like your daily deliveries you receive nightly. This will enable you to load the data into your regular database. Any questions please let me know. Thanks.

Greg Elliott

IIR, Inc.

713-783-5147 x 3481

outages@industrialinfo.com

THE INFORMATION CONTAINED IN THIS E-MAIL IS LEGALLY PRIVILEGED AND CONFIDENTIAL INFORMATION INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY NAMED ABOVE. YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION, OR COPY OF THIS E-MAIL TO UNAUTHORIZED ENTITIES IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS E-MAIL IN ERROR, PLEASE DELETE IT.

- OUTAGE.dbf

- 111201R.xls

- 111201.xls ');

INSERT INTO email([from],[to],subject,body) VALUES('enron.announcements@enron.com',  
'all\_ena\_egm\_eim@enron.com', 'EWS Brown Bag', 'MARK YOUR LUNCH CALENDARS NOW !

You are invited to attend the EWS Brown Bag Lunch Series

Featuring: RAY BOWEN, COO

Topic: Enron Industrial Markets

Thursday, March 15, 2001

11:30 am - 12:30 pm

EB 5 C2

You bring your lunch, Limited Seating

We provide drinks and dessert. RSVP x 3-9610');

INSERT INTO email([from],[to],subject,body) VALUES('chris.germany@enron.com',  
'ingrid.immer@williams.com', 'Re: About St Pauls', 'Sounds good to me. I bet this is next to the Warick?? Hotel.

"Immer, Ingrid" <Ingrid.Immer@Williams.com> on 12/21/2000 11:48:47 AM

To: "'chris.germany@enron.com'" <chris.germany@enron.com>

cc:

Subject: About St Pauls

<<About St Pauls.url>>

?

?<http://www.stpaulshouston.org/about.html>

Chris,

I like the looks of this place.? What do you think about going here Christmas  
eve?? They have an 11:00 a.m. service and a candlelight service at 5:00 p.m.,  
among others.

Let me know.?? ii

- About St Pauls.url

');

INSERT INTO email([from],[to],subject,body) VALUES('nas@cpuc.ca.gov', 'skatz@sempratrading.com',  
kmccrea@sabl原因.com, thompson@wrightlaw.com.', 'Reply Brief filed July 31, 2000', ' - CPUC01-#76371-v1-

Revised\_Reply\_Brief\_\_Due\_today\_7\_31\_.doc');  
INSERT INTO email([from],[to],subject,body) VALUES('gascontrol@aglresources.com', 'dscott4@enron.com,  
lcampbel@enron.com', 'Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder', 'Alert Posted 10:00  
AM November 20,2000: E-GAS Request Reminder

As discussed in the Winter Operations Meeting on Sept.29,2000,  
E-Gas(Emergency Gas) will not be offered this winter as a service from AGLC.  
Marketers and Poolers can receive gas via Peaking and IBSS nominations(daisy  
chain) from other marketers up to the 6 p.m. Same Day 2 nomination cycle.

);  
INSERT INTO email([from],[to],subject,body) VALUES('dutch.quigley@enron.com',  
'rwolkwitz@powermerchants.com', ", ' "

Here is a goody for you');

INSERT INTO email([from],[to],subject,body) VALUES('ryan.o"rourke@enron.com', 'k..allen@enron.com,  
randy.bhatia@enron.com, frank.ermis@enron.com,', 'TRV Notification: (West VaR - 11/07/2001)', 'The report  
named: West VaR  
<[http://trv.corp.enron.com/linkFromExcel.asp?report\\_cd=36&report\\_name=West+VaR&category\\_cd=2&category\\_name=WEST&toc\\_hide=1&sTV1=2&TV1Exp=Y&current\\_efct\\_date=11/07/2001](http://trv.corp.enron.com/linkFromExcel.asp?report_cd=36&report_name=West+VaR&category_cd=2&category_name=WEST&toc_hide=1&sTV1=2&TV1Exp=Y&current_efct_date=11/07/2001)>, published as of 11/07/2001 is  
now available for viewing on the website.');

INSERT INTO email([from],[to],subject,body) VALUES('mjones7@txu.com', 'cstone1@txu.com,  
ggreen2@txu.com, timpowell@txu.com,', 'Enron / HPL Actuals for July 10, 2000', 'Teco Tap 10.000 / Enron ;  
110.000 / HPL IFERC

LS HPL LSK IC 30.000 / Enron

);  
INSERT INTO email([from],[to],subject,body) VALUES('susan.pereira@enron.com', 'kkw816@aol.com', 'soccer  
practice', 'Kathy-

Is it safe to assume that practice is cancelled for tonight??

Susan Pereira');

INSERT INTO email([from],[to],subject,body) VALUES('mark.whitt@enron.com', 'barry.tycholiz@enron.com',  
'Huber Internal Memo', 'Please look at this. I didn"t know how deep to go with the desk. Do you think this works.

);  
INSERT INTO email([from],[to],subject,body) VALUES('m..forney@enron.com', 'george.phillips@enron.com', ",  
'George,  
Give me a call and we will further discuss opportunities on the 13st floor.

Thanks,

JMForney

3-7160');

INSERT INTO email([from],[to],subject,body) VALUES('brad.mckay@enron.com', 'angusmcka@aol.com', 'Re: (no  
subject)', 'not yet');

INSERT INTO email([from],[to],subject,body) VALUES('adam.bayer@enron.com', 'jonathan.mckay@enron.com',  
'FW: Curve Fetch File', 'Here is the curve fetch file sent to me. It has plenty of points in it. If you give me a list of  
which ones you need we may be able to construct a secondary worksheet to vlookup the values.

adam  
35227

-----Original Message-----

From: Royed, Jeff  
Sent: Tuesday, September 25, 2001 11:37 AM  
To: Bayer, Adam  
Subject: Curve Fetch File

Let me know if it works. It may be required to have a certain version of Oracle for it to work properly.

Jeff Royed

Enron

Energy Operations

Phone: 713-853-5295);

INSERT INTO email([from],[to],subject,body) VALUES('matt.smith@enron.com', 'yan.wang@enron.com', 'Report Formats', 'Yan,

The merged reports look great. I believe the only orientation changes are to "unmerge" the following six reports:

31 Keystone Receipts  
15 Questar Pipeline  
40 Rockies Production  
22 West\_2  
23 West\_3  
25 CIG\_WIC

The orientation of the individual reports should be correct. Thanks.

Mat

PS. Just a reminder to add the "\*" by the title of calculated points.);

INSERT INTO email([from],[to],subject,body) VALUES('michelle.lokay@enron.com', 'jimboman@bigfoot.com', 'Egyptian Festival', '----- Forwarded by Michelle Lokay/ET&S/Enron on 09/07/2000 10:08 AM -----

"Karkour, Randa" <Randa.Karkour@COMPAQ.com> on 09/07/2000 09:01:04 AM  
To: ""Agheb (E-mail)" <Agheb@aol.com>, "Leila Mankarious (E-mail)" <Leila\_Mankarious@mhhs.org>, ""Marymankarious (E-mail)" <marymankarious@aol.com>, "Michelle lokay (E-mail)" <mlokay@enron.com>, "Ramy Mankarious (E-mail)" <Mankarious@aol.com>  
cc:

Subject: Egyptian Festival

<<Egyptian Festival.url>>

<http://www.egyptianfestival.com/>

- Egyptian Festival.url

');

INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com',  
'sherry.dawson@enron.com', 'Urgent!!! --- New EAST books', 'This has to be done.....')

Thanks

----- Forwarded by Errol McLaughlin/Corp/Enron on 12/20/2000

08:39 AM -----

From: William Kelly @ ECT

12/20/2000 08:31 AM

To: Kam Keiser/HOU/ECT@ECT, Darron C Giron/HOU/ECT@ECT, David

Baumbach/HOU/ECT@ECT, Errol McLaughlin/Corp/Enron@ENRON

cc: Kimat Singla/HOU/ECT@ECT, Kulvinder Fowler/NA/Enron@ENRON, Kyle R

Lilly/HOU/ECT@ECT, Jeff Royed/Corp/Enron@ENRON, Alejandra

Chavez/NA/Enron@ENRON, Crystal Hyde/HOU/ECT@ECT

Subject: New EAST books

We have new book names in TAGG for our intramonth portfolios and it is extremely important that any deal booked to the East is communicated quickly to someone on my team. I know it will take some time for the new names to sink in and I do not want us to miss any positions or P&L.

Thanks for your help on this.

New:

Scott Neal : East Northeast

Dick Jenkins: East Marketeast

WK

');

INSERT INTO email([from],[to],subject,body) VALUES('david.forster@enron.com', 'eol.wide@enron.com',  
'Change to Stack Manager', 'Effective immediately, there is a change to the Stack Manager which will  
affect any Inactive Child.

An inactive Child with links to Parent products will not have their calculated prices updated until the Child product is Activated.

When the Child Product is activated, the price will be recalculated and updated BEFORE it is displayed on the web.

This means that if you are inputting a basis price on a Child product, you will not see the final, calculated price until you Activate the product, at which time the customer will also see it.

If you have any questions, please contact the Help Desk on:

Americas: 713 853 4357

Europe: + 44 (0) 20 7783 7783

Asia/Australia: +61 2 9229 2300

Dave');

INSERT INTO email([from],[to],subject,body) VALUES('vince.kaminski@enron.com', 'jhh1@email.msn.com', 'Re:

Light reading - see pieces beginning on page 7', 'John,

I saw it. Very interesting.

Vince

"John H Herbert" <jhh1@email.msn.com> on 07/28/2000 08:38:08 AM

To: "Vince J Kaminski" <Vince\_J\_Kaminski@enron.com>

cc:

Subject: Light reading - see pieces beginning on page 7

Cheers and have a nice weekend,

JHHerbert

- gd000728.pdf

');

INSERT INTO email([from],[to],subject,body) VALUES('matthew.lenhart@enron.com',

'mmmarcotel@equiva.com', 'RE:', 'i will try to line up a pig for you ');

INSERT INTO email([from],[to],subject,body) VALUES('jae.black@enron.com', 'claudette.harvey@enron.com,

chaun.roberts@enron.com, judy.martinez@enron.com,', 'Disaster Recovery Equipment', 'As a reminder...there are several pieces of equipment that are set up on the 30th Floor, as well as on our floor, for the Disaster Recovery Team. PLEASE DO NOT TAKE, BORROW OR USE this equipment. Should you need to use another computer system, other than yours, or make conference calls please work with your Assistant to help find or set up equipment for you to use.

Thanks for your understanding in this matter.

T.Jae Black

East Power Trading

Assistant to Kevin Presto

off. 713-853-5800

fax 713-646-8272

cell 713-539-4760');

INSERT INTO email([from],[to],subject,body) VALUES('eric.bass@enron.com', 'dale.neuner@enron.com', '5 X 24', 'Dale,

Have you heard anything more on the 5 X 24s? We would like to get this product out ASAP.

Thanks,

Eric');

INSERT INTO email([from],[to],subject,body) VALUES('messenger@smartreminders.com', 'm..tholt@enron.com', '10% Coupon - PrintPal Printer Cartridges - 100% Guaranteed', '[IMAGE]

[IMAGE][IMAGE][IMAGE]

Dear SmartReminders Member,

[IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE]

We respect your privacy and are a Certified Participant of the BBBOnLine Privacy Program. To be removed from future offers,click here.

SmartReminders.com is a permission based service. To unsubscribe click here . ');

INSERT INTO email([from],[to],subject,body) VALUES('benjamin.rogers@enron.com', 'mark.bernstein@enron.com', ", 'The guy you are talking about left CIN under a "cloud of suspicion" sort of speak. He was the one who got into several bad deals and PPA's in California for CIN, thus he left on a bad note. Let me know if you need more detail than that, I felt this was the type of info you were looking for. Thanks!

Ben');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concuere workplace.com', 'michelle.cash@enron.com', 'Expense Report Receipts Not Received', 'Employee Name: Michelle Cash Report Name: Houston Cellular 8-11-01

Report Date: 12/13/01

Report ID: 594D37C9ED2111D5B452

Submitted On: 12/13/01

You are only allowed 2 reports with receipts outstanding. Your expense reports will not be paid until you meet this requirement.);

INSERT INTO email([from],[to],subject,body) VALUES('susan.mara@enron.com', 'ray.alvarez@enron.com, mark.palmer@enron.com, karen.denne@enron.com,', 'CAISO Emergency Motion -- to discontinue market-based rates for', 'FYI. the latest broadside against the generators.

Sue Mara

Enron Corp.

Tel: (415) 782-7802

Fax:(415) 782-7854

----- Forwarded by Susan J Mara/NA/Enron on 06/08/2001 12:24 PM -----

"Milner, Marcie" <MMilner@coral-energy.com> 06/08/2001 11:13 AM To: "'smara@enron.com'" <smara@enron.com> cc: Subject: CAISO Emergency Motion

Sue, did you see this emergency motion the CAISO filed today? Apparently they are requesting that FERC discontinue market-based rates immediately and grant refunds plus interest on the difference between cost-based rates and market revenues received back to May 2000. They are requesting the commission act within 14 days. Have you heard anything about what they are doing?

Marcie

<http://www.caiso.com/docs/2001/06/08/200106081005526469.pdf>

');

INSERT INTO email([from],[to],subject,body) VALUES('fletcher.sturm@enron.com', 'eloy.escobar@enron.com', 'Re: General Brinks Position Meeting', 'Eloy,



Who is General Brinks?

Fletch');

INSERT INTO email([from],[to],subject,body) VALUES('nailia.dindarova@enron.com',  
'richard.shapiro@enron.com', 'Documents for Mark Frevert (on EU developments and lessons from', 'Rick,

Here are the documents that Peter has prepared for Mark Frevert.

Nailia

----- Forwarded by Nailia Dindarova/LON/ECT on 25/06/2001

16:36 -----

Nailia Dindarova

25/06/2001 15:36

To: Michael Brown/Enron@EUEnronXGate

cc: Ross Sankey/Enron@EUEnronXGate, Eric Shaw/ENRON@EUEnronXGate, Peter  
Styles/LON/ECT@ECT

Subject: Documents for Mark Frevert (on EU developments and lessons from  
California)

Michael,

These are the documents that Peter promised to give to you for Mark Frevert.  
He has now handed them to him in person but asked me to transmit them  
electronically to you, as well as Eric and Ross.

Nailia

');

INSERT INTO email([from],[to],subject,body) VALUES('peggy.a.kostial@accenture.com',  
'dave.samuels@enron.com', 'EOL-Accenture Deal Sheet', 'Dave -

Attached are our comments and suggested changes. Please call to review.

On the time line for completion, we have four critical steps to complete:

Finalize market analysis to refine business case, specifically  
projected revenue stream

Complete counterparty surveying, including targeting 3 CPs for letters  
of intent

Review Enron asset base for potential reuse/ licensing

Contract negotiations

Joe will come back to us with an updated time line, but it is my expectation that we are still on the same schedule (we just begun week three) with possibly a week or so slippage.....contract negotiations will probably be the critical path.

We will send our cut at the actual time line here shortly. Thanks,

Peggy

(See attached file: accenture-dealpoints v2.doc)

- accenture-dealpoints v2.doc ');

INSERT INTO email([from],[to],subject,body) VALUES('thomas.martin@enron.com', 'thomas.martin@enron.com', 'Re: Guadalupe Power Partners LP', '----- Forwarded by Thomas A Martin/HOU/ECT on 03/20/2001 03:49 PM -----

Thomas A Martin

10/11/2000 03:55 PM

To: Patrick Wade/HOU/ECT@ECT

cc:

Subject: Re: Guadalupe Power Partners LP

The deal is physically served at Oasis Waha or Oasis Katy and is priced at either HSC, Waha or Katytailgate GD at buyers option three days prior to NYMEX close.

');

INSERT INTO email([from],[to],subject,body) VALUES('judy.townsend@enron.com', 'dan.junek@enron.com, chris.germany@enron.com', 'Columbia Distribution"s Capacity Available for Release - Sum', '----- Forwarded by Judy Townsend/HOU/ECT on 03/09/2001 11:04 AM -----

agoddard@nsource.com on 03/08/2001 09:16:57 AM

To: " - \*Koch, Kent" <kkoch@nsource.com>, " - \*Millar, Debra" <dmillar@nsource.com>, " - \*Burke, Lynn" <lburke@nsource.com>

cc: " - \*Heckathorn, Tom" <heckathorn@nsource.com>

Subject: Columbia Distribution"s Capacity Available for Release - Sum

Attached is Columbia Distribution"s notice of capacity available for release for the summer of 2001 (Apr. 2001 through Oct. 2001).

Please note that the deadline for bids is 3:00pm EST on March 20, 2001.

If you have any questions, feel free to contact any of the representatives listed at the bottom of the attachment.

Aaron Goddard

- 2001Summer.doc

);

INSERT INTO email([from],[to],subject,body) VALUES('rhonda.denton@enron.com', 'tim.belden@enron.com, dana.davis@enron.com, genia.fitzgerald@enron.com,', 'Split Rock Energy LLC', 'We have received the executed EEI contract from this CP dated 12/12/2000.

Copies will be distributed to Legal and Credit.');

INSERT INTO email([from],[to],subject,body) VALUES('kerrymcelroy@dwt.com', 'jack.speer@alcoa.com, crow@millernash.com, michaelearly@earthlink.net,', 'Oral Argument Request', ' - Oral Argument Request.doc');

INSERT INTO email([from],[to],subject,body) VALUES('mike.carson@enron.com', 'rlmichaelis@hormel.com', ', 'Did you come in town this wk end..... My new number at our house is : 713-668-3712..... my cell # is 281-381-7332

the kid');

INSERT INTO email([from],[to],subject,body) VALUES('cooper.richey@enron.com', 'trycooper@hotmail.com', 'FW: Contact Info', '

-----Original Message-----

From: Punja, Karim

Sent: Thursday, December 13, 2001 2:35 PM

To: Richey, Cooper

Subject: Contact Info

Cooper,

Its been a real pleasure working with you (even though it was for only a small amount of time)

I hope we can stay in touch.

Home# 234-0249

email: kpunja@hotmail.com

Take Care,

Karim.

);

INSERT INTO email([from],[to],subject,body) VALUES('bjm30@earthlink.net', 'mcguinn.k@enron.com, mcguinn.ian@enron.com, mcguinn.stephen@enron.com,', 'email address change', 'Hello all.

I haven't talked to many of you via email recently but I do want to give you my new address for your email file:

bjm30@earthlink.net

I hope all is well.

Brian McGuinn');

INSERT INTO email([from],[to],subject,body) VALUES('shelley.corman@enron.com', 'steve.hotte@enron.com', 'Flat Panels', 'Can you please advise what is going on with the flat panels that we had planned to distribute to our gas logistics team. It was in the budget and we had the okay, but now I'm hearing there is some hold-up & the units are stored on 44.

Shelley');

INSERT INTO email([from],[to],subject,body) VALUES('sara.davidson@enron.com', 'john.schwartzenburg@enron.com, scott.dieball@enron.com, recipients@enron.com,', '2001 Enron Law Conference (Distribution List 2)', ' Enron Law Conference

San Antonio, Texas May 2-4, 2001 Westin Riverwalk

See attached memo for more details!!

? Registration for the law conference this year will be handled through an Online RSVP Form on the Enron Law Conference Website at <http://lawconference.corp.enron.com>. The website is still under construction and will not be available until Thursday, March 15, 2001.

? We will send you another e-mail to confirm when the Law Conference Website is operational.

? Please complete the Online RSVP Form as soon as it is available and submit it no later than Friday, March 30th.

');

INSERT INTO email([from],[to],subject,body) VALUES('tori.kuykendall@enron.com', 'heath.b.taylor@accenture.com', 'Re:', 'hey - thats funny about john - he definitely remembers him - i'll call pat and let him know - we are coming on saturday - i just havent had a chance to call you guys back -- looking forward to it -- i probably need the directions again though');

INSERT INTO email([from],[to],subject,body) VALUES('darron.giron@enron.com', 'bryce.baxter@enron.com', 'Re: Feedback for Audrey Cook', 'Bryce,

I'll get it done today.

DG 3-9573

From: Bryce Baxter

06/12/2000 07:15 PM

To: Darron C Giron/HOU/ECT@ECT

cc:

Subject: Feedback for Audrey Cook

You were identified as a reviewer for Audrey Cook. If possible, could you complete her feedback by end of business Wednesday? It will really help me in the PRC process to have your input. Thanks.

);

INSERT INTO email([from],[to],subject,body) VALUES('casey.evans@enron.com', 'stephanie.sever@enron.com', 'Gas EOL ID', 'Stephanie,

In conjunction with the recent movement of several power traders, they are changing the names of their gas books as well. The names of the new gas books and traders are as follows:

PWR-NG-LT-SPP: Mike Carson

PWR-NG-LT-SERC: Jeff King

If you need to know their power desk to map their ID to their gas books, those desks are as follows:

EPMI-LT-SPP: Mike Carson

EPMI-LT-SERC: Jeff King

I will be in training this afternoon, but will be back when class is over. Let me know if you have any questions.

Thanks for your help!

Casey);

INSERT INTO email([from],[to],subject,body) VALUES('darrell.schoolcraft@enron.com', 'david.roensch@enron.com, kimberly.watson@enron.com, michelle.lokay@enron.com,', 'Postings', 'Please see the attached.

ds

);

INSERT INTO email([from],[to],subject,body) VALUES('mcominsky@aol.com', 'cpatman@bracepatt.com,

james\_derrick@enron.com', 'Jurisprudence Luncheon', 'Carrin & Jim --

It was an honor and a pleasure to meet both of you yesterday. I know we will have fun working together on this very special event.

Jeff left the jurisprudence luncheon lists for me before he left on vacation. I wasn't sure whether he transmitted them to you as well. Would you please advise me if you would like them sent to you? I can email the MS Excel files or I can fax the hard copies to you. Please advise what is most convenient.

I plan to be in town through the holidays and can be reached by phone, email, or cell phone at any time. My cell phone number is 713/705-4829.

Thanks again for your interest in the ADL's work. Martin.

Martin B. Cominsky  
Director, Southwest Region  
Anti-Defamation League  
713/627-3490, ext. 122  
713/627-2011 (fax)  
MCominsky@aol.com');

INSERT INTO email([from],[to],subject,body) VALUES('phillip.love@enron.com', 'todagost@utmb.edu, gbsonnta@utmb.edu', 'New President', 'I had a little bird put a word in my ear. Is there any possibility for Ben Raimier to be Bush's secretary of HHS? Just curious about that infamous UTMB rumor mill. Hope things are well, happy holidays.

PL');

INSERT INTO email([from],[to],subject,body) VALUES('marie.heard@enron.com', 'ehamilton@fna.com', 'ISDA Master Agreement', 'Erin:

Pursuant to your request, attached are the Schedule to the ISDA Master Agreement, together with Paragraph 13 to the ISDA Credit Support Annex. Please let me know if you need anything else. We look forward to hearing your comments.

Marie

Marie Heard  
Senior Legal Specialist  
Enron North America Corp.  
Phone: (713) 853-3907  
Fax: (713) 646-3490  
marie.heard@enron.com

');

INSERT INTO email([from],[to],subject,body) VALUES('andrea.ring@enron.com', 'beverly.beaty@enron.com', 'Re: Tennessee Buy - Louis Dreyfus', 'Beverly - once again thanks so much for your help on this.

');

INSERT INTO email([from],[to],subject,body) VALUES('karolyn.criado@enron.com', 'j..bonin@enron.com, felicia.case@enron.com, b..clapp@enron.com,', 'Price List week of Oct. 8-9, 2001', '

Please contact me if you have any questions regarding last weeks prices.

Thank you,  
Karolyn Criado  
3-9441

');

INSERT INTO email([from],[to],subject,body) VALUES('kevin.presto@enron.com', 'edward.baughman@enron.com, billy.braddock@enron.com', 'Associated', 'Please begin working on filling our Associated short position in 02. I would like to take this risk off the books.

In addition, please find out what a buy-out of VEPCO would cost us. With Rogers transitioning to run our retail risk management, I would like to clean up our customer positions.

We also need to continue to explore a JEA buy-out.

Thanks.');

INSERT INTO email([from],[to],subject,body) VALUES('stacy.dickson@enron.com', 'gregg.penman@enron.com', 'RE: Constellation TC 5-7-01', 'Gregg,

I am at home with a sick baby. (Lots of fun!) I will call you about this tomorrow.

Stacy');

INSERT INTO email([from],[to],subject,body) VALUES('joe.quenet@enron.com', 'dfincher@utilicorp.com', ', 'hey big guy.....check this out.....

w ww.gorelieberman-2000.com/');

INSERT INTO email([from],[to],subject,body) VALUES('k..allen@enron.com', 'jacqestc@aol.com', ', 'Jacques,

I sent you a fax of Kevin Kolb's comments on the release. The payoff on the note would be \$36,248 (\$36090(principal) + \$158 (accrued interest)).

This is assuming we wrap this up on Tuesday.

Please email to confirm that their changes are ok so I can set up a meeting on Tuesday to reach closure.

Phillip');

INSERT INTO email([from],[to],subject,body) VALUES('kourtney.nelson@enron.com', 'mike.swerzbin@enron.com', 'Adjusted L/R Balance', 'Mike,

I placed the adjusted L/R Balance on the Enronwest site. It is under the "Staff/Kourtney Nelson". There are two links:

- 1) "Adj L\_R" is the same data/format from the weekly strategy meeting.
- 2) "New Gen 2001\_2002" link has all of the supply side info that is used to calculate the L/R balance  
-Please note the Data Flag column, a value of "3" indicates the project was cancelled, on hold, etc and is not included in the calc.

Both of these sheets are interactive Excel spreadsheets and thus you can play around with the data as you please. Also, James Bruce is working to get his gen report on the web. That will help with your access to information on new gen.

Please let me know if you have any questions or feedback,

Kourtney

Kourtney Nelson

Fundamental Analysis

Enron North America

(503) 464-8280

kourtney.nelson@enron.com');

INSERT INTO email([from],[to],subject,body) VALUES('d..thomas@enron.com', 'naveed.ahmed@enron.com', 'FW: Current Enron TCC Portfolio', '

-----Original Message-----

From: Grace, Rebecca M.

Sent: Monday, December 17, 2001 9:44 AM

To: Thomas, Paul D.

Cc: Cashion, Jim; Allen, Thresa A.; May, Tom

Subject: RE: Current Enron TCC Portfolio

Paul,

I reviewed NY's list. I agree with all of their contracts numbers and mw amounts.

Call if you have any more questions.

Rebecca

-----Original Message-----

From: Thomas, Paul D.

Sent: Monday, December 17, 2001 9:08 AM

To: Grace, Rebecca M.

Subject: FW: Current Enron TCC Portfolio



<< File: enrontccs.xls >>

Rebecca,

Let me know if you see any differences.

Paul

X 3-0403

-----Original Message-----

From: Thomas, Paul D.

Sent: Monday, December 17, 2001 9:04 AM

To: Ahmed, Naveed

Subject: FW: Current Enron TCC Portfolio

-----Original Message-----

From: Thomas, Paul D.

Sent: Thursday, December 13, 2001 10:01 AM

To: Baughman, Edward D.

Subject: Current Enron TCC Portfolio

');

INSERT INTO email([from],[to],subject,body) VALUES('stephanie.panus@enron.com',  
'william.bradford@enron.com, debbie.brackett@enron.com,', 'Coastal Merchant Energy/El Paso Merchant Energy',  
'Coastal Merchant Energy, L.P. merged with and into El Paso Merchant Energy,  
L.P., effective February 1, 2001, with the surviving entity being El Paso  
Merchant Energy, L.P. We currently have ISDA Master Agreements with both  
counterparties. Please see the attached memo regarding the existing Masters  
and let us know which agreement should be terminated.

Thanks,

Stephanie

');

INSERT INTO email([from],[to],subject,body) VALUES('kam.keiser@enron.com', 'c..kenne@enron.com', 'RE:  
What about this too???' , '

-----Original Message-----

From: Kenne, Dawn C.

Sent: Wednesday, February 06, 2002 11:50 AM

To: Keiser, Kam

Subject: What about this too???

<< File: Netco Trader Matrix.xls >>

');

INSERT INTO email([from],[to],subject,body) VALUES('chris.meyer@enron.com', 'joe.parks@enron.com',  
'Centana', 'Talked to Chip. We do need Cash Committe approval given the netting feature of your deal, which

means Batch Funding Request. Please update per my previous e-mail and forward.

Thanks

chris

x31666');

INSERT INTO email([from],[to],subject,body) VALUES('debra.perlingiere@enron.com',  
'jworman@academyofhealth.com', ', 'Have a great weekend! Happy Fathers Day!

Debra Perlingiere

Enron North America Corp.

1400 Smith Street, EB 3885

Houston, Texas 77002

dperlin@enron.com

Phone 713-853-7658

Fax 713-646-3490');

INSERT INTO email([from],[to],subject,body) VALUES('outlook.team@enron.com', ', 'Demo by Martha Janousek  
of Dashboard & Pipeline Profile / Julia &', 'CALENDAR ENTRY: APPOINTMENT

Description:

Demo by Martha Janousek of Dashboard & Pipeline Profile / Julia & Dir Rpts. - 4102

Date: 1/5/2001

Time: 9:00 AM - 10:00 AM (Central Standard Time)

Chairperson: Outlook Migration Team

Detailed Description:');

INSERT INTO email([from],[to],subject,body) VALUES('diana.seifert@enron.com', 'mark.taylor@enron.com',  
'Guest access Chile', 'Hello Mark,

Justin Boyd told me that your can help me with questions regarding Chile.

We got a request for guest access through MG.

The company is called Escondida and is a subsidiary of BHP Australia.

Please advise if I can set up a guest account or not.

F.Y.I.: MG is planning to put a "in w/h Chile" contract for Copper on-line as  
soon as Enron has done the due diligence for this country.

Thanks !

Best regards

Diana Seifert

EOL PCG');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concuere workplace.com',  
'mark.whitt@enron.com', '<<Concur Expense Document>> - 121001', 'The Approval status has changed on the

following report:

Status last changed by: Barry L. Tycholiz  
Expense Report Name: 121001  
Report Total: \$198.98  
Amount Due Employee: \$198.98  
Amount Approved: \$198.98  
Amount Paid: \$0.00  
Approval Status: Approved  
Payment Status: Pending

To review this expense report, click on the following link for Concur Expense.

<http://expensecms.enron.com>);

INSERT INTO email([from],[to],subject,body) VALUES('kevin.hyatt@enron.com', ', 'Technical Support', 'Outside the U.S., please refer to the list below:

Australia:

1800 678-515

support@palm-au.com

Canada:

1905 305-6530

support@palm.com

New Zealand:

0800 446-398

support@palm-nz.com

U.K.:

0171 867 0108

eurosupport@palm.3com.com

Please refer to the Worldwide Customer Support card for a complete technical support contact list.');

INSERT INTO email([from],[to],subject,body) VALUES('geoff.storey@enron.com', 'dutch.quigley@enron.com', 'RE:', 'duke contact?'

-----Original Message-----

From: Quigley, Dutch

Sent: Wednesday, October 31, 2001 10:14 AM

To: Storey, Geoff

Subject: RE:

bp corp Albert LaMore 281-366-4962

running the reports now

-----Original Message-----

From: Storey, Geoff  
Sent: Wednesday, October 31, 2001 10:10 AM  
To: Quigley, Dutch  
Subject: RE:

give me a contact over there too  
BP

-----Original Message-----

From: Quigley, Dutch  
Sent: Wednesday, October 31, 2001 9:42 AM  
To: Storey, Geoff  
Subject:

Coral Jeff Whitnah 713-767-5374  
Reliant Steve McGinn 713-207-4000);  
INSERT INTO email([from],[to],subject,body) VALUES('pete.davis@enron.com', 'pete.davis@enron.com', 'Start  
Date: 4/22/01; HourAhead hour: 3; <CODESITE>', 'Start Date: 4/22/01; HourAhead hour: 3; No ancillary  
schedules awarded.  
Variances detected.  
Variances detected in Load schedule.

LOG MESSAGES:

PARSING FILE -->> O:\Portland\WestDesk\California Scheduling\ISO Final  
Schedules\2001042203.txt

---- Load Schedule ----

\$\$\$ Variance found in table tblLoads.  
Details: (Hour: 3 / Preferred: 1.92 / Final: 1.89)  
TRANS\_TYPE: FINAL  
LOAD\_ID: PGE4  
MKT\_TYPE: 2  
TRANS\_DATE: 4/22/01  
SC\_ID: EPMI

);  
INSERT INTO email([from],[to],subject,body) VALUES('john.postlethwaite@enron.com',  
'john.zufferli@enron.com', 'Reference', 'John, hope things are going well up there for you. The big day is almost  
here for you and Jessica. I was wondering if I could use your name as a job reference if need be. I am just trying to  
get everything in order just in case something happens.

John');  
INSERT INTO email([from],[to],subject,body) VALUES('jeffrey.shankman@enron.com',  
'Ischiffm@jonesday.com', 'Re:', 'I saw you called on the cell this a.m. Sorry I missed you. (I was in the  
shower). I have had a shitty week--I suspect my silence (not only to you,

but others) after our phone call is a result of the week. I'm seeing Glen at 11:15....talk to you');

INSERT INTO email([from],[to],subject,body) VALUES('litebytz@enron.com', ', 'Lite Bytz RSVP', ' This week's Lite Bytz presentation will feature the following TOOLZ speaker:

Richard McDougall  
Solaris 8  
Thursday, June 7, 2001

If you have not already signed up, please RSVP via email to [litebytz@enron.com](mailto:litebytz@enron.com) by the end of the day Tuesday, June 5, 2001.

\*Remember: this is now a Brown Bag Event--so bring your lunch and we will provide cookies and drinks.

Click below for more details.

<http://home.enron.com:84/messaging/litebytztoolzprint.jpg>');

```
COMMIT;
}
} {}
```

```

Everything above just builds an interesting test database. The actual
tests come after this comment.
#####
```

```
do_test fts1c-1.2 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'mark'
 }
} {6 17 25 38 40 42 73 74}
do_test fts1c-1.3 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'susan'
 }
} {24 40}
do_test fts1c-1.4 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'mark susan'
 }
} {40}
do_test fts1c-1.5 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'susan mark'
 }
} {40}
do_test fts1c-1.6 {
 execsql {
```

```

SELECT rowid FROM email WHERE email MATCH "'mark susan'"
}
} {}
do_test fts1c-1.7 {
execsql {
SELECT rowid FROM email WHERE email MATCH 'mark -susan'
}
} {6 17 25 38 42 73 74}
do_test fts1c-1.8 {
execsql {
SELECT rowid FROM email WHERE email MATCH '-mark susan'
}
} {24}
do_test fts1c-1.9 {
execsql {
SELECT rowid FROM email WHERE email MATCH 'mark OR susan'
}
} {6 17 24 25 38 40 42 73 74}

```

# Some simple tests of the automatic "offsets(email)" column. In the sample  
# data set above, only one message, number 20, contains the words  
# "gas" and "reminder" in both body and subject.

```

#
do_test fts1c-2.1 {
execsql {
SELECT rowid, offsets(email) FROM email
WHERE email MATCH 'gas reminder'
}
} {20 {2 0 42 3 2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}
do_test fts1c-2.2 {
execsql {
SELECT rowid, offsets(email) FROM email
WHERE email MATCH 'subject:gas reminder'
}
} {20 {2 0 42 3 2 1 54 8 3 1 54 8}}
do_test fts1c-2.3 {
execsql {
SELECT rowid, offsets(email) FROM email
WHERE email MATCH 'body:gas reminder'
}
} {20 {2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}
do_test fts1c-2.4 {
execsql {
SELECT rowid, offsets(email) FROM email
WHERE subject MATCH 'gas reminder'
}
} {20 {2 0 42 3 2 1 54 8}}
do_test fts1c-2.5 {

```

```

execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE body MATCH 'gas reminder'
}
} {20 {3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}

Document 32 contains 5 instances of the word "child". But only
3 of them are paired with "product". Make sure only those instances
that match the phrase appear in the offsets(email) list.
#
do_test fts1c-3.1 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE body MATCH 'child product' AND +rowid=32
 }
} {32 {3 0 94 5 3 0 114 5 3 0 207 5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7 3 1 493 7}}
do_test fts1c-3.2 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE body MATCH '"child product"'
 }
} {32 {3 0 207 5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7}}

Snippet generator tests
#
do_test fts1c-4.1 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'subject:gas reminder'
 }
} {{Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder}}
do_test fts1c-4.2 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'christmas candlelight'
 }
} {{... place.? What do you think about going here Christmas
eve?? They have an 11:00 a.m. service and a candlelight service at 5:00 p.m.,
among others. ...}}

do_test fts1c-4.3 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'deal sheet potential reuse'
 }
} {{EOL-Accenture Deal Sheet ... intent
Review Enron asset base for potential reuse/ licensing
Contract negotiations ...}}

```

```

do_test fts1c-4.4 {
 execsql {
 SELECT snippet(email,'<<<','>>>',') FROM email
 WHERE email MATCH 'deal sheet potential reuse'
 }
} {{EOL-Accenture <<<Deal>>> <<<Sheet>>> intent
 Review Enron asset base for <<<potential>>> <<<reuse>>>/ licensing
 Contract negotiations }}
do_test fts1c-4.5 {
 execsql {
 SELECT snippet(email,'<<<','>>>',') FROM email
 WHERE email MATCH 'first things'
 }
} {{Re: <<<First>>> Polish Deal! Congrats! <<<Things>>> seem to be building rapidly now on the }}
do_test fts1c-4.6 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'chris is here'
 }
} {{chris.germany@enron.com ... Sounds good to me. I bet this is next to the Warick??
Hotel. ... place.? What do you think about going here Christmas
eve?? They have an 11:00 a.m. ...}}
do_test fts1c-4.7 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH "'pursuant to'"
 }
} {{Erin:

Pursuant to your request, attached are the Schedule to ...}}
do_test fts1c-4.8 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'ancillary load davis'
 }
} {{pete.davis@enron.com ... Start Date: 4/22/01; HourAhead hour: 3; No ancillary
schedules awarded.
Variances detected.
Variances detected in Load schedule.

LOG MESSAGES:

PARSING ...}}

Combinations of AND and OR operators:
#
do_test fts1c-5.1 {
 execsql {

```



```
SELECT snippet(email) FROM email
WHERE email MATCH 'questar enron OR com'
}
} {{matt.smith@enron.com ... six reports:
```

31 Keystone Receipts

15 <b>Questar</b> Pipeline

40 Rockies Production

22 West\_2 <b>...</b>}}

do\_test fts1c-5.2 {

execsql {

SELECT snippet(email) FROM email

WHERE email MATCH 'enron OR com questar'

}

} {{matt.smith@<b>enron</b>.<b>com</b> <b>...</b> six reports:

31 Keystone Receipts

15 <b>Questar</b> Pipeline

40 Rockies Production

22 West\_2 <b>...</b>}}

finish\_test

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-  
lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/test/fts1c.test

No license file was found, but licenses were detected in source scan.

# 2001 September 15

#

# The author disclaims copyright to this source code. In place of

# a legal notice, here is a blessing:

#

# May you do good and not evil.

# May you find forgiveness for yourself and forgive others.

# May you share freely, never taking more than you give.

#

\*\*\*\*\*

# This file implements regression tests for SQLite library. The

# focus of this file is testing built-in functions.

#

set testdir [file dirname \$argv0]

source \$testdir/tester.tcl

# Create a table to work with.

#

do\_test func-0.0 {

```

execsql {CREATE TABLE tbl1(t1 text)}
foreach word {this program is free software} {
 execsql "INSERT INTO tbl1 VALUES('$word')"
}
execsql {SELECT t1 FROM tbl1 ORDER BY t1}
} {free is program software this}
do_test func-0.1 {
 execsql {
 CREATE TABLE t2(a);
 INSERT INTO t2 VALUES(1);
 INSERT INTO t2 VALUES(NULL);
 INSERT INTO t2 VALUES(345);
 INSERT INTO t2 VALUES(NULL);
 INSERT INTO t2 VALUES(67890);
 SELECT * FROM t2;
 }
} {1 {} 345 {} 67890}

Check out the length() function
#
do_test func-1.0 {
 execsql {SELECT length(t1) FROM tbl1 ORDER BY t1}
} {4 2 7 8 4}
do_test func-1.1 {
 set r [catch {execsql {SELECT length(*) FROM tbl1 ORDER BY t1}} msg]
 lappend r $msg
} {1 {wrong number of arguments to function length()}}
do_test func-1.2 {
 set r [catch {execsql {SELECT length(t1,5) FROM tbl1 ORDER BY t1}} msg]
 lappend r $msg
} {1 {wrong number of arguments to function length()}}
do_test func-1.3 {
 execsql {SELECT length(t1), count(*) FROM tbl1 GROUP BY length(t1)
 ORDER BY length(t1)}
} {2 1 4 2 7 1 8 1}
do_test func-1.4 {
 execsql {SELECT coalesce(length(a),-1) FROM t2}
} {1 -1 3 -1 5}

Check out the substr() function
#
do_test func-2.0 {
 execsql {SELECT substr(t1,1,2) FROM tbl1 ORDER BY t1}
} {fr is pr so th}
do_test func-2.1 {
 execsql {SELECT substr(t1,2,1) FROM tbl1 ORDER BY t1}
} {r s r o h}
do_test func-2.2 {

```

```

execsql {SELECT substr(t1,3,3) FROM tbl1 ORDER BY t1}
} {ee {} ogr ftw is}
do_test func-2.3 {
execsql {SELECT substr(t1,-1,1) FROM tbl1 ORDER BY t1}
} {e s m e s}
do_test func-2.4 {
execsql {SELECT substr(t1,-1,2) FROM tbl1 ORDER BY t1}
} {e s m e s}
do_test func-2.5 {
execsql {SELECT substr(t1,-2,1) FROM tbl1 ORDER BY t1}
} {e i a r i}
do_test func-2.6 {
execsql {SELECT substr(t1,-2,2) FROM tbl1 ORDER BY t1}
} {ee is am re is}
do_test func-2.7 {
execsql {SELECT substr(t1,-4,2) FROM tbl1 ORDER BY t1}
} {fr {} gr wa th}
do_test func-2.8 {
execsql {SELECT t1 FROM tbl1 ORDER BY substr(t1,2,20)}
} {this software free program is}
do_test func-2.9 {
execsql {SELECT substr(a,1,1) FROM t2}
} {1 {} 3 {} 6}
do_test func-2.10 {
execsql {SELECT substr(a,2,2) FROM t2}
} {{} {} 45 {} 78}

```

# Only do the following tests if TCL has UTF-8 capabilities

#

```
if {"\u1234"!="u1234"} {
```

# Put some UTF-8 characters in the database

#

```
do_test func-3.0 {
execsql {DELETE FROM tbl1}
foreach word "contains UTF-8 characters hi\u1234ho" {
execsql "INSERT INTO tbl1 VALUES('$word')"
}
execsql {SELECT t1 FROM tbl1 ORDER BY t1}
} "UTF-8 characters contains hi\u1234ho"
do_test func-3.1 {
execsql {SELECT length(t1) FROM tbl1 ORDER BY t1}
} {5 10 8 5}
do_test func-3.2 {
execsql {SELECT substr(t1,1,2) FROM tbl1 ORDER BY t1}
} {UT ch co hi}
do_test func-3.3 {
execsql {SELECT substr(t1,1,3) FROM tbl1 ORDER BY t1}

```

```

} "UTF cha con hi\u1234"
do_test func-3.4 {
 execsql {SELECT substr(t1,2,2) FROM tbl1 ORDER BY t1}
} "TF ha on i\u1234"
do_test func-3.5 {
 execsql {SELECT substr(t1,2,3) FROM tbl1 ORDER BY t1}
} "TF- har ont i\u1234h"
do_test func-3.6 {
 execsql {SELECT substr(t1,3,2) FROM tbl1 ORDER BY t1}
} "F- ar nt \u1234h"
do_test func-3.7 {
 execsql {SELECT substr(t1,4,2) FROM tbl1 ORDER BY t1}
} "-8 ra ta ho"
do_test func-3.8 {
 execsql {SELECT substr(t1,-1,1) FROM tbl1 ORDER BY t1}
} "8 s s o"
do_test func-3.9 {
 execsql {SELECT substr(t1,-3,2) FROM tbl1 ORDER BY t1}
} "F- er in \u1234h"
do_test func-3.10 {
 execsql {SELECT substr(t1,-4,3) FROM tbl1 ORDER BY t1}
} "TF- ter ain i\u1234h"
do_test func-3.99 {
 execsql {DELETE FROM tbl1}
 foreach word {this program is free software} {
 execsql "INSERT INTO tbl1 VALUES('$word')"
 }
 execsql {SELECT t1 FROM tbl1}
} {this program is free software}

} ;# End \u1234!=u1234

Test the abs() and round() functions.
#
ifcapable !floatingpoint {
do_test func-4.1 {
 execsql {
 CREATE TABLE t1(a,b,c);
 INSERT INTO t1 VALUES(1,2,3);
 INSERT INTO t1 VALUES(2,12345678901234,-1234567890);
 INSERT INTO t1 VALUES(3,-2,-5);
 }
 catchsql {SELECT abs(a,b) FROM t1}
} {1 {wrong number of arguments to function abs()}}
}
ifcapable floatingpoint {
do_test func-4.1 {
 execsql {

```

```

CREATE TABLE t1(a,b,c);
INSERT INTO t1 VALUES(1,2,3);
INSERT INTO t1 VALUES(2,1.2345678901234,-12345.67890);
INSERT INTO t1 VALUES(3,-2,-5);
}
catchsql {SELECT abs(a,b) FROM t1}
} {1 {wrong number of arguments to function abs()}}
}
do_test func-4.2 {
catchsql {SELECT abs() FROM t1}
} {1 {wrong number of arguments to function abs()}}
ifcapable floatingpoint {
do_test func-4.3 {
catchsql {SELECT abs(b) FROM t1 ORDER BY a}
} {0 {2 1.2345678901234 2}}
do_test func-4.4 {
catchsql {SELECT abs(c) FROM t1 ORDER BY a}
} {0 {3 12345.6789 5}}
}
ifcapable !floatingpoint {
if {[working_64bit_int]} {
do_test func-4.3 {
catchsql {SELECT abs(b) FROM t1 ORDER BY a}
} {0 {2 12345678901234 2}}
}
do_test func-4.4 {
catchsql {SELECT abs(c) FROM t1 ORDER BY a}
} {0 {3 1234567890 5}}
}
do_test func-4.4.1 {
execsql {SELECT abs(a) FROM t2}
} {1 {} 345 {} 67890}
do_test func-4.4.2 {
execsql {SELECT abs(t1) FROM tbl1}
} {0.0 0.0 0.0 0.0 0.0}
}
ifcapable floatingpoint {
do_test func-4.5 {
catchsql {SELECT round(a,b,c) FROM t1}
} {1 {wrong number of arguments to function round()}}
do_test func-4.6 {
catchsql {SELECT round(b,2) FROM t1 ORDER BY b}
} {0 {-2.0 1.23 2.0}}
do_test func-4.7 {
catchsql {SELECT round(b,0) FROM t1 ORDER BY a}
} {0 {2.0 1.0 -2.0}}
do_test func-4.8 {
catchsql {SELECT round(c) FROM t1 ORDER BY a}
}
}

```

```

} {0 {3.0 -12346.0 -5.0}}
do_test func-4.9 {
 catchsql {SELECT round(c,a) FROM t1 ORDER BY a}
} {0 {3.0 -12345.68 -5.0}}
do_test func-4.10 {
 catchsql {SELECT 'x' || round(c,a) || 'y' FROM t1 ORDER BY a}
} {0 {x3.0y x-12345.68y x-5.0y}}
do_test func-4.11 {
 catchsql {SELECT round() FROM t1 ORDER BY a}
} {1 {wrong number of arguments to function round()}}
do_test func-4.12 {
 execsql {SELECT coalesce(round(a,2),'nil') FROM t2}
} {1.0 nil 345.0 nil 67890.0}
do_test func-4.13 {
 execsql {SELECT round(t1,2) FROM tb1}
} {0.0 0.0 0.0 0.0 0.0}
do_test func-4.14 {
 execsql {SELECT typeof(round(5.1,1));}
} {real}
do_test func-4.15 {
 execsql {SELECT typeof(round(5.1));}
} {real}
do_test func-4.16 {
 catchsql {SELECT round(b,2.0) FROM t1 ORDER BY b}
} {0 {-2.0 1.23 2.0}}
Verify some values reported on the mailing list.
Some of these fail on MSVC builds with 64-bit
long doubles, but not on GCC builds with 80-bit
long doubles.
for {set i 1} {$i<999} {incr i} {
 set x1 [expr 40222.5 + $i]
 set x2 [expr 40223.0 + $i]
 do_test func-4.17.$i {
 execsql {SELECT round($x1);}
 } $x2
}
for {set i 1} {$i<999} {incr i} {
 set x1 [expr 40222.05 + $i]
 set x2 [expr 40222.10 + $i]
 do_test func-4.18.$i {
 execsql {SELECT round($x1,1);}
 } $x2
}
do_test func-4.20 {
 execsql {SELECT round(40223.4999999999);}
} {40223.0}
do_test func-4.21 {
 execsql {SELECT round(40224.4999999999);}
}

```

```

} {40224.0}
do_test func-4.22 {
 execsql {SELECT round(40225.4999999999);}
} {40225.0}
for {set i 1} {$i<10} {incr i} {
 do_test func-4.23.$i {
 execsql {SELECT round(40223.4999999999,$i);}
 } {40223.5}
 do_test func-4.24.$i {
 execsql {SELECT round(40224.4999999999,$i);}
 } {40224.5}
 do_test func-4.25.$i {
 execsql {SELECT round(40225.4999999999,$i);}
 } {40225.5}
}
for {set i 10} {$i<32} {incr i} {
 do_test func-4.26.$i {
 execsql {SELECT round(40223.4999999999,$i);}
 } {40223.4999999999}
 do_test func-4.27.$i {
 execsql {SELECT round(40224.4999999999,$i);}
 } {40224.4999999999}
 do_test func-4.28.$i {
 execsql {SELECT round(40225.4999999999,$i);}
 } {40225.4999999999}
}
do_test func-4.29 {
 execsql {SELECT round(1234567890.5);}
} {1234567891.0}
do_test func-4.30 {
 execsql {SELECT round(12345678901.5);}
} {12345678902.0}
do_test func-4.31 {
 execsql {SELECT round(123456789012.5);}
} {123456789013.0}
do_test func-4.32 {
 execsql {SELECT round(1234567890123.5);}
} {1234567890124.0}
do_test func-4.33 {
 execsql {SELECT round(12345678901234.5);}
} {12345678901235.0}
do_test func-4.34 {
 execsql {SELECT round(1234567890123.35,1);}
} {1234567890123.4}
do_test func-4.35 {
 execsql {SELECT round(1234567890123.445,2);}
} {1234567890123.45}
do_test func-4.36 {

```

```
 execsql {SELECT round(9999999999999999.5);}
} {99999999999999995.0}
do_test func-4.37 {
 execsql {SELECT round(9999999999999999.55,1);}
} {9999999999999999.6}
do_test func-4.38 {
 execsql {SELECT round(9999999999999999.556,2);}
} {9999999999999999.56}
}

Test the upper() and lower() functions
#
do_test func-5.1 {
 execsql {SELECT upper(t1) FROM tbl1}
} {THIS PROGRAM IS FREE SOFTWARE}
do_test func-5.2 {
 execsql {SELECT lower(upper(t1)) FROM tbl1}
} {this program is free software}
do_test func-5.3 {
 execsql {SELECT upper(a), lower(a) FROM t2}
} {1 1 {} {} 345 345 {} {} 67890 67890}
ifcapable !icu {
 do_test func-5.4 {
 catchsql {SELECT upper(a,5) FROM t2}
 } {1 {wrong number of arguments to function upper()}}
 }
do_test func-5.5 {
 catchsql {SELECT upper(*) FROM t2}
} {1 {wrong number of arguments to function upper()}}

Test the coalesce() and nullif() functions
#
do_test func-6.1 {
 execsql {SELECT coalesce(a,'xyz') FROM t2}
} {1 xyz 345 xyz 67890}
do_test func-6.2 {
 execsql {SELECT coalesce(upper(a),'nil') FROM t2}
} {1 nil 345 nil 67890}
do_test func-6.3 {
 execsql {SELECT coalesce(nullif(1,1),'nil')}
} {nil}
do_test func-6.4 {
 execsql {SELECT coalesce(nullif(1,2),'nil')}
} {1}
do_test func-6.5 {
 execsql {SELECT coalesce(nullif(1,NULL),'nil')}
} {1}
```



```

Test the last_insert_rowid() function
#
do_test func-7.1 {
 execsql {SELECT last_insert_rowid()}
} [db last_insert_rowid]

Tests for aggregate functions and how they handle NULLs.
#
ifcapable floatingpoint {
do_test func-8.1 {
 ifcapable explain {
 execsql {EXPLAIN SELECT sum(a) FROM t2;}
 }
 execsql {
 SELECT sum(a), count(a), round(avg(a),2), min(a), max(a), count(*) FROM t2;
 }
} {68236 3 22745.33 1 67890 5}
}
ifcapable !floatingpoint {
do_test func-8.1 {
 ifcapable explain {
 execsql {EXPLAIN SELECT sum(a) FROM t2;}
 }
 execsql {
 SELECT sum(a), count(a), avg(a), min(a), max(a), count(*) FROM t2;
 }
} {68236 3 22745.0 1 67890 5}
}
do_test func-8.2 {
 execsql {
 SELECT max('z+'||a||'abcdefghijklmnopqrstuvwxyzaBCDEFGHIJKLMNOP') FROM t2;
 }
} {z+67890abcdefghijklmnopqrstuvwxyzaBCDEFGHIJKLMNOP}

ifcapable tempdb {
do_test func-8.3 {
 execsql {
 CREATE TEMP TABLE t3 AS SELECT a FROM t2 ORDER BY a DESC;
 SELECT min('z+'||a||'abcdefghijklmnopqrstuvwxyzaBCDEFGHIJKLMNOP') FROM t3;
 }
} {z+1abcdefghijklmnopqrstuvwxyzaBCDEFGHIJKLMNOP}
} else {
do_test func-8.3 {
 execsql {
 CREATE TABLE t3 AS SELECT a FROM t2 ORDER BY a DESC;
 SELECT min('z+'||a||'abcdefghijklmnopqrstuvwxyzaBCDEFGHIJKLMNOP') FROM t3;
 }
}
}

```

```

} {z+1abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ}
}
do_test func-8.4 {
execsql {
 SELECT max('z+'||a||'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ') FROM t3;
}
} {z+67890abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ}
ifcapable compound {
do_test func-8.5 {
execsql {
 SELECT sum(x) FROM (SELECT '9223372036' || '854775807' AS x
 UNION ALL SELECT -9223372036854775807)
}
} {0}
do_test func-8.6 {
execsql {
 SELECT typeof(sum(x)) FROM (SELECT '9223372036' || '854775807' AS x
 UNION ALL SELECT -9223372036854775807)
}
} {integer}
do_test func-8.7 {
execsql {
 SELECT typeof(sum(x)) FROM (SELECT '9223372036' || '854775808' AS x
 UNION ALL SELECT -9223372036854775807)
}
} {real}
ifcapable floatingpoint {
do_test func-8.8 {
execsql {
 SELECT sum(x)>0.0 FROM (SELECT '9223372036' || '854775808' AS x
 UNION ALL SELECT -9223372036850000000)
}
} {1}
}
ifcapable !floatingpoint {
do_test func-8.8 {
execsql {
 SELECT sum(x)>0 FROM (SELECT '9223372036' || '854775808' AS x
 UNION ALL SELECT -9223372036850000000)
}
} {1}
}
}

How do you test the random() function in a meaningful, deterministic way?
#
do_test func-9.1 {
execsql {

```

```

 SELECT random() is not null;
 }
} {1}
do_test func-9.2 {
 execsql {
 SELECT typeof(random());
 }
} {integer}
do_test func-9.3 {
 execsql {
 SELECT randomblob(32) is not null;
 }
} {1}
do_test func-9.4 {
 execsql {
 SELECT typeof(randomblob(32));
 }
} {blob}
do_test func-9.5 {
 execsql {
 SELECT length(randomblob(32)), length(randomblob(-5)),
 length(randomblob(2000))
 }
} {32 1 2000}

The "hex()" function was added in order to be able to render blobs
generated by randomblob(). So this seems like a good place to test
hex().
#
ifcapable bloblit {
 do_test func-9.10 {
 execsql {SELECT hex(x'00112233445566778899aAbBcCdDeEfF')}
 } {00112233445566778899AABBCCDDEEFF}
}
set encoding [db one {PRAGMA encoding}]
if {$encoding=="UTF-16le"} {
 do_test func-9.11-utf16le {
 execsql {SELECT hex(replace('abcdefg','ef','12'))}
 } {6100620063006400310032006700}
 do_test func-9.12-utf16le {
 execsql {SELECT hex(replace('abcdefg','','12'))}
 } {6100620063006400650066006700}
 do_test func-9.13-utf16le {
 execsql {SELECT hex(replace('abcdefg','a','aaa'))}
 } {610061006100610061006100620063006400650066006700}
} elseif {$encoding=="UTF-8"} {
 do_test func-9.11-utf8 {
 execsql {SELECT hex(replace('abcdefg','ef','12'))}

```

```

} {61626364313267}
do_test func-9.12-utf8 {
 execsql {SELECT hex(replace('abcdefg','','12'))}
} {61626364656667}
do_test func-9.13-utf8 {
 execsql {SELECT hex(replace('abcdefg','a','aaa'))}
} {616161616161626364656667}
}

Use the "sqlite_register_test_function" TCL command which is part of
the text fixture in order to verify correct operation of some of
the user-defined SQL function APIs that are not used by the built-in
functions.
#
set ::DB [sqlite3_connection_pointer db]
sqlite_register_test_function $::DB testfunc
do_test func-10.1 {
 catchsql {
 SELECT testfunc(NULL,NULL);
 }
} {1 {first argument should be one of: int int64 string double null value}}
do_test func-10.2 {
 execsql {
 SELECT testfunc(
 'string', 'abcdefghijklmnopqrstuvwxyzaBCDEFGHIJKLMNOPQRSTUVWXYZ',
 'int', 1234
);
 }
} {1234}
do_test func-10.3 {
 execsql {
 SELECT testfunc(
 'string', 'abcdefghijklmnopqrstuvwxyzaBCDEFGHIJKLMNOPQRSTUVWXYZ',
 'string', NULL
);
 }
} {{}}

ifcapable floatingpoint {
do_test func-10.4 {
 execsql {
 SELECT testfunc(
 'string', 'abcdefghijklmnopqrstuvwxyzaBCDEFGHIJKLMNOPQRSTUVWXYZ',
 'double', 1.234
);
 }
} {1.234}
do_test func-10.5 {

```

```

execsql {
 SELECT testfunc(
 'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
 'int', 1234,
 'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
 'string', NULL,
 'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
 'double', 1.234,
 'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
 'int', 1234,
 'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
 'string', NULL,
 'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
 'double', 1.234
);
}
} {1.234}
}

```

# Test the built-in sqlite\_version(\*) SQL function.

```

#
do_test func-11.1 {
 execsql {
 SELECT sqlite_version(*)
 }
} [sqlite3 -version]

```

# Test that destructors passed to sqlite3 by calls to sqlite3\_result\_text()

# etc. are called. These tests use two special user-defined functions

# (implemented in func.c) only available in test builds.

#

# Function test\_destructor() takes one argument and returns a copy of the

# text form of that argument. A destructor is associated with the return

# value. Function test\_destructor\_count() returns the number of outstanding

# destructor calls for values returned by test\_destructor().

#

```

if {[db eval {PRAGMA encoding}]=="UTF-8"} {

```

```

 do_test func-12.1-utf8 {

```

```

 execsql {

```

```

 SELECT test_destructor('hello world'), test_destructor_count();

```

```

 }

```

```

 } {hello world} 1}

```

```

} else {

```

```

 ifcapable {utf16} {

```

```

 do_test func-12.1-utf16 {

```

```

 execsql {

```

```

 SELECT test_destructor16('hello world'), test_destructor_count();

```

```

 }

```

```

 } {{hello world} 1}
 }
}
do_test func-12.2 {
 execsql {
 SELECT test_destructor_count();
 }
} {0}
do_test func-12.3 {
 execsql {
 SELECT test_destructor('hello')||' world'
 }
} {{hello world}}
do_test func-12.4 {
 execsql {
 SELECT test_destructor_count();
 }
} {0}
do_test func-12.5 {
 execsql {
 CREATE TABLE t4(x);
 INSERT INTO t4 VALUES(test_destructor('hello'));
 INSERT INTO t4 VALUES(test_destructor('world'));
 SELECT min(test_destructor(x)), max(test_destructor(x)) FROM t4;
 }
} {hello world}
do_test func-12.6 {
 execsql {
 SELECT test_destructor_count();
 }
} {0}
do_test func-12.7 {
 execsql {
 DROP TABLE t4;
 }
} {}

```

# Test that the auxdata API for scalar functions works. This test uses  
# a special user-defined function only available in test builds,  
# test\_auxdata(). Function test\_auxdata() takes any number of arguments.

```

do_test func-13.1 {
 execsql {
 SELECT test_auxdata('hello world');
 }
} {0}

```

```

do_test func-13.2 {

```

```

execsql {
 CREATE TABLE t4(a, b);
 INSERT INTO t4 VALUES('abc', 'def');
 INSERT INTO t4 VALUES('ghi', 'jkl');
}
} {}
do_test func-13.3 {
 execsql {
 SELECT test_auxdata('hello world') FROM t4;
 }
} {0 1}
do_test func-13.4 {
 execsql {
 SELECT test_auxdata('hello world', 123) FROM t4;
 }
} {{0 0} {1 1}}
do_test func-13.5 {
 execsql {
 SELECT test_auxdata('hello world', a) FROM t4;
 }
} {{0 0} {1 0}}
do_test func-13.6 {
 execsql {
 SELECT test_auxdata('hello||'world', a) FROM t4;
 }
} {{0 0} {1 0}}

Test that auxiliary data is preserved between calls for SQL variables.
do_test func-13.7 {
 set DB [sqlite3_connection_pointer db]
 set sql "SELECT test_auxdata(?, a) FROM t4;"
 set STMT [sqlite3_prepare $DB $sql -1 TAIL]
 sqlite3_bind_text $STMT 1 hello\000 -1
 set res [list]
 while { "SQLITE_ROW"==[sqlite3_step $STMT] } {
 lappend res [sqlite3_column_text $STMT 0]
 }
 lappend res [sqlite3_finalize $STMT]
} {{0 0} {1 0} SQLITE_OK}

Make sure that a function with a very long name is rejected
do_test func-14.1 {
 catch {
 db function [string repeat X 254] {return "hello"}
 }
} {0}
do_test func-14.2 {
 catch {

```

```

 db function [string repeat X 256] {return "hello"}
 }
} {1}

do_test func-15.1 {
 catchsql {select test_error(NULL)}
} {1 {}}
do_test func-15.2 {
 catchsql {select test_error('this is the error message')}
} {1 {this is the error message}}
do_test func-15.3 {
 catchsql {select test_error('this is the error message',12)}
} {1 {this is the error message}}
do_test func-15.4 {
 db errorcode
} {12}

Test the quote function for BLOB and NULL values.
do_test func-16.1 {
 execsql {
 CREATE TABLE tbl2(a, b);
 }
 set STMT [sqlite3_prepare $::DB "INSERT INTO tbl2 VALUES(?, ?)" -1 TAIL]
 sqlite3_bind_blob $::STMT 1 abc 3
 sqlite3_step $::STMT
 sqlite3_finalize $::STMT
 execsql {
 SELECT quote(a), quote(b) FROM tbl2;
 }
} {X'616263' NULL}

Correctly handle function error messages that include %. Ticket #1354
#
do_test func-17.1 {
 proc testfunc1 args {error "Error %d with %s percents %p"}
 db function testfunc1 ::testfunc1
 catchsql {
 SELECT testfunc1(1,2,3);
 }
} {1 {Error %d with %s percents %p}}

The SUM function should return integer results when all inputs are integer.
#
do_test func-18.1 {
 execsql {
 CREATE TABLE t5(x);
 INSERT INTO t5 VALUES(1);
 INSERT INTO t5 VALUES(-99);
 }
}

```



```

INSERT INTO t5 VALUES(10000);
SELECT sum(x) FROM t5;
}
} {9902}
ifcapable floatingpoint {
do_test func-18.2 {
execsql {
INSERT INTO t5 VALUES(0.0);
SELECT sum(x) FROM t5;
}
} {9902.0}
}

The sum of nothing is NULL. But the sum of all NULLs is NULL.
#
The TOTAL of nothing is 0.0.
#
do_test func-18.3 {
execsql {
DELETE FROM t5;
SELECT sum(x), total(x) FROM t5;
}
} {{} 0.0}
do_test func-18.4 {
execsql {
INSERT INTO t5 VALUES(NULL);
SELECT sum(x), total(x) FROM t5
}
} {{} 0.0}
do_test func-18.5 {
execsql {
INSERT INTO t5 VALUES(NULL);
SELECT sum(x), total(x) FROM t5
}
} {{} 0.0}
do_test func-18.6 {
execsql {
INSERT INTO t5 VALUES(123);
SELECT sum(x), total(x) FROM t5
}
} {123 123.0}

Ticket #1664, #1669, #1670, #1674: An integer overflow on SUM causes
an error. The non-standard TOTAL() function continues to give a helpful
result.
#
do_test func-18.10 {
execsql {

```

```

CREATE TABLE t6(x INTEGER);
INSERT INTO t6 VALUES(1);
INSERT INTO t6 VALUES(1<<62);
SELECT sum(x) - ((1<<62)+1) from t6;
}
} 0
do_test func-18.11 {
execsql {
 SELECT typeof(sum(x)) FROM t6
}
} integer
ifcapable floatingpoint {
do_test func-18.12 {
catchsql {
 INSERT INTO t6 VALUES(1<<62);
 SELECT sum(x) - ((1<<62)*2.0+1) from t6;
}
} {1 {integer overflow}}
do_test func-18.13 {
execsql {
 SELECT total(x) - ((1<<62)*2.0+1) FROM t6
}
} 0.0
}
ifcapable !floatingpoint {
do_test func-18.12 {
catchsql {
 INSERT INTO t6 VALUES(1<<62);
 SELECT sum(x) - ((1<<62)*2+1) from t6;
}
} {1 {integer overflow}}
do_test func-18.13 {
execsql {
 SELECT total(x) - ((1<<62)*2+1) FROM t6
}
} 0.0
}
if {[working_64bit_int]} {
do_test func-18.14 {
execsql {
 SELECT sum(-9223372036854775805);
}
} -9223372036854775805
}
ifcapable compound&&subquery {

do_test func-18.15 {
catchsql {

```

```

SELECT sum(x) FROM
 (SELECT 9223372036854775807 AS x UNION ALL
 SELECT 10 AS x);
}
} {1 {integer overflow}}
if {[working_64bit_int]} {
do_test func-18.16 {
 catchsql {
 SELECT sum(x) FROM
 (SELECT 9223372036854775807 AS x UNION ALL
 SELECT -10 AS x);
 }
} {0 9223372036854775797}
do_test func-18.17 {
 catchsql {
 SELECT sum(x) FROM
 (SELECT -9223372036854775807 AS x UNION ALL
 SELECT 10 AS x);
 }
} {0 -9223372036854775797}
}
do_test func-18.18 {
 catchsql {
 SELECT sum(x) FROM
 (SELECT -9223372036854775807 AS x UNION ALL
 SELECT -10 AS x);
 }
} {1 {integer overflow}}
do_test func-18.19 {
 catchsql {
 SELECT sum(x) FROM (SELECT 9 AS x UNION ALL SELECT -10 AS x);
 }
} {0 -1}
do_test func-18.20 {
 catchsql {
 SELECT sum(x) FROM (SELECT -9 AS x UNION ALL SELECT 10 AS x);
 }
} {0 1}
do_test func-18.21 {
 catchsql {
 SELECT sum(x) FROM (SELECT -10 AS x UNION ALL SELECT 9 AS x);
 }
} {0 -1}
do_test func-18.22 {
 catchsql {
 SELECT sum(x) FROM (SELECT 10 AS x UNION ALL SELECT -9 AS x);
 }
} {0 1}

```

```

} ;# ifcapable compound&&subquery

Integer overflow on abs()
#
if {[working_64bit_int]} {
do_test func-18.31 {
catchsql {
SELECT abs(-9223372036854775807);
}
} {0 9223372036854775807}
}
do_test func-18.32 {
catchsql {
SELECT abs(-9223372036854775807-1);
}
} {1 {integer overflow}}

The MATCH function exists but is only a stub and always throws an error.
#
do_test func-19.1 {
execsql {
SELECT match(a,b) FROM t1 WHERE 0;
}
} {}
do_test func-19.2 {
catchsql {
SELECT 'abc' MATCH 'xyz';
}
} {1 {unable to use function MATCH in the requested context}}
do_test func-19.3 {
catchsql {
SELECT 'abc' NOT MATCH 'xyz';
}
} {1 {unable to use function MATCH in the requested context}}
do_test func-19.4 {
catchsql {
SELECT match(1,2,3);
}
} {1 {wrong number of arguments to function match()}}

Soundex tests.
#
if {![catch {db eval {SELECT soundex('hello')}}]} {
set i 0
foreach {name sdx} {
euler E460
EULER E460
}
}

```

```

Euler E460
ellery E460
gauss G200
ghosh G200
hilbert H416
Heilbronn H416
knuth K530
kant K530
Lloyd L300
LADD L300
Lukasiewicz L222
Lissajous L222
A A000
12345 ?000
} {
incr i
do_test func-20.$i {
 execsql {SELECT soundex($name)}
} $sdx
}
}

Tests of the REPLACE function.
#
do_test func-21.1 {
catchsql {
 SELECT replace(1,2);
}
} {1 {wrong number of arguments to function replace()}}
do_test func-21.2 {
catchsql {
 SELECT replace(1,2,3,4);
}
} {1 {wrong number of arguments to function replace()}}
do_test func-21.3 {
execsql {
 SELECT typeof(replace("This is the main test string", NULL, "ALT"));
}
} {null}
do_test func-21.4 {
execsql {
 SELECT typeof(replace(NULL, "main", "ALT"));
}
} {null}
do_test func-21.5 {
execsql {
 SELECT typeof(replace("This is the main test string", "main", NULL));
}
}

```

```

} {null}
do_test func-21.6 {
execsql {
 SELECT replace("This is the main test string", "main", "ALT");
}
} {{This is the ALT test string}}
do_test func-21.7 {
execsql {
 SELECT replace("This is the main test string", "main", "larger-main");
}
} {{This is the larger-main test string}}
do_test func-21.8 {
execsql {
 SELECT replace("aaaaaa", "a", "0123456789");
}
} {0123456789012345678901234567890123456789012345678901234567890123456789}

```

```

ifcapable tclvar {
do_test func-21.9 {
 # Attempt to exploit a buffer-overflow that at one time existed
 # in the REPLACE function.
 set ::str "[string repeat A 29998]CC[string repeat A 35537]"
 set ::rep [string repeat B 65536]
 execsql {
 SELECT LENGTH(REPLACE($::str, 'C', $::rep));
 }
} [expr 29998 + 2*65536 + 35537]
}

```

```

Tests for the TRIM, LTRIM and RTRIM functions.
#
do_test func-22.1 {
catchsql {SELECT trim(1,2,3)}
} {1 {wrong number of arguments to function trim()}}
do_test func-22.2 {
catchsql {SELECT ltrim(1,2,3)}
} {1 {wrong number of arguments to function ltrim()}}
do_test func-22.3 {
catchsql {SELECT rtrim(1,2,3)}
} {1 {wrong number of arguments to function rtrim()}}
do_test func-22.4 {
execsql {SELECT trim(' hi ');}
} {hi}
do_test func-22.5 {
execsql {SELECT ltrim(' hi ');}
} {{hi }}
do_test func-22.6 {
execsql {SELECT rtrim(' hi ');}
}

```

```

} {{ hi }}
do_test func-22.7 {
 execsql {SELECT trim(' hi ',xyz);}
} {{ hi }}
do_test func-22.8 {
 execsql {SELECT ltrim(' hi ',xyz);}
} {{ hi }}
do_test func-22.9 {
 execsql {SELECT rtrim(' hi ',xyz);}
} {{ hi }}
do_test func-22.10 {
 execsql {SELECT trim('yxzy hi zzy',xyz);}
} {{ hi }}
do_test func-22.11 {
 execsql {SELECT ltrim('yxzy hi zzy',xyz);}
} {{ hi zzy }}
do_test func-22.12 {
 execsql {SELECT rtrim('yxzy hi zzy',xyz);}
} {{yxzy hi }}
do_test func-22.13 {
 execsql {SELECT trim(' hi ');}
} {{ hi }}
if {[db one {PRAGMA encoding}]=="UTF-8"} {
 do_test func-22.14 {
 execsql {SELECT hex(trim(x'c280e1bfbff48fbfbf6869',x'6162e1bfbfc280'))}
 } {F48FBFBF6869}
 do_test func-22.15 {
 execsql {SELECT hex(trim(x'6869c280e1bfbff48fbfbf61',
 x'6162e1bfbfc280f48fbfbf'))}
 } {6869}
 do_test func-22.16 {
 execsql {SELECT hex(trim(x'ceb1ceb2ceb3',x'ceb1'));}
 } {CEB2CEB3}
 }
do_test func-22.20 {
 execsql {SELECT typeof(trim(NULL));}
} {null}
do_test func-22.21 {
 execsql {SELECT typeof(trim(NULL,'xyz'));}
} {null}
do_test func-22.22 {
 execsql {SELECT typeof(trim('hello',NULL));}
} {null}

This is to test the deprecated sqlite3_aggregate_count() API.
#
ifcapable deprecated {
 do_test func-23.1 {

```

```

sqlite3_create_aggregate db
execsql {
 SELECT legacy_count() FROM t6;
}
} {3}
}

The group_concat() function.
#
do_test func-24.1 {
 execsql {
 SELECT group_concat(t1) FROM tbl1
 }
} {this,program,is,free,software}
do_test func-24.2 {
 execsql {
 SELECT group_concat(t1,') FROM tbl1
 }
} {{this program is free software}}
do_test func-24.3 {
 execsql {
 SELECT group_concat(t1,' ' || rowid || ') FROM tbl1
 }
} {{this 2 program 3 is 4 free 5 software}}
do_test func-24.4 {
 execsql {
 SELECT group_concat(NULL,t1) FROM tbl1
 }
} {{{}}
do_test func-24.5 {
 execsql {
 SELECT group_concat(t1,NULL) FROM tbl1
 }
} {thisprogramisfreesoftware}
do_test func-24.6 {
 execsql {
 SELECT 'BEGIN-'||group_concat(t1) FROM tbl1
 }
} {BEGIN-this,program,is,free,software}

Ticket #3179: Make sure aggregate functions can take many arguments.
None of the built-in aggregates do this, so use the md5sum() from the
test extensions.
#
unset -nocomplain midargs
set midargs {}
unset -nocomplain midres
set midres {}

```



```

unset -nocomplain result
for {set i 1} {$i<[sqlite3_limit db SQLITE_LIMIT_FUNCTION_ARG -1]} {incr i} {
 append midargs ,/$i'
 append midres /$i
 set result [md5 \
 "this${midres}program${midres}is${midres}free${midres}software${midres}"]
 set sql "SELECT md5sum(t1$midargs) FROM tbl1"
 do_test func-24.7.$i {
 db eval $::sql
 } $result
}

Ticket #3806. If the initial string in a group_concat is an empty
string, the separator that follows should still be present.
#
do_test func-24.8 {
 execsql {
 SELECT group_concat(CASE t1 WHEN 'this' THEN " " ELSE t1 END) FROM tbl1
 }
} {,program,is,free,software}
do_test func-24.9 {
 execsql {
 SELECT group_concat(CASE WHEN t1!='software' THEN " " ELSE t1 END) FROM tbl1
 }
} {,,,,software}

Ticket #3923. Initial empty strings have a separator. But initial
NULLs do not.
#
do_test func-24.10 {
 execsql {
 SELECT group_concat(CASE t1 WHEN 'this' THEN null ELSE t1 END) FROM tbl1
 }
} {program,is,free,software}
do_test func-24.11 {
 execsql {
 SELECT group_concat(CASE WHEN t1!='software' THEN null ELSE t1 END) FROM tbl1
 }
} {software}
do_test func-24.12 {
 execsql {
 SELECT group_concat(CASE t1 WHEN 'this' THEN "
 WHEN 'program' THEN null ELSE t1 END) FROM tbl1
 }
} {,is,free,software}

Use the test_isolation function to make sure that type conversions

```

```

on function arguments do not effect subsequent arguments.
#
do_test func-25.1 {
 execsql {SELECT test_isolation(t1,t1) FROM tbl1}
} {this program is free software}

Try to misuse the sqlite3_create_function() interface. Verify that
errors are returned.
#
do_test func-26.1 {
 abuse_create_function db
} {}

The previous test (func-26.1) registered a function with a very long
function name that takes many arguments and always returns NULL. Verify
that this function works correctly.
#
do_test func-26.2 {
 set a {}
 for {set i 1} {$i<=$::SQLITE_MAX_FUNCTION_ARG} {incr i} {
 lappend a $i
 }
 db eval "
 SELECT
 nullx_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_12345678
 9_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_1
 23456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_1
 "
 } {}
} {}

do_test func-26.3 {
 set a {}
 for {set i 1} {$i<=$::SQLITE_MAX_FUNCTION_ARG+1} {incr i} {
 lappend a $i
 }
 catchesql "
 SELECT
 nullx_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_12345678
 9_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_1
 23456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_1
 "
 } {1 {too many arguments on function
 nullx_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_12345678
 9_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_1
 23456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_1
 }
} {}

do_test func-26.4 {
 set a {}
 for {set i 1} {$i<=$::SQLITE_MAX_FUNCTION_ARG-1} {incr i} {
 lappend a $i
 }
} {}

```



```

db eval {
 CREATE TABLE t28(x, y DEFAULT(nosuchfunc(1)));
}
catchsql {
 INSERT INTO t28(x) VALUES(1);
}
} {1 {unknown function: nosuchfunc()}}

Verify that the length() and typeof() functions do not actually load
the content of their argument.
#
do_test func-29.1 {
 db eval {
 CREATE TABLE t29(id INTEGER PRIMARY KEY, x, y);
 INSERT INTO t29 VALUES(1, 2, 3), (2, NULL, 4), (3, 4.5, 5);
 INSERT INTO t29 VALUES(4, randomblob(1000000), 6);
 INSERT INTO t29 VALUES(5, "hello", 7);
 }
 db close
 sqlite3 db test.db
 sqlite3_db_status db CACHE_MISS 1
 db eval {SELECT typeof(x), length(x), typeof(y) FROM t29 ORDER BY id}
} {integer 1 integer null { } integer real 3 integer blob 1000000 integer text 5 integer}
do_test func-29.2 {
 set x [lindex [sqlite3_db_status db CACHE_MISS 1] 1]
 if {$x<5} {set x 1}
 set x
} {1}
do_test func-29.3 {
 db close
 sqlite3 db test.db
 sqlite3_db_status db CACHE_MISS 1
 db eval {SELECT typeof(+x) FROM t29 ORDER BY id}
} {integer null real blob text}
if {[permutation] != "mmap"} {
 do_test func-29.4 {
 set x [lindex [sqlite3_db_status db CACHE_MISS 1] 1]
 if {$x>100} {set x many}
 set x
 } {many}
}
do_test func-29.5 {
 db close
 sqlite3 db test.db
 sqlite3_db_status db CACHE_MISS 1
 db eval {SELECT sum(length(x)) FROM t29}
} {1000009}
do_test func-29.6 {

```

```

set x [lindex [sqlite3_db_status db CACHE_MISS 1] 1]
if {$x<5} {set x 1}
set x
} {1}

do_execsql_test func-30.1 {SELECT unicode('$');} 36
do_execsql_test func-30.2 [subst {SELECT unicode('\u00A2');}] 162
do_execsql_test func-30.3 [subst {SELECT unicode('\u20AC');}] 8364
do_execsql_test func-30.4 {SELECT char(36,162,8364);} [subst {\u00A2\u20AC}]

for {set i 1} {$i<0xd800} {incr i 13} {
do_execsql_test func-30.5.$i {SELECT unicode(char($i))} $i
}
for {set i 57344} {$i<=0xffff} {incr i 17} {
if {$i==0xfeff} continue
do_execsql_test func-30.5.$i {SELECT unicode(char($i))} $i
}
for {set i 65536} {$i<=0x10ffff} {incr i 139} {
do_execsql_test func-30.5.$i {SELECT unicode(char($i))} $i
}

finish_test

```

Found in path(s):

```
* /opt/cola/permits/1146568937_1616563472.04/0/sqlite-3.7.17-8.el7_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/test/func.test
```

No license file was found, but licenses were detected in source scan.

```

2006 September 14
#
The author disclaims copyright to this source code. In place of
a legal notice, here is a blessing:
#
May you do good and not evil.
May you find forgiveness for yourself and forgive others.
May you share freely, never taking more than you give.
#
#*****
This file implements regression tests for SQLite library. The
focus of this script is testing the FTS3 module.
#
$Id: fts3ac.test,v 1.1 2007/08/20 17:38:42 shess Exp $
#

```

```

set testdir [file dirname $argv0]
source $testdir/tester.tcl

```

# If SQLITE\_ENABLE\_FTS3 is defined, omit this file.

```
ifcapable !fts3 {
 finish_test
 return
}
```

```
Create a table of sample email data. The data comes from email
archives of Enron executives that was published as part of the
litigation against that company.
```

```
#
do_test fts3ac-1.1 {
 db eval {
 CREATE VIRTUAL TABLE email USING fts3([from],[to],subject,body);
 BEGIN TRANSACTION;
 INSERT INTO email([from],[to],subject,body) VALUES('savita.puthigai@enron.com', 'traders.eol@enron.com,
traders.eol@enron.com', 'EnronOnline- Change to Autohedge', 'Effective Monday, October 22, 2001 the following
changes will be made to the Autohedge functionality on EnronOnline.
```

The volume on the hedge will now respect the minimum volume and volume increment settings on the parent product. See rules below:

- ? If the transaction volume on the child is less than half of the parent's minimum volume no hedge will occur.
- ? If the transaction volume on the child is more than half the parent's minimum volume but less than half the volume increment on the parent, the hedge will volume will be the parent's minimum volume.
- ? For all other volumes, the same rounding rules will apply based on the volume increment on the parent product.

Please see example below:

Parent's Settings:

Minimum: 5000

Increment: 1000

Volume on Autohedge transaction    Volume Hedged

1    - 2499    0

2500 - 5499    5000

5500 - 6499    6000');

```
INSERT INTO email([from],[to],subject,body) VALUES('dana.davis@enron.com', 'laynie.east@enron.com,
lisa.king@enron.com, lisa.best@enron.com,', 'Leaving Early', 'FYI:
```

```
If it's ok with everyone's needs, I would like to leave @4pm. If you think
you will need my assistance past the 4 o'clock hour just let me know; I'll
be more than willing to stay.');
```

```
INSERT INTO email([from],[to],subject,body) VALUES('enron_update@concuere workplace.com',
'louise.kitchen@enron.com', '<<Concur Expense Document>> - CC02.06.02', 'The following expense report is ready
for approval:
```

Employee Name: Christopher F. Calger

Status last changed by: Mollie E. Gustafson Ms

Expense Report Name: CC02.06.02

Report Total: \$3,972.93

Amount Due Employee: \$3,972.93

To approve this expense report, click on the following link for Concur Expense.

<http://expense.ms.enron.com>);

INSERT INTO email([from],[to],subject,body) VALUES('jeff.duff@enron.com', 'julie.johnson@enron.com', 'Work request', 'Julie,

Could you print off the current work request report by 1:30 today?

Gentlemen,

I'd like to review this today at 1:30 in our office. Also, could you provide me with your activity reports so I can have Julie enter this information.

JD');

INSERT INTO email([from],[to],subject,body) VALUES('v.weldon@enron.com', 'gary.l.carrier@usa.dupont.com, scott.joyce@bankofamerica.com', 'Enron News', 'This could turn into something big....

<http://biz.yahoo.com/rf/010129/n29305829.html>);

INSERT INTO email([from],[to],subject,body) VALUES('mark.haedicke@enron.com', 'paul.simons@enron.com', 'Re: First Polish Deal!', 'Congrats! Things seem to be building rapidly now on the Continent. Mark');

INSERT INTO email([from],[to],subject,body) VALUES('e.carter@enron.com', 't.robinson@enron.com', 'FW: Producers Newsletter 9-24-2001', '

The producer lumber pricing sheet.

-----Original Message-----

From: Johnson, Jay

Sent: Tuesday, October 16, 2001 3:42 PM

To: Carter, Karen E.

Subject: FW: Producers Newsletter 9-24-2001

-----Original Message-----

From: Daigre, Sergai

Sent: Friday, September 21, 2001 8:33 PM

Subject: Producers Newsletter 9-24-2001

);

INSERT INTO email([from],[to],subject,body) VALUES('david.delainey@enron.com', 'kenneth.lay@enron.com', 'Greater Houston Partnership', 'Ken, in response to the letter from Mr Miguel San Juan, my suggestion would

be to offer up the Falcon for their use; however, given the tight time frame and your recent visit with Mr. Fox that it would be difficult for either you or me to participate.

I spoke to Max and he agrees with this approach.

I hope this meets with your approval.

Regards

Delainey');

INSERT INTO email([from],[to],subject,body) VALUES('lachandra.fenceroy@enron.com',  
'lindy.donoho@enron.com', 'FW: Bus Applications Meeting Follow Up', 'Lindy,

Here is the original memo we discussed earlier. Please provide any information that you may have.

Your cooperation is greatly appreciated.

Thanks,

lachandra.fenceroy@enron.com  
713.853.3884  
877.498.3401 Pager

-----Original Message-----

From: Bisbee, Joanne  
Sent: Wednesday, September 26, 2001 7:50 AM  
To: Fenceroy, LaChandra  
Subject: FW: Bus Applications Meeting Follow Up

Lachandra, Please get with David Duff today and see what this is about. Who are our TW accounting business users?

-----Original Message-----

From: Koh, Wendy  
Sent: Tuesday, September 25, 2001 2:41 PM  
To: Bisbee, Joanne  
Subject: Bus Applications Meeting Follow Up

Lisa brought up a TW change effective Nov 1. It involves eliminating a turnback surcharge. I have no other information, but you might check with the business folks for any system changes required.

Wendy');

INSERT INTO email([from],[to],subject,body) VALUES('danny.mccarty@enron.com', 'fran.fagan@enron.com',  
'RE: worksheets', 'Fran,

If Julie's merit needs to be lump sum, just move it over to that column. Also, send me Eric Gadd's sheets as well.

Thanks.

Dan

-----Original Message-----

From: Fagan, Fran  
Sent: Thursday, December 20, 2001 11:10 AM  
To: McCarty, Danny  
Subject: worksheets

As discussed, attached are your sheets for bonus and merit.



Thanks,

Fran Fagan  
Sr. HR Rep  
713.853.5219

<< File: McCartyMerit.xls >> << File: mccartyBonusCommercial\_UnP.xls >>

);  
INSERT INTO email([from],[to],subject,body) VALUES('bert.meyers@enron.com', 'shift.dl-portland@enron.com',  
'OCTOBER SCHEDULE', 'TEAM,

PLEASE SEND ME ANY REQUESTS THAT YOU HAVE FOR OCTOBER. SO FAR I HAVE THEM FOR LEAF. I WOULD LIKE TO HAVE IT DONE BY THE 15TH OF THE MONTH. ANY QUESTIONS PLEASE GIVE ME A CALL.

BERT');  
INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com', 'john.arnold@enron.com,  
bilal.bajwa@enron.com, john.griffith@enron.com,', 'TRV Notification: (NG - PROPT P/L - 09/27/2001)', 'The  
report named: NG - PROPT P/L <[http://trv.corp.enron.com/linkFromExcel.asp?report\\_cd=11&report\\_name=NG+-+PROPT+P/L&category\\_cd=5&category\\_name=FINANCIAL&toc\\_hide=1&sTV1=5&TV1Exp=Y&current\\_efct\\_d  
ate=09/27/2001](http://trv.corp.enron.com/linkFromExcel.asp?report_cd=11&report_name=NG+-+PROPT+P/L&category_cd=5&category_name=FINANCIAL&toc_hide=1&sTV1=5&TV1Exp=Y&current_efct_d ate=09/27/2001)>, published as of 09/27/2001 is now available for viewing on the website.');

INSERT INTO email([from],[to],subject,body) VALUES('patrice.mims@enron.com', 'calvin.eakins@enron.com',  
'Re: Small business supply assistance', 'Hi Calvin

I spoke with Rickey (boy, is he long-winded!!). Gave him the name of our credit guy, Russell Diamond.

Thank for your help!);  
INSERT INTO email([from],[to],subject,body) VALUES('legal <hall@enron.com>', 'stephanie.panus@enron.com',  
'Termination update', 'City of Vernon and Salt River Project terminated their contracts. I will fax these notices to  
you.');

INSERT INTO email([from],[to],subject,body) VALUES('d..steffes@enron.com', 'richard.shapiro@enron.com',  
'EES / ENA Government Affairs Staffing & Outside Services', 'Rick --

Here is the information on staffing and outside services. Call if you need anything else.

Jim

);  
INSERT INTO email([from],[to],subject,body) VALUES('gelliott@industrialinfo.com',  
'pcopello@industrialinfo.com', 'ECAAR (Gavin), WSCC (Diablo Canyon), & NPCC (Seabrook)', 'Dear Power  
Outage Database Customer,  
Attached you will find an excel document. The outages contained within are forced or rescheduled outages. Your  
daily delivery will still contain these outages.  
In addition to the two excel documents, there is a dbf file that is formatted like your daily deliveries you receive

nightly. This will enable you to load the data into your regular database. Any questions please let me know. Thanks.

Greg Elliott

IIR, Inc.

713-783-5147 x 3481

outages@industrialinfo.com

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- OUTAGE.dbf

- 111201R.xls

- 111201.xls ');

INSERT INTO email([from],[to],subject,body) VALUES('enron.announcements@enron.com', 'all\_ena\_egm\_eim@enron.com', 'EWS Brown Bag', 'MARK YOUR LUNCH CALENDARS NOW !

You are invited to attend the EWS Brown Bag Lunch Series

Featuring: RAY BOWEN, COO

Topic: Enron Industrial Markets

Thursday, March 15, 2001

11:30 am - 12:30 pm

EB 5 C2

You bring your lunch, Limited Seating

We provide drinks and dessert. RSVP x 3-9610');

INSERT INTO email([from],[to],subject,body) VALUES('chris.germany@enron.com', 'ingrid.immer@williams.com', 'Re: About St Pauls', 'Sounds good to me. I bet this is next to the Warick?? Hotel.

"Immer, Ingrid" <Ingrid.Immer@Williams.com> on 12/21/2000 11:48:47 AM

To: "'chris.germany@enron.com'" <chris.germany@enron.com>

cc:

Subject: About St Pauls

<<About St Pauls.url>>

?

?http://www.stpaulshouston.org/about.html

Chris,

I like the looks of this place.? What do you think about going here Christmas eve?? They have an 11:00 a.m. service and a candlelight service at 5:00 p.m., among others.

Let me know.?? ii

- About St Pauls.url

');

INSERT INTO email([from],[to],subject,body) VALUES('nas@cpuc.ca.gov', 'skatz@sempratrad.com, kmccrea@sabl.com, thompson@wrightlaw.com,', 'Reply Brief filed July 31, 2000', ' - CPUC01-#76371-v1-Revised\_Reply\_Brief\_\_Due\_today\_7\_31\_.doc');

INSERT INTO email([from],[to],subject,body) VALUES('gascontrol@agresources.com', 'dscott4@enron.com, lcampbel@enron.com', 'Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder', 'Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder

As discussed in the Winter Operations Meeting on Sept.29,2000,

E-Gas(Emergency Gas) will not be offered this winter as a service from AGLC.

Marketers and Poolers can receive gas via Peaking and IBSS nominations(daisy chain) from other marketers up to the 6 p.m. Same Day 2 nomination cycle.

');

INSERT INTO email([from],[to],subject,body) VALUES('dutch.quigley@enron.com', 'rwoikwitz@powermerchants.com', ", '

Here is a goody for you');

INSERT INTO email([from],[to],subject,body) VALUES('ryan.o"rourke@enron.com', 'k.allen@enron.com, randy.bhatia@enron.com, frank.ermis@enron.com,', 'TRV Notification: (West VaR - 11/07/2001)', 'The report named: West VaR

<[http://trv.corp.enron.com/linkFromExcel.asp?report\\_cd=36&report\\_name=West+VaR&category\\_cd=2&category\\_name=WEST&toc\\_hide=1&sTV1=2&TV1Exp=Y&current\\_efct\\_date=11/07/2001](http://trv.corp.enron.com/linkFromExcel.asp?report_cd=36&report_name=West+VaR&category_cd=2&category_name=WEST&toc_hide=1&sTV1=2&TV1Exp=Y&current_efct_date=11/07/2001)>, published as of 11/07/2001 is now available for viewing on the website.');

INSERT INTO email([from],[to],subject,body) VALUES('mjones7@txu.com', 'cstone1@txu.com, gggreen2@txu.com, timpowell@txu.com,', 'Enron / HPL Actuals for July 10, 2000', 'Teco Tap 10.000 / Enron ; 110.000 / HPL IFERC

LS HPL LSK IC 30.000 / Enron

');

INSERT INTO email([from],[to],subject,body) VALUES('susan.pereira@enron.com', 'kkw816@aol.com', 'soccer practice', 'Kathy-

Is it safe to assume that practice is cancelled for tonight??

Susan Pereira');

INSERT INTO email([from],[to],subject,body) VALUES('mark.whitt@enron.com', 'barry.tycholiz@enron.com', 'Huber Internal Memo', 'Please look at this. I didn"t know how deep to go with the desk. Do you think this works.

');

INSERT INTO email([from],[to],subject,body) VALUES('m..forney@enron.com', 'george.phillips@enron.com', ",

'George,  
Give me a call and we will further discuss opportunities on the 13st floor.

Thanks,  
JMForney  
3-7160');

INSERT INTO email([from],[to],subject,body) VALUES('brad.mckay@enron.com', 'angusmcka@aol.com', 'Re: (no subject)', 'not yet');

INSERT INTO email([from],[to],subject,body) VALUES('adam.bayer@enron.com', 'jonathan.mckay@enron.com', 'FW: Curve Fetch File', 'Here is the curve fetch file sent to me. It has plenty of points in it. If you give me a list of which ones you need we may be able to construct a secondary worksheet to vlookup the values.

adam  
35227

-----Original Message-----

From: Royed, Jeff  
Sent: Tuesday, September 25, 2001 11:37 AM  
To: Bayer, Adam  
Subject: Curve Fetch File

Let me know if it works. It may be required to have a certain version of Oracle for it to work properly.

Jeff Royed  
Enron

Energy Operations  
Phone: 713-853-5295');

INSERT INTO email([from],[to],subject,body) VALUES('matt.smith@enron.com', 'yan.wang@enron.com', 'Report Formats', 'Yan,

The merged reports look great. I believe the only orientation changes are to "unmerge" the following six reports:

31 Keystone Receipts  
15 Questar Pipeline  
40 Rockies Production  
22 West\_2  
23 West\_3  
25 CIG\_WIC

The orientation of the individual reports should be correct. Thanks.

Mat

PS. Just a reminder to add the "\*" by the title of calculated points.');

INSERT INTO email([from],[to],subject,body) VALUES('michelle.lokay@enron.com', 'jimboman@bigfoot.com', 'Egyptian Festival', '----- Forwarded by Michelle Lokay/ET&S/Enron on 09/07/2000 10:08 AM -----')

"Karkour, Randa" <Randa.Karkour@COMPAQ.com> on 09/07/2000 09:01:04 AM  
To: "'Agheb (E-mail)" <Agheb@aol.com>, "Leila Mankarious (E-mail)" <Leila\_Mankarious@mhhs.org>, "'Marymankarious (E-mail)" <marymankarious@aol.com>, "Michelle lokay (E-mail)" <mlokay@enron.com>, "Ramy Mankarious (E-mail)" <Mankarious@aol.com>  
cc:  
  
Subject: Egyptian Festival

<<Egyptian Festival.url>>

<http://www.egyptianfestival.com/>

- Egyptian Festival.url  
');

INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com', 'sherry.dawson@enron.com', 'Urgent!!! --- New EAST books', 'This has to be done.....')

Thanks  
----- Forwarded by Errol McLaughlin/Corp/Enron on 12/20/2000 08:39 AM -----

From: William Kelly @ ECT 12/20/2000 08:31 AM

To: Kam Keiser/HOU/ECT@ECT, Darron C Giron/HOU/ECT@ECT, David Baumbach/HOU/ECT@ECT, Errol McLaughlin/Corp/Enron@ENRON  
cc: Kimat Singla/HOU/ECT@ECT, Kulvinder Fowler/NA/Enron@ENRON, Kyle R Lilly/HOU/ECT@ECT, Jeff Royed/Corp/Enron@ENRON, Alejandra Chavez/NA/Enron@ENRON, Crystal Hyde/HOU/ECT@ECT

Subject: New EAST books

We have new book names in TAGG for our intramonth portfolios and it is extremely important that any deal booked to the East is communicated quickly to someone on my team. I know it will take some time for the new names to sink in and I do not want us to miss any positions or P&L.

Thanks for your help on this.

New:

Scott Neal : East Northeast

Dick Jenkins: East Marketeast

WK

);

INSERT INTO email([from],[to],subject,body) VALUES('david.forster@enron.com', 'eol.wide@enron.com', 'Change to Stack Manager', 'Effective immediately, there is a change to the Stack Manager which will affect any Inactive Child.

An inactive Child with links to Parent products will not have their calculated prices updated until the Child product is Activated.

When the Child Product is activated, the price will be recalculated and updated BEFORE it is displayed on the web.

This means that if you are inputting a basis price on a Child product, you will not see the final, calculated price until you Activate the product, at which time the customer will also see it.

If you have any questions, please contact the Help Desk on:

Americas: 713 853 4357

Europe: + 44 (0) 20 7783 7783

Asia/Australia: +61 2 9229 2300

Dave);

INSERT INTO email([from],[to],subject,body) VALUES('vince.kaminski@enron.com', 'jhh1@email.msn.com', 'Re: Light reading - see pieces beginning on page 7', 'John,

I saw it. Very interesting.

Vince

"John H Herbert" <jhh1@email.msn.com> on 07/28/2000 08:38:08 AM

To: "Vince J Kaminski" <Vince\_J\_Kaminski@enron.com>

cc:

Subject: Light reading - see pieces beginning on page 7

Cheers and have a nice weekend,

JHHerbert

- gd000728.pdf

');

INSERT INTO email([from],[to],subject,body) VALUES('matthew.lenhart@enron.com',

'mmmarcandel@equiva.com', 'RE:', 'i will try to line up a pig for you ');

INSERT INTO email([from],[to],subject,body) VALUES('jae.black@enron.com', 'claudette.harvey@enron.com, chaun.roberts@enron.com, judy.martinez@enron.com,', 'Disaster Recovery Equipment', 'As a reminder...there are several pieces of equipment that are set up on the 30th Floor, as well as on our floor, for the Disaster Recovery Team. PLEASE DO NOT TAKE, BORROW OR USE this equipment. Should you need to use another computer system, other than yours, or make conference calls please work with your Assistant to help find or set up equipment for you to use.

Thanks for your understanding in this matter.

T.Jae Black

East Power Trading

Assistant to Kevin Presto

off. 713-853-5800

fax 713-646-8272

cell 713-539-4760');

INSERT INTO email([from],[to],subject,body) VALUES('eric.bass@enron.com', 'dale.neuner@enron.com', '5 X 24', 'Dale,

Have you heard anything more on the 5 X 24s? We would like to get this product out ASAP.

Thanks,

Eric');

INSERT INTO email([from],[to],subject,body) VALUES('messenger@smartreminders.com', 'm..tholt@enron.com',

'10% Coupon - PrintPal Printer Cartridges - 100% Guaranteed', '[IMAGE]

[IMAGE][IMAGE][IMAGE]

Dear SmartReminders Member,

[IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE]

We respect your privacy and are a Certified Participant of the BBBOnLine Privacy Program. To be removed from future offers,click here.

SmartReminders.com is a permission based service. To unsubscribe click here . ');

INSERT INTO email([from],[to],subject,body) VALUES('benjamin.rogers@enron.com', 'mark.bernstein@enron.com', ', 'The guy you are talking about left CIN under a "cloud of suspicion" sort of speak. He was the one who got into several bad deals and PPA's in California for CIN, thus he left on a bad note. Let me know if you need more detail than that, I felt this was the type of info you were looking for. Thanks!

Ben');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concuere workplace.com', 'michelle.cash@enron.com', 'Expense Report Receipts Not Received', 'Employee Name: Michelle Cash Report Name: Houston Cellular 8-11-01 Report Date: 12/13/01 Report ID: 594D37C9ED2111D5B452 Submitted On: 12/13/01

You are only allowed 2 reports with receipts outstanding. Your expense reports will not be paid until you meet this requirement.);

INSERT INTO email([from],[to],subject,body) VALUES('susan.mara@enron.com', 'ray.alvarez@enron.com, mark.palmer@enron.com, karen.denne@enron.com,', 'CAISO Emergency Motion -- to discontinue market-based rates for', 'FYI. the latest broadside against the generators.

Sue Mara

Enron Corp.

Tel: (415) 782-7802

Fax:(415) 782-7854

----- Forwarded by Susan J Mara/NA/Enron on 06/08/2001 12:24 PM -----

"Milner, Marcie" <MMilner@coral-energy.com> 06/08/2001 11:13 AM To: ""smara@enron.com"" <smara@enron.com> cc: Subject: CAISO Emergency Motion

Sue, did you see this emergency motion the CAISO filed today? Apparently



they are requesting that FERC discontinue market-based rates immediately and grant refunds plus interest on the difference between cost-based rates and market revenues received back to May 2000. They are requesting the commission act within 14 days. Have you heard anything about what they are doing?

Marcie

<http://www.caiso.com/docs/2001/06/08/200106081005526469.pdf>

);

INSERT INTO email([from],[to],subject,body) VALUES('fletcher.sturm@enron.com', 'eloy.escobar@enron.com', 'Re: General Brinks Position Meeting', 'Eloy,

Who is General Brinks?

Fletch');

INSERT INTO email([from],[to],subject,body) VALUES('nailia.dindarova@enron.com', 'richard.shapiro@enron.com', 'Documents for Mark Frevert (on EU developments and lessons from', 'Rick,

Here are the documents that Peter has prepared for Mark Frevert.

Nailia

----- Forwarded by Nailia Dindarova/LON/ECT on 25/06/2001

16:36 -----

Nailia Dindarova

25/06/2001 15:36

To: Michael Brown/Enron@EUEnronXGate

cc: Ross Sankey/Enron@EUEnronXGate, Eric Shaw/ENRON@EUEnronXGate, Peter Styles/LON/ECT@ECT

Subject: Documents for Mark Frevert (on EU developments and lessons from California)

Michael,

These are the documents that Peter promised to give to you for Mark Frevert. He has now handed them to him in person but asked me to transmit them electronically to you, as well as Eric and Ross.

Nailia

);  
INSERT INTO email([from],[to],subject,body) VALUES('peggy.a.kostial@accenture.com',  
'dave.samuels@enron.com', 'EOL-Accenture Deal Sheet', 'Dave -

Attached are our comments and suggested changes. Please call to review.

On the time line for completion, we have four critical steps to complete:

- Finalize market analysis to refine business case, specifically  
projected revenue stream
- Complete counterparty surveying, including targeting 3 CPs for letters  
of intent
- Review Enron asset base for potential reuse/ licensing
- Contract negotiations

Joe will come back to us with an updated time line, but it is my  
expectation that we are still on the same schedule (we just begun week  
three) with possibly a week or so slippage.....contract negotiations will  
probably be the critical path.

We will send our cut at the actual time line here shortly. Thanks,

Peggy

(See attached file: accenture-dealpoints v2.doc)

- accenture-dealpoints v2.doc ');

INSERT INTO email([from],[to],subject,body) VALUES('thomas.martin@enron.com', 'thomas.martin@enron.com',  
'Re: Guadalupe Power Partners LP', '----- Forwarded by Thomas A Martin/HOU/ECT on 03/20/2001  
03:49 PM -----

Thomas A Martin  
10/11/2000 03:55 PM  
To: Patrick Wade/HOU/ECT@ECT  
cc:  
Subject: Re: Guadalupe Power Partners LP

The deal is physically served at Oasis Waha or Oasis Katy and is priced at  
either HSC, Waha or Katytailgate GD at buyers option three days prior to  
NYMEX close.

);  
INSERT INTO email([from],[to],subject,body) VALUES('judy.townsend@enron.com', 'dan.junek@enron.com,  
chris.germany@enron.com', 'Columbia Distribution's Capacity Available for Release - Sum', '-----  
Forwarded by Judy Townsend/HOU/ECT on 03/09/2001 11:04  
AM -----

agoddard@nsource.com on 03/08/2001 09:16:57 AM

To: " - \*Koch, Kent" <kkoch@nisource.com>, " -  
\*Millar, Debra" <dmillar@nisource.com>, " - \*Burke, Lynn"  
<lburke@nisource.com>  
cc: " - \*Heckathorn, Tom" <theckathorn@nisource.com>  
Subject: Columbia Distribution's Capacity Available for Release - Sum

Attached is Columbia Distribution's notice of capacity available for release  
for  
the summer of 2001 (Apr. 2001 through Oct. 2001).

Please note that the deadline for bids is 3:00pm EST on March 20, 2001.

If you have any questions, feel free to contact any of the representatives  
listed  
at the bottom of the attachment.

Aaron Goddard

- 2001Summer.doc

);

INSERT INTO email([from],[to],subject,body) VALUES('rhonda.denton@enron.com', 'tim.belden@enron.com,  
dana.davis@enron.com, genia.fitzgerald@enron.com,', 'Split Rock Energy LLC', 'We have received the executed  
EEI contract from this CP dated 12/12/2000.

Copies will be distributed to Legal and Credit.');

INSERT INTO email([from],[to],subject,body) VALUES('kerrymcelroy@dwt.com', 'jack.speer@alcoa.com,  
crow@millernash.com, michaelearly@earthlink.net,', 'Oral Argument Request', ' - Oral Argument Request.doc');  
INSERT INTO email([from],[to],subject,body) VALUES('mike.carson@enron.com', 'rlmichaelis@hormel.com', '  
'Did you come in town this wk end..... My new number at our house is :  
713-668-3712..... my cell # is 281-381-7332

the kid');

INSERT INTO email([from],[to],subject,body) VALUES('cooper.richey@enron.com', 'trycooper@hotmail.com',  
'FW: Contact Info', '

-----Original Message-----

From: Punja, Karim  
Sent: Thursday, December 13, 2001 2:35 PM  
To: Richey, Cooper  
Subject: Contact Info

Cooper,

Its been a real pleasure working with you (even though it was for only a small amount of time)

I hope we can stay in touch.

Home# 234-0249

email: kpunja@hotmail.com

Take Care,

Karim.

);

INSERT INTO email([from],[to],subject,body) VALUES('bjm30@earthlink.net', 'mcguinn.k@enron.com, mcguinn.ian@enron.com, mcguinn.stephen@enron.com,', 'email address change', 'Hello all.

I haven't talked to many of you via email recently but I do want to give you my new address for your email file:

bjm30@earthlink.net

I hope all is well.

Brian McGuinn);

INSERT INTO email([from],[to],subject,body) VALUES('shelley.corman@enron.com', 'steve.hotte@enron.com', 'Flat Panels', 'Can you please advise what is going on with the flat panels that we had planned to distribute to our gas logistics team. It was in the budget and we had the okay, but now I'm hearing there is some hold-up & the units are stored on 44.

Shelley);

INSERT INTO email([from],[to],subject,body) VALUES('sara.davidson@enron.com', 'john.schwartzenburg@enron.com, scott.dieball@enron.com, recipients@enron.com,', '2001 Enron Law Conference (Distribution List 2)', ' Enron Law Conference

San Antonio, Texas May 2-4, 2001 Westin Riverwalk

See attached memo for more details!!

? Registration for the law conference this year will be handled through an Online RSVP Form on the Enron Law Conference Website at <http://lawconference.corp.enron.com>. The website is still under construction and will not be available until Thursday, March 15, 2001.

? We will send you another e-mail to confirm when the Law Conference Website is operational.

? Please complete the Online RSVP Form as soon as it is available and submit it no later than Friday, March 30th.

);  
INSERT INTO email([from],[to],subject,body) VALUES('tori.kuykendall@enron.com',  
'heath.b.taylor@accenture.com', 'Re:', 'hey - thats funny about john - he definitely remembers him - i"ll call pat  
and let him know - we are coming on saturday - i just havent had a chance to  
call you guys back -- looking forward to it -- i probably need the  
directions again though');  
INSERT INTO email([from],[to],subject,body) VALUES('darron.giron@enron.com', 'bryce.baxter@enron.com',  
'Re: Feedback for Audrey Cook', 'Bryce,

I"ll get it done today.

DG 3-9573

From: Bryce Baxter 06/12/2000 07:15 PM

To: Darron C Giron/HOU/ECT@ECT  
cc:  
Subject: Feedback for Audrey Cook

You were identified as a reviewer for Audrey Cook. If possible, could you  
complete her feedback by end of business Wednesday? It will really help me  
in the PRC process to have your input. Thanks.

);  
INSERT INTO email([from],[to],subject,body) VALUES('casey.evans@enron.com', 'stephanie.sever@enron.com',  
'Gas EOL ID', 'Stephanie,

In conjunction with the recent movement of several power traders, they are changing the names of their gas books as  
well. The names of the new gas books and traders are as follows:

PWR-NG-LT-SPP: Mike Carson  
PWR-NG-LT-SERC: Jeff King

If you need to know their power desk to map their ID to their gas books, those desks are as follows:

EPMI-LT-SPP: Mike Carson  
EPMI-LT-SERC: Jeff King

I will be in training this afternoon, but will be back when class is over. Let me know if you have any questions.

Thanks for your help!  
Casey');

INSERT INTO email([from],[to],subject,body) VALUES('darrell.schoolcraft@enron.com',  
'david.roensch@enron.com, kimberly.watson@enron.com, michelle.lokay@enron.com,', 'Postings', 'Please see the  
attached.

ds

');

INSERT INTO email([from],[to],subject,body) VALUES('mcominsky@aol.com', 'cpatman@bracepatt.com,  
james\_derrick@enron.com', 'Jurisprudence Luncheon', 'Carrin & Jim --

It was an honor and a pleasure to meet both of you yesterday. I know we will  
have fun working together on this very special event.

Jeff left the jurisprudence luncheon lists for me before he left on vacation.  
I wasn't sure whether he transmitted them to you as well. Would you please  
advise me if you would like them sent to you? I can email the MS Excel files  
or I can fax the hard copies to you. Please advise what is most convenient.

I plan to be in town through the holidays and can be reached by phone, email,  
or cell phone at any time. My cell phone number is 713/705-4829.

Thanks again for your interest in the ADL's work. Martin.

Martin B. Cominsky  
Director, Southwest Region  
Anti-Defamation League  
713/627-3490, ext. 122  
713/627-2011 (fax)  
MCominsky@aol.com');

INSERT INTO email([from],[to],subject,body) VALUES('phillip.love@enron.com', 'todagost@utmb.edu,  
gbsonnta@utmb.edu', 'New President', 'I had a little bird put a word in my ear. Is there any possibility for Ben  
Raimier to be Bush's secretary of HHS? Just curious about that infamous UTMB  
rumor mill. Hope things are well, happy holidays.

PL');

INSERT INTO email([from],[to],subject,body) VALUES('marie.heard@enron.com', 'ehamilton@fna.com', 'ISDA  
Master Agreement', 'Erin:

Pursuant to your request, attached are the Schedule to the ISDA Master Agreement, together with Paragraph 13 to  
the ISDA Credit Support Annex. Please let me know if you need anything else. We look forward to hearing your  
comments.

Marie

Marie Heard

Senior Legal Specialist  
Enron North America Corp.  
Phone: (713) 853-3907  
Fax: (713) 646-3490  
marie.heard@enron.com

);  
INSERT INTO email([from],[to],subject,body) VALUES('andrea.ring@enron.com', 'beverly.beaty@enron.com',  
'Re: Tennessee Buy - Louis Dreyfus', 'Beverly - once again thanks so much for your help on this.

);  
INSERT INTO email([from],[to],subject,body) VALUES('karolyn.criado@enron.com', 'j.bonin@enron.com,  
felicia.case@enron.com, b.clapp@enron.com,', 'Price List week of Oct. 8-9, 2001', '  
Please contact me if you have any questions regarding last weeks prices.

Thank you,  
Karolyn Criado  
3-9441

);  
INSERT INTO email([from],[to],subject,body) VALUES('kevin.presto@enron.com',  
'edward.baughman@enron.com, billy.braddock@enron.com', 'Associated', 'Please begin working on filling our  
Associated short position in 02. I would like to take this risk off the books.

In addition, please find out what a buy-out of VEPCO would cost us. With Rogers transitioning to run our retail  
risk management, I would like to clean up our customer positions.

We also need to continue to explore a JEA buy-out.

Thanks.);  
INSERT INTO email([from],[to],subject,body) VALUES('stacy.dickson@enron.com', 'gregg.penman@enron.com',  
'RE: Constellation TC 5-7-01', 'Gregg,

I am at home with a sick baby. (Lots of fun!) I will call you about this  
tomorrow.

Stacy');  
INSERT INTO email([from],[to],subject,body) VALUES('joe.quenet@enron.com', 'dfincher@utilicorp.com', ', 'hey  
big guy.....check this out.....

w ww.gorelieberman-2000.com/');  
INSERT INTO email([from],[to],subject,body) VALUES('k.allen@enron.com', 'jacqestc@aol.com', ', 'Jacques,

I sent you a fax of Kevin Kolb's comments on the release. The payoff on the note would be \$36,248 (\$36090(principal) + \$158 (accrued interest)).

This is assuming we wrap this up on Tuesday.

Please email to confirm that their changes are ok so I can set up a meeting on Tuesday to reach closure.

Phillip');

INSERT INTO email([from],[to],subject,body) VALUES('kourtney.nelson@enron.com', 'mike.swerzbin@enron.com', 'Adjusted L/R Balance', 'Mike,

I placed the adjusted L/R Balance on the Enronwest site. It is under the "Staff/Kourtney Nelson". There are two links:

- 1) "Adj L\_R" is the same data/format from the weekly strategy meeting.
- 2) "New Gen 2001\_2002" link has all of the supply side info that is used to calculate the L/R balance  
-Please note the Data Flag column, a value of "3" indicates the project was cancelled, on hold, etc and is not included in the calc.

Both of these sheets are interactive Excel spreadsheets and thus you can play around with the data as you please. Also, James Bruce is working to get his gen report on the web. That will help with your access to information on new gen.

Please let me know if you have any questions or feedback,

Kourtney

Kourtney Nelson

Fundamental Analysis

Enron North America

(503) 464-8280

kourtney.nelson@enron.com');

INSERT INTO email([from],[to],subject,body) VALUES('d..thomas@enron.com', 'naveed.ahmed@enron.com', 'FW: Current Enron TCC Portfolio', '

-----Original Message-----

From: Grace, Rebecca M.

Sent: Monday, December 17, 2001 9:44 AM

To: Thomas, Paul D.

Cc: Cashion, Jim; Allen, Thresa A.; May, Tom

Subject: RE: Current Enron TCC Portfolio

Paul,

I reviewed NY's list. I agree with all of their contracts numbers and mw amounts.



Call if you have any more questions.

Rebecca

-----Original Message-----

From: Thomas, Paul D.  
Sent: Monday, December 17, 2001 9:08 AM  
To: Grace, Rebecca M.  
Subject: FW: Current Enron TCC Portfolio

<< File: enrontccs.xls >>

Rebecca,  
Let me know if you see any differences.

Paul  
X 3-0403

-----Original Message-----

From: Thomas, Paul D.  
Sent: Monday, December 17, 2001 9:04 AM  
To: Ahmed, Naveed  
Subject: FW: Current Enron TCC Portfolio

-----Original Message-----

From: Thomas, Paul D.  
Sent: Thursday, December 13, 2001 10:01 AM  
To: Baughman, Edward D.  
Subject: Current Enron TCC Portfolio

');

INSERT INTO email([from],[to],subject,body) VALUES('stephanie.panus@enron.com',  
'william.bradford@enron.com, debbie.brackett@enron.com,', 'Coastal Merchant Energy/El Paso Merchant Energy',  
'Coastal Merchant Energy, L.P. merged with and into El Paso Merchant Energy,  
L.P., effective February 1, 2001, with the surviving entity being El Paso  
Merchant Energy, L.P. We currently have ISDA Master Agreements with both  
counterparties. Please see the attached memo regarding the existing Masters  
and let us know which agreement should be terminated.

Thanks,  
Stephanie

');

INSERT INTO email([from],[to],subject,body) VALUES('kam.keiser@enron.com', 'c..kenne@enron.com', 'RE:  
What about this too???' , '

-----Original Message-----

From: Kenne, Dawn C.

Sent: Wednesday, February 06, 2002 11:50 AM

To: Keiser, Kam

Subject: What about this too???

<< File: Netco Trader Matrix.xls >>

);

INSERT INTO email([from],[to],subject,body) VALUES('chris.meyer@enron.com', 'joe.parks@enron.com', 'Centana', 'Talked to Chip. We do need Cash Committe approval given the netting feature of your deal, which means Batch Funding Request. Please update per my previous e-mail and forward.

Thanks

chris

x31666);

INSERT INTO email([from],[to],subject,body) VALUES('debra.perlingiere@enron.com', 'jworman@academyofhealth.com', ', 'Have a great weekend! Happy Fathers Day!

Debra Perlingiere

Enron North America Corp.

1400 Smith Street, EB 3885

Houston, Texas 77002

dperlin@enron.com

Phone 713-853-7658

Fax 713-646-3490);

INSERT INTO email([from],[to],subject,body) VALUES('outlook.team@enron.com', ', 'Demo by Martha Janousek of Dashboard & Pipeline Profile / Julia &', 'CALENDAR ENTRY: APPOINTMENT

Description:

Demo by Martha Janousek of Dashboard & Pipeline Profile / Julia & Dir Rpts. - 4102

Date: 1/5/2001

Time: 9:00 AM - 10:00 AM (Central Standard Time)

Chairperson: Outlook Migration Team

Detailed Description:');

INSERT INTO email([from],[to],subject,body) VALUES('diana.seifert@enron.com', 'mark.taylor@enron.com', 'Guest access Chile', 'Hello Mark,

Justin Boyd told me that your can help me with questions regarding Chile.

We got a request for guest access through MG.

The company is called Escondida and is a subsidiary of BHP Australia.

Please advise if I can set up a guest account or not.

F.Y.I.: MG is planning to put a "in w/h Chile" contract for Copper on-line as soon as Enron has done the due diligence for this country.

Thanks !

Best regards

Diana Seifert

EOL PCG');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concuworkplace.com', 'mark.whitt@enron.com', '<<Concur Expense Document>> - 121001', 'The Approval status has changed on the following report:

Status last changed by: Barry L. Tycholiz

Expense Report Name: 121001

Report Total: \$198.98

Amount Due Employee: \$198.98

Amount Approved: \$198.98

Amount Paid: \$0.00

Approval Status: Approved

Payment Status: Pending

To review this expense report, click on the following link for Concur Expense.

<http://expensecms.enron.com>);

INSERT INTO email([from],[to],subject,body) VALUES('kevin.hyatt@enron.com', ', 'Technical Support', 'Outside the U.S., please refer to the list below:

Australia:

1800 678-515

support@palm-au.com

Canada:

1905 305-6530

support@palm.com

New Zealand:

0800 446-398

support@palm-nz.com

U.K.:

0171 867 0108

eurosupport@palm.3com.com

Please refer to the Worldwide Customer Support card for a complete technical support contact list.');

INSERT INTO email([from],[to],subject,body) VALUES('geoff.storey@enron.com', 'dutch.quigley@enron.com', 'RE:', 'duke contact?

-----Original Message-----

From: Quigley, Dutch  
Sent: Wednesday, October 31, 2001 10:14 AM  
To: Storey, Geoff  
Subject: RE:

bp corp Albert LaMore 281-366-4962

running the reports now

-----Original Message-----

From: Storey, Geoff  
Sent: Wednesday, October 31, 2001 10:10 AM  
To: Quigley, Dutch  
Subject: RE:

give me a contact over there too  
BP

-----Original Message-----

From: Quigley, Dutch  
Sent: Wednesday, October 31, 2001 9:42 AM  
To: Storey, Geoff  
Subject:

Coral Jeff Whitnah 713-767-5374  
Relaint Steve McGinn 713-207-4000');  
INSERT INTO email([from],[to],subject,body) VALUES('pete.davis@enron.com', 'pete.davis@enron.com', 'Start  
Date: 4/22/01; HourAhead hour: 3; <CODESITE>', 'Start Date: 4/22/01; HourAhead hour: 3; No ancillary  
schedules awarded.  
Variances detected.  
Variances detected in Load schedule.

LOG MESSAGES:

PARSING FILE -->> O:\Portland\WestDesk\California Scheduling\ISO Final  
Schedules\2001042203.txt

---- Load Schedule ----

\$\$\$ Variance found in table tblLoads.  
Details: (Hour: 3 / Preferred: 1.92 / Final: 1.89)  
TRANS\_TYPE: FINAL  
LOAD\_ID: PGE4  
MKT\_TYPE: 2  
TRANS\_DATE: 4/22/01

SC\_ID: EPMI

');

```
INSERT INTO email([from],[to],subject,body) VALUES('john.postlethwaite@enron.com',
'john.zufferli@enron.com', 'Reference', 'John, hope things are going well up there for you. The big day is almost
here for you and Jessica. I was wondering if I could use your name as a job reference if need be. I am just trying to
get everything in order just in case something happens.
```

John');

```
INSERT INTO email([from],[to],subject,body) VALUES('jeffrey.shankman@enron.com',
'lschiffm@jonesday.com', 'Re:', 'I saw you called on the cell this a.m. Sorry I missed you. (I was in the
shower). I have had a shitty week--I suspect my silence (not only to you,
but others) after our phone call is a result of the week. I'm seeing Glen at
11:15....talk to you');
```

```
INSERT INTO email([from],[to],subject,body) VALUES('litebytz@enron.com', ", 'Lite Bytz RSVP', '
This week's Lite Bytz presentation will feature the following TOOLZ speaker:
```

Richard McDougall  
Solaris 8  
Thursday, June 7, 2001

If you have not already signed up, please RSVP via email to [litebytz@enron.com](mailto:litebytz@enron.com) by the end of the day Tuesday, June 5, 2001.

\*Remember: this is now a Brown Bag Event--so bring your lunch and we will provide cookies and drinks.

Click below for more details.

<http://home.enron.com:84/messaging/litebytztoolzprint.jpg>');

```
COMMIT;
}
} {}
```

```
#####
Everything above just builds an interesting test database. The actual
tests come after this comment.
#####
```

```
do_test fts3ac-1.2 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'mark'
 }
} {6 17 25 38 40 42 73 74}
do_test fts3ac-1.3 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'susan'
 }
} {24 40}
```

```

do_test fts3ac-1.4 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'mark susan'
 }
} {40}
do_test fts3ac-1.5 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'susan mark'
 }
} {40}
do_test fts3ac-1.6 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH ""mark susan""
 }
} {}
do_test fts3ac-1.7 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'mark -susan'
 }
} {6 17 25 38 42 73 74}
do_test fts3ac-1.8 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH '-mark susan'
 }
} {24}
do_test fts3ac-1.9 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'mark OR susan'
 }
} {6 17 24 25 38 40 42 73 74}

```

# Some simple tests of the automatic "offsets(email)" column. In the sample # data set above, only one message, number 20, contains the words # "gas" and "reminder" in both body and subject.

```

#
do_test fts3ac-2.1 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE email MATCH 'gas reminder'
 }
} {20 {2 0 42 3 2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}
do_test fts3ac-2.2 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE email MATCH 'subject:gas reminder'
 }
} {20 {2 0 42 3 2 1 54 8 3 1 54 8}}
do_test fts3ac-2.3 {

```

```

execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE email MATCH 'body:gas reminder'
}
} {20 {2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}
do_test fts3ac-2.4 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE subject MATCH 'gas reminder'
 }
} {20 {2 0 42 3 2 1 54 8}}
do_test fts3ac-2.5 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE body MATCH 'gas reminder'
 }
} {20 {3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}

Document 32 contains 5 instances of the world "child". But only
3 of them are paired with "product". Make sure only those instances
that match the phrase appear in the offsets(email) list.
#
do_test fts3ac-3.1 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE body MATCH 'child product' AND +rowid=32
 }
} {32 {3 0 94 5 3 0 114 5 3 0 207 5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7 3 1 493 7}}
do_test fts3ac-3.2 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE body MATCH '"child product"'
 }
} {32 {3 0 207 5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7}}

Snippet generator tests
#
do_test fts3ac-4.1 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'subject:gas reminder'
 }
} {{Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder}}
do_test fts3ac-4.2 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'christmas candlelight'
 }
}

```

```
} {{...here Christmas
eve?? They have an 11:00 a.m. service and a candlelight service...}}
```

```
do_test fts3ac-4.3 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'deal sheet potential reuse'
 }
} {{EOL-Accenture Deal Sheet...asset base for potential reuse/ licensing
Contract negotiations...}}
```

```
do_test fts3ac-4.4 {
 execsql {
 SELECT snippet(email,'<<<','>>>',') FROM email
 WHERE email MATCH 'deal sheet potential reuse'
 }
} {{EOL-Accenture <<<Deal>>> <<<Sheet>>> asset base for <<<potential>>> <<<reuse>>>/ licensing
Contract negotiations }}
```

```
do_test fts3ac-4.5 {
 execsql {
 SELECT snippet(email,'<<<','>>>',') FROM email
 WHERE email MATCH 'first things'
 }
} {{Re: <<<First>>> Polish Deal! Congrats! <<<Things>>> seem to be building rapidly now }}
```

```
do_test fts3ac-4.6 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'chris is here'
 }
} {{...chris.germany@enron.com" chris...bet this is next
to...about going here Christmas
eve...}}
```

```
do_test fts3ac-4.7 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH "'pursuant to'"
 }
} {{Erin:
```

```
Pursuant to your request, attached are the Schedule to the ISDA Master Agreement,
together...}}
```

```
do_test fts3ac-4.8 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'ancillary load davis'
 }
} {{pete.davis@enron.com...3; No ancillary schedules awarded...detected in
Load schedule.
```



```

LOG...}}

Combinations of AND and OR operators:
#
do_test fts3ac-5.1 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'questar enron OR com'
 }
} {{matt.smith@enron.com...31 Keystone Receipts
15 Questar Pipeline
40 Rockies...}}

do_test fts3ac-5.2 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'enron OR com questar'
 }
} {{matt.smith@enron.com...31 Keystone Receipts
15 Questar Pipeline
40 Rockies...}}

#-----
Test a problem reported on the mailing list.
#
do_test fts3ac-6.1 {
 execsql {
 CREATE VIRTUAL TABLE ft USING fts3(one, two);
 INSERT INTO ft VALUES(", 'foo');
 INSERT INTO ft VALUES('foo', 'foo');
 SELECT offsets(ft) FROM ft WHERE ft MATCH 'foo';
 }
} {{1 0 0 3} {0 0 0 3 1 0 0 3}}
do_test fts3ac-6.2 {
 execsql {
 DELETE FROM ft WHERE one = 'foo';
 SELECT offsets(ft) FROM ft WHERE ft MATCH 'foo';
 }
} {{1 0 0 3}}

finish_test

Found in path(s):
* /opt/cola/permits/1146568937_1616563472.04/0/sqlite-3.7.17-8.el7_7.1-1.src.rpm-cosi-expand-archive-
lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/test/fts3ac.test
No license file was found, but licenses were detected in source scan.

%%Copyright: Copyright(C)2000-2006 Adobe Systems, Inc. All Rights Reserved.

```

%%Copyright: Copyright(C)1997-2007 Adobe Systems, Inc. All Rights Reserved.

%%BeginResource: procset Adobe\_CoolType\_Core 2.31 0

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/art/sqlite370.eps

No license file was found, but licenses were detected in source scan.

SQLite is open source, and is available in the public domain

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/books.html

No license file was found, but licenses were detected in source scan.

application is free to use the same [database connection](./c3ref/sqlite3.html) or the

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/c3ref/c\_config\_covering\_index\_scan.html

No license file was found, but licenses were detected in source scan.

)putinterval

Found in path(s):

\* 1 index 0(BadFont

No license file was found, but licenses were detected in source scan.

SQLite is high-quality, public domain software. The goal of members can also request their own private, proprietary extensions

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/consortium.html

No license file was found, but licenses were detected in source scan.

[Public Domain](http://en.wikipedia.org/wiki/Public_Domain)

[public domain](http://en.wikipedia.org/wiki/Public_Domain)

the public domain and originals of

author, and all of those authors have public domain dedications

Even though SQLite is in the public domain and does not require

the public domain. </li>

their contributions to the public domain.

in this code to the public domain. We make this dedication for the benefit

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-

lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/copyright.html

No license file was found, but licenses were detected in source scan.

is free to use SQLite from multiple threads, but it must make sure

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/custombuild.html

No license file was found, but licenses were detected in source scan.

<li>Sources are in the <a href="copyright.html">public domain</a>.

Rather than using fopen() to write XML or some proprietary format into

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/features.html

No license file was found, but licenses were detected in source scan.

/\*

\*\* The "printf" code that follows dates from the 1980's. It is in  
\*\* the public domain. The original comments are included here for  
\*\* completeness. They are very out-of-date but might be useful as  
\*\* an historical reference. Most of the "enhancements" have been backed  
\*\* out so that the functionality is now the same as standard printf().

\*\*

\*\*\*\*\*

\*\*

\*\* This file contains code for a set of "printf"-like routines. These  
\*\* routines format strings much like the printf() from the standard C  
\*\* library, though the implementation here has enhancements to support  
\*\* SQLite.

\*/

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/src/printf.c

No license file was found, but licenses were detected in source scan.

Copyright 1997-2006 Adobe Systems Incorporated. All Rights Reserved.

Copyright 1987-2006 Adobe Systems Incorporated.

Copyright 1987-2004 Adobe Systems Incorporated.

Copyright 1987-2001 Adobe Systems Incorporated.

Found in path(s):

\* %%Copyright

No license file was found, but licenses were detected in source scan.

/\*

```

** 2004 May 22
**
** The author disclaims copyright to this source code. In place of
** a legal notice, here is a blessing:
**
** May you do good and not evil.
** May you find forgiveness for yourself and forgive others.
** May you share freely, never taking more than you give.
**

**
** This file contains the VFS implementation for unix-like operating systems
** include Linux, MacOSX, *BSD, QNX, VxWorks, AIX, HPUX, and others.
**
** There are actually several different VFS implementations in this file.
** The differences are in the way that file locking is done. The default
** implementation uses Posix Advisory Locks. Alternative implementations
** use flock(), dot-files, various proprietary locking schemas, or simply
** skip locking all together.
**
** This source file is organized into divisions where the logic for various
** subfunctions is contained within the appropriate division. PLEASE
** KEEP THE STRUCTURE OF THIS FILE INTACT. New code should be placed
** in the correct division and should be clearly labeled.
**
** The layout of divisions is as follows:
**
** * General-purpose declarations and utility functions.
** * Unique file ID logic used by VxWorks.
** * Various locking primitive implementations (all except proxy locking):
** + for Posix Advisory Locks
** + for no-op locks
** + for dot-file locks
** + for flock() locking
** + for named semaphore locks (VxWorks only)
** + for AFP filesystem locks (MacOSX only)
** * sqlite3_file methods not associated with locking.
** * Definitions of sqlite3_io_methods objects for all locking
** methods plus "finder" functions for each locking method.
** * sqlite3_vfs method implementations.
** * Locking primitives for the proxy uber-locking-method. (MacOSX only)
** * Definitions of sqlite3_vfs objects for all locking methods
** plus implementations of sqlite3_os_init() and sqlite3_os_end().
**
*/

```

Found in path(s):

```

* /opt/cola/permits/1146568937_1616563472.04/0/sqlite-3.7.17-8.el7_7.1-1.src.rpm-cosi-expand-archive-
lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/src/os_unix.c

```

No license file was found, but licenses were detected in source scan.

```
%define name sqlite
```

```
%define version SQLITE_VERSION
```

```
%define release 1
```

```
Name: % {name}
```

```
Summary: SQLite is a C library that implements an embeddable SQL database engine
```

```
Version: % {version}
```

```
Release: % {release}
```

```
Source: % {name}-% {version}.tar.gz
```

```
Group: System/Libraries
```

```
URL: http://www.sqlite.org/
```

```
License: Public Domain
```

```
BuildRoot: % {_tmppath}/% {name}-% {version}-root
```

```
%description
```

SQLite is a software library that implements a self-contained, serverless, zero-configuration, transactional SQL database engine.

Programs that link with the SQLite library can have SQL database access without running a separate RDBMS process. The distribution comes with a standalone command-line access program (sqlite) that can be used to administer an SQLite database and which serves as an example of how to use the SQLite library.

```
%package -n % {name}-devel
```

```
Summary: Header files and libraries for developing apps which will use sqlite
```

```
Group: Development/C
```

```
Requires: % {name} = % {version}-% {release}
```

```
%description -n % {name}-devel
```

The sqlite-devel package contains the header files and libraries needed to develop programs that use the SQLite database library.

```
%prep
```

```
%setup -q -n % {name}
```

```
%build
```

```
CFLAGS="%optflags -DNDEBUG=1" CXXFLAGS="%optflags -DNDEBUG=1" ./configure --prefix=% {_prefix}
```

```
make
```

```
make doc
```

```
%install
```

```
install -d $RPM_BUILD_ROOT/% {_prefix}
```

```
install -d $RPM_BUILD_ROOT/% {_prefix}/bin
```

```
install -d $RPM_BUILD_ROOT/% {_prefix}/include
```

```
install -d $RPM_BUILD_ROOT/% {_prefix}/lib
```

```
make install prefix=$RPM_BUILD_ROOT/%{_prefix}
```

```
%post -p /sbin/ldconfig
```

```
%postun -p /sbin/ldconfig
```

```
%clean
```

```
rm -fr $RPM_BUILD_ROOT
```

```
%files
```

```
%defattr(-, root, root)
```

```
%{_libdir}/*.so*
```

```
%{_bindir}/*
```

```
%files -n %{name}-devel
```

```
%defattr(-, root, root)
```

```
%{_libdir}/pkgconfig/sqlite3.pc
```

```
%{_libdir}/*.a
```

```
%{_libdir}/*.la
```

```
%{_includedir}/*
```

```
%doc doc/*
```

```
Found in path(s):
```

```
* /opt/cola/permits/1146568937_1616563472.04/0/sqlite-3.7.17-8.el7_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/spec.template
```

```
No license file was found, but licenses were detected in source scan.
```

```
2006 October 1
```

```
#
```

```
The author disclaims copyright to this source code. In place of
```

```
a legal notice, here is a blessing:
```

```
#
```

```
May you do good and not evil.
```

```
May you find forgiveness for yourself and forgive others.
```

```
May you share freely, never taking more than you give.
```

```
#
```

```

```

```
This file implements regression tests for SQLite library. The
```

```
focus of this script is testing the FTS1 module, and in particular
```

```
the Porter stemmer.
```

```
#
```

```
$Id: fts1porter.test,v 1.5 2006/10/03 19:37:37 drh Exp $
```

```
#
```

```
set testdir [file dirname $argv0]
```

```
source $testdir/tester.tcl
```

```
If SQLITE_ENABLE_FTS1 is defined, omit this file.
```

```
ifcapable !fts1 {
 finish_test
 return
}
```

```
Test data for the Porter stemmer. The first word of each line
is the input. The second word is the desired output.

This test data is taken from http://www.tartarus.org/martin/PorterStemmer/
There is no claim of copyright made on that page, but you should
probably contact the author (Martin Porter - the inventor of the
Porter Stemmer algorithm) if you want to use this test data in a
commercial product of some kind. The stemmer code in FTS1 is a
complete rewrite from scratch based on the algorithm specification
and does not contain any code under copyright.
#
```

```
set porter_test_data {
 a a
 aaron aaron
 abaissiez abaissiez
 abandon abandon
 abandoned abandon
 abase abas
 abash abash
 abate abat
 abated abat
 abatement abat
 abatements abat
 abates abat
 abbess abbess
 abbey abbei
 abbeys abbei
 abbominable abbomin
 abbot abbot
 abbots abbot
 abbreviated abbrevi
 abed ab
 abel abel
 aberga aberga
 abergavenny abergavenni
 abet abet
 abetting abet
 abhominable abhomin
 abhor abhor
 abhorrr abhorrr
 abhorred abhor
 abhorring abhor
 abhors abhor
```

abhorson	abhorson
abide	abid
abides	abid
abilities	abil
ability	abil
abject	abject
abjectly	abjectli
abjects	abject
abjur	abjur
abjure	abjur
able	abl
abler	abler
aboard	aboard
abode	abod
aboded	abod
abodements	abod
aboding	abod
abominable	abomin
abominably	abomin
abominations	abomin
abortive	abort
abortives	abort
abound	abound
abounding	abound
about	about
above	abov
abr	abr
abraham	abraham
abram	abram
abreast	abreast
abridg	abridg
abridge	abridg
abridged	abridg
abridgment	abridg
abroach	abroach
abroad	abroad
abrogate	abrog
abrook	abrook
abrupt	abrupt
abruption	abrupt
abruptly	abruptli
absence	absenc
absent	absent
absey	absei
absolute	absolut
absolutely	absolut
absolv	absolv
absolver	absolv



abstains	abstain
abstemious	abstemi
abstinence	abstin
abstract	abstract
absurd	absurd
absyrtus	absyrtu
abundance	abund
abundant	abund
abundantly	abundantli
abus	abu
abuse	abus
abused	abus
abuser	abus
abuses	abus
abusing	abus
abutting	abut
aby	abi
abysm	abysm
ac	ac
academe	academ
academes	academ
accent	accent
accents	accent
accept	accept
acceptable	accept
acceptance	accept
accepted	accept
accepts	accept
access	access
accessary	accessari
accessible	access
accidence	accid
accident	accid
accidental	accident
accidentally	accident
accidents	accid
accite	accit
accited	accit
accites	accit
acclamations	acclam
accommodate	accommod
accommodated	accommod
accommodation	accommod
accommodations	accommod
accommodo	accommodo
accompanied	acompani
accompany	acompani
accompanying	acompani

accomplices	accomplic
accomplish	accomplish
accomplished	accomplish
accomplishing	accomplish
accomplishment	accomplish
accompt	accompt
accord	accord
accordant	accord
accorded	accord
accordeth	accordeth
according	accord
accordingly	accordingli
accords	accord
accost	accost
accosted	accost
account	account
accountant	account
accounted	account
accounts	account
accoutred	accoutr
accoutrement	accoutr
accoutrements	accoutr
accrue	accru
accumulate	accumul
accumulated	accumul
accumulation	accumul
accurs	accur
accursed	accurs
accurst	accurst
accus	accu
accusation	accus
accusations	accus
accusative	accus
accusativo	accusativo
accuse	accus
accused	accus
accuser	accus
accusers	accus
accuses	accus
accuseth	accuseth
accusing	accus
accustom	accustom
accustomed	accustom
ace	ac
acerb	acerb
ache	ach
acheron	acheron
aches	ach

achiev	achiev
achieve	achiev
achieved	achiev
achievement	achiev
achievements	achiev
achiever	achiev
achieves	achiev
achieving	achiev
achilles	achil
aching	ach
achitophel	achitophel
acknowledg	acknowledg
acknowledge	acknowledg
acknowledged	acknowledg
acknowledgment	acknowledg
acknown	acknown
acold	acold
aconitum	aconitum
acordo	acordo
acorn	acorn
acquaint	acquaint
acquaintance	acquaint
acquainted	acquaint
acquaints	acquaint
acquir	acquir
acquire	acquir
acquisition	acquisit
acquit	acquit
acquittance	acquitt
acquittances	acquitt
acquitted	acquit
acre	acr
acres	acr
across	across
act	act
actaeon	actaeon
acted	act
acting	act
action	action
actions	action
actium	actium
active	activ
actively	activ
activity	activ
actor	actor
actors	actor
acts	act
actual	actual

acture	actur
acute	acut
acutely	acut
ad	ad
adage	adag
adallas	adalla
adam	adam
adamant	adam
add	add
added	ad
adder	adder
adders	adder
addeth	addeth
addict	addict
addicted	addict
addiction	addict
adding	ad
addition	addit
additions	addit
addle	addl
address	address
addressing	address
addrest	addrest
adds	add
adhere	adher
adheres	adher
adieu	adieu
adieus	adieu
adjacent	adjac
adjoin	adjoin
adjoining	adjoin
adjourn	adjourn
adjudg	adjudg
adjudged	adjudg
adjunct	adjunct
administer	administ
administration	administr
admir	admir
admirable	admir
admiral	admir
admiration	admir
admire	admir
admired	admir
admirer	admir
admiring	admir
admiringly	admiringli
admission	admiss
admit	admit

admits	admit
admittance	admitt
admitted	admit
admitting	admit
admonish	admonish
admonishing	admonish
admonishment	admonish
admonishments	admonish
admonition	admonit
ado	ado
adonis	adoni
adopt	adopt
adopted	adopt
adoptedly	adoptedli
adoption	adopt
adoptious	adopti
adopts	adopt
ador	ador
adoration	ador
adorations	ador
adore	ador
adorer	ador
adores	ador
adorest	adorest
adoreth	adoreth
adoring	ador
adorn	adorn
adorned	adorn
adornings	adorn
adornment	adorn
adorns	adorn
adown	adown
adramadio	adramadio
adrian	adrian
adriana	adriana
adriano	adriano
adriatic	adriat
adsum	adsum
adulation	adul
adulterate	adulter
adulterates	adulter
adulterers	adulter
adulteress	adulteress
adulteries	adulteri
adulterous	adulter
adultery	adulteri
adultress	adultress
advanc	advanc

advance	advanc
advanced	advanc
advancement	advanc
advancements	advanc
advances	advanc
advancing	advanc
advantage	advantag
advantageable	advantag
advantaged	advantag
advantageous	advantag
advantages	advantag
advantaging	advantag
advent	advent
adventur	adventur
adventure	adventur
adventures	adventur
adventuring	adventur
adventurous	adventur
adventurously	adventur
adversaries	adversari
adversary	adversari
adverse	advers
adversely	advers
adversities	advers
adversity	advers
advertis	adverti
advertise	advertis
advertised	advertis
advertisement	advertis
advertising	advertis
advice	advic
advis	advi
advise	advis
advised	advis
advisedly	advisedli
advises	advis
advisings	advis
advocate	advoc
advocation	advoc
aeacida	aeacida
aeacides	aeacid
aedile	aedil
aediles	aedil
aegeon	aegeon
aegion	aegion
aegles	aegl
aemelia	aemelia
aemilia	aemilia

aemilius	aemiliu
aeneas	aenea
aeolus	aeolu
aer	aer
aerial	aerial
aery	aeri
aesculapius	aesculapiu
aeson	aeson
aesop	aesop
aetna	aetna
afar	afar
afear	afear
afeard	afeard
affability	affabl
affable	affabl
affair	affair
affaire	affair
affairs	affair
affect	affect
affectation	affect
affectations	affect
affected	affect
affectedly	affectedli
affecteth	affecteth
affecting	affect
affection	affect
affectionate	affection
affectionately	affection
affections	affect
affects	affect
affeer	affeer
affienc	affienc
affiance	affienc
affienced	affienc
affied	affi
affin	affin
affined	affin
affinity	affin
affirm	affirm
affirmation	affirm
affirmatives	affirm
afflict	afflict
afflicted	afflict
affliction	afflict
afflictions	afflict
afflicts	afflict
afford	afford
affordeth	affordeth

affords	afford
affray	affrai
affright	affright
affrighted	affright
affrights	affright
affront	affront
affronted	affront
affy	affi
afield	afield
afire	afir
afloat	afloat
afoot	afoot
afore	afor
aforehand	aforehand
aforesaid	aforesaid
afraid	afraid
afresh	afresh
afric	afric
africa	africa
african	african
afront	afront
after	after
afternoon	afternoon
afterward	afterward
afterwards	afterward
ag	ag
again	again
against	against
agamemmon	agamemmon
agamemnon	agamemnon
agate	agat
agaz	agaz
age	ag
aged	ag
agenor	agenor
agent	agent
agents	agent
ages	ag
aggravate	aggrav
aggrief	aggrief
agile	agil
agincourt	agincourt
agitation	agit
aglet	aglet
agnize	agniz
ago	ago
agone	agon
agony	agoni



agree	agre
agreed	agre
agreeing	agre
agreement	agreement
agrees	agre
agrippa	agrippa
aground	aground
ague	agu
aguecheek	aguecheek
agued	agu
agueface	aguefac
agues	agu
ah	ah
aha	aha
ahungry	ahungri
ai	ai
aialvolio	aialvolio
aiaria	aiaria
aid	aid
aidance	aidanc
aidant	aidant
aided	aid
aiding	aid
aidless	aidless
aids	aid
ail	ail
aim	aim
aimed	aim
aimest	aimest
aiming	aim
aims	aim
ainsi	ainsi
aio	aio
air	air
aired	air
airless	airless
airs	air
airy	airi
ajax	ajax
akilling	akil
al	al
alabaster	alabast
alack	alack
alacrity	alacr
alarbus	alarbu
alarm	alarm
alarms	alarm
alarum	alarum

alarums	alarum
alas	ala
alb	alb
alban	alban
albans	alban
albany	albani
albeit	albeit
albion	albion
alchemist	alchemist
alchemy	alchemi
alcibiades	alcibiad
alcides	alcid
alder	alder
alderman	alderman
aldermen	aldermen
ale	al
alecto	alecto
alehouse	alehous
alehouses	alehous
alencon	alencon
alengon	alengon
aleppo	aleppo
ales	al
alewife	alewif
alexander	alexand
alexanders	alexand
alexandria	alexandria
alexandrian	alexandrian
alexas	alexa
alias	alia
alice	alic
alien	alien
aliena	aliena
alight	alight
alighted	alight
alights	alight
aliis	alii
alike	alik
alisander	alisand
alive	aliv
all	all
alla	alla
allay	allai
allayed	allai
allaying	allai
allayment	allay
allayments	allay
allays	allai

allegation	alleg
allegations	alleg
allege	alleg
alleged	alleg
allegiance	allegi
allegiant	allegi
alley	allei
alleys	allei
allhallowmas	allhallowma
alliance	allianc
allicholy	allicholi
allied	alli
allies	alli
alligant	allig
alligator	allig
allons	allon
allot	allot
allots	allot
allotted	allot
allottery	allotteri
allow	allow
allowance	allow
allowed	allow
allowing	allow
allows	allow
allur	allur
allure	allur
allurement	allur
alluring	allur
allusion	allus
ally	alli
alycholly	alycholli
almain	almain
almanac	almanac
almanack	almanack
almanacs	almanac
almighty	almighti
almond	almond
almost	almost
alms	alm
almsman	almsman
aloes	alo
aloft	aloft
alone	alon
along	along
alonso	alonso
aloof	aloof
aloud	aloud

alphabet	alphabet
alphabetical	alphabet
alphonso	alphonso
alps	alp
already	alreadi
also	also
alt	alt
altar	altar
altars	altar
alter	alter
alteration	alter
altered	alter
alters	alter
althaea	althaea
although	although
altitude	altitud
altogether	altogeth
alton	alton
alway	alwai
always	alwai
am	am
amaimon	amaimon
amain	amain
amaking	amak
amamon	amamon
amaz	amaz
amaze	amaz
amazed	amaz
amazedly	amazedli
amazedness	amazed
amazement	amaz
amazes	amaz
amazeth	amazeth
amazing	amaz
amazon	amazon
amazonian	amazonian
amazons	amazon
ambassador	ambassador
ambassadors	ambassador
amber	amber
ambiguides	ambiguid
ambiguities	ambigu
ambiguous	ambigu
ambition	ambit
ambitions	ambit
ambitious	ambiti
ambitiously	ambiti
amble	ambl

ambled	ambl
ambles	ambl
ambling	ambl
ambo	ambo
ambuscadoes	ambuscado
ambush	ambush
amen	amen
amend	amend
amended	amend
amendment	amend
amends	amend
amerce	amerc
america	america
ames	am
amiable	amiabl
amid	amid
amidst	amidst
amiens	amien
amis	ami
amiss	amiss
amities	amiti
amity	amiti
amnipotent	amnipot
among	among
amongst	amongst
amorous	amor
amorously	amor
amort	amort
amount	amount
amounts	amount
amour	amour
amphimacus	amphimacu
ample	ampl
ampler	ampler
amplest	amplest
amplified	amplifi
amplify	amplifi
amply	ampli
ampthill	ampthil
amurath	amurath
amyntas	amynta
an	an
anatomiz	anatomiz
anatomize	anatom
anatomy	anatomy
ancestor	ancestor
ancestors	ancestor
ancestry	ancestri

anchises	anchis
anchor	anchor
anchorage	anchorag
anchored	anchor
anchoring	anchor
anchors	anchor
anchovies	anchovi
ancient	ancient
ancientry	ancientri
ancients	ancient
ancus	ancu
and	and
andirons	andiron
andpholus	andpholu
andren	andren
andrew	andrew
andromache	andromach
andronici	andronici
andronicus	andronicu
anew	anew
ang	ang
angel	angel
angelica	angelica
angelical	angel
angelo	angelo
angels	angel
anger	anger
angerly	angerli
angers	anger
anges	ang
angiers	angier
angl	angl
anglais	anglai
angle	angl
angler	angler
angleterre	angleterr
angliae	anglia
angling	angl
anglish	anglish
angrily	angrili
angry	angri
anguish	anguish
angus	angu
animal	anim
animals	anim
animis	animi
anjou	anjou
ankle	ankl

anna	anna
annals	annal
anne	ann
annex	annex
annexed	annex
annexions	annexion
annexment	annex
annothanize	annothan
announces	announc
annoy	annoi
annoyance	annoy
annoying	annoi
annual	annual
anoint	anoint
anointed	anoint
anon	anon
another	anoth
anselmo	anselmo
answer	answer
answerable	answer
answered	answer
answerest	answerest
answering	answer
answers	answer
ant	ant
ante	ant
antenor	antenor
antenorides	antenorid
anteroom	anteroom
anthem	anthem
anthems	anthem
anthony	anthoni
anthropophagi	anthropophagi
anthropophaginian	anthropophaginian
antiates	antiat
antic	antic
anticipate	anticip
anticipates	anticip
anticipatest	anticipatest
anticipating	anticip
anticipation	anticip
antick	antick
anticly	anticli
antics	antic
antidote	antidot
antidotes	antidot
antigonus	antigonu
antiopa	antiopa

antipathy	antipathi
antipholus	antipholu
antipholuses	antipholus
antipodes	antipod
antiquary	antiquari
antique	antiqu
antiquity	antiqu
antium	antium
antoniad	antoniad
antonio	antonio
antonius	antoni
antony	antoni
antres	antr
anvil	anvil
any	ani
anybody	anybodi
anyone	anyon
anything	anyth
anywhere	anywher
ap	ap
apace	apac
apart	apart
apartment	apart
apartments	apart
ape	ap
apemantus	apemantu
apennines	apennin
apes	ap
apiece	apiec
apish	apish
apollinem	apollinem
apollo	apollo
apollodorus	apollodoru
apology	apolog
apoplex	apoplex
apoplexy	apoplexi
apostle	apostl
apostles	apostl
apostrophas	apostropha
apoth	apoth
apothecary	apothecari
appal	appal
appall	appal
appalled	appal
appals	appal
apparel	apparel
apparell	apparel
apparelled	apparel



apparent	appar
apparently	appar
apparition	apparit
apparitions	apparit
appeach	appeach
appeal	appeal
appeals	appeal
appear	appear
appearance	appear
appeared	appear
appeareth	appeareth
appearing	appear
appears	appear
appeas	appea
appease	appeas
appeased	appeas
appellant	appel
appele	appel
appelee	appele
appeles	appel
appelez	appelez
appellant	appel
appellants	appel
appelons	appelon
appendix	appendix
apperil	apperil
appertain	appertain
appertaining	appertain
appertainings	appertain
appertains	appertain
appertinent	appertin
appertinents	appertin
appetite	appetit
appetites	appetit
applaud	applaud
applauded	applaud
applauding	applaud
applause	applaus
applauses	applaus
apple	appl
apples	appl
appletart	appletart
appliance	applianc
appliances	applianc
applications	applic
applied	appli
applies	appli
apply	appli

applying	appli
appoint	appoint
appointed	appoint
appointment	appoint
appointments	appoint
appoints	appoint
apprehend	apprehend
apprehended	apprehend
apprehends	apprehend
apprehension	apprehens
apprehensions	apprehens
apprehensive	apprehens
apprendre	apprendr
apprenne	apprenn
apprenticehood	apprenticehood
appris	appri
approach	approach
approachers	approach
approaches	approach
approacheth	approacheth
approaching	approach
approbation	approb
aproof	aproof
appropriation	appropri
approv	approv
approve	approv
approved	approv
approvers	approv
approves	approv
appurtenance	appurten
appurtenances	appurten
apricocks	apricock
april	april
apron	apron
aprons	apron
apt	apt
apter	apter
aptest	aptest
aptly	aptli
aptness	apt
aqua	aqua
aquilon	aquilon
aquitaine	aquitain
arabia	arabia
arabian	arabian
araise	arais
arbitrate	arbitr
arbitrating	arbitr

arbitrator	arbitr
arbitrement	arbitr
arbors	arbor
arbour	arbour
arc	arc
arch	arch
archbishop	archbishop
archbishopric	archbishopr
archdeacon	archdeacon
arched	arch
archelaus	archelau
archer	archer
archers	archer
archery	archeri
archibald	archibald
archidamus	archidamu
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autumn	autumn
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belch	belch
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bess	bess
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bickerings	bicker
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bidding	bid
biddings	bid
bidly	bidli
bide	bide
bides	bide
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bilbo	bilbo
bilboes	bilbo
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binding	bind

binds	bind
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birding	bird
birdlime	birdlim
birds	bird
birnam	birnam
birth	birth
birthday	birthdai
birthdom	birthdom
birthplace	birthplac
birthright	birthright
birthrights	birthright
births	birth
bis	bi
biscuit	biscuit
bishop	bishop
bishops	bishop
bisson	bisson
bit	bit
bitch	bitch
bite	bite
biter	biter
bites	bite
biting	bite
bits	bit
bitt	bitt
bitten	bitten
bitter	bitter
bitterest	bitterest
bitterly	bitterli
bitterness	bitter
blab	blab
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blabbing	blab
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black	black
blackamoor	blackamoor
blackamoors	blackamoor
blackberries	blackberri
blackberry	blackberri
blacker	blacker
blackest	blackest
blackfriars	blackfriar
blackheath	blackheath
blackmere	blackmer
blackness	black

blacks	black
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bladders	bladder
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blame	blame
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blameful	blame
blameless	blameless
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blanc	blanc
blanca	blanca
blanch	blanch
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blasphemous	blasphem
blasphemy	blasphemi
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blasted	blast
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blastments	blastment
blasts	blast
blaz	blaz
blaze	blaze
blazes	blaze
blazing	blaze
blazon	blazon
blazoned	blazon
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bleedeth	bleedeth
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blemishes	blemish
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blenches	blench
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blessed	bless
blessedly	blessedly
blessedness	blessed
blesses	bless
blesseth	blesseth
blessing	bless
blessings	bless
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blinding	blind
blindly	blindly
blindness	blind
blinds	blind
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blinking	blink
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blister	blister
blisters	blister
blithe	blith
blithild	blithild
bloat	bloat
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blocks	block
blois	blois
blood	blood
blooded	blood
bloodhound	bloodhound
bloodied	bloodi
bloodier	bloodier
bloodiest	bloodiest
bloodily	bloodily
bloodless	bloodless
bloods	blood
bloodshed	bloodsh

bloodshedding	bloodshed
bloodstained	bloodstain
bloody	bloodi
bloom	bloom
blooms	bloom
blossom	blossom
blossoming	blossom
blossoms	blossom
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blots	blot
blotted	blot
blotting	blot
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blowers	blower
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blowing	blow
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blows	blow
blowse	blows
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blubber	blubber
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bluecaps	bluecap
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blunter	blunter
bluntest	bluntest
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bluntly	bluntli
bluntness	blunt
blunts	blunt
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blushes	blush
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blusterer	bluster
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boarish	boarish
boars	boar
boast	boast
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boastful	boast
boasting	boast
boasts	boast
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boats	boat
boatswain	boatswain
bob	bob
bobb	bobb
boblibindo	boblibindo
bobtail	bobtail
bocchus	bocchu
bode	bode
boded	bode
bodements	bodement
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bodiless	bodiless
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boding	bode
bodkin	bodkin
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bodykins	bodykin
bog	bog
boggle	boggl
boggler	boggler
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bohemia	bohemia
bohemian	bohemian
bohun	bohun
boil	boil
boiling	boil
boils	boil
boist	boist
boisterous	boister
boisterously	boister
boitier	boitier
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bolden	bolden

bolder	bolder
boldest	boldest
boldly	boldli
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bolingbroke	bolingbrok
bolster	bolster
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bombast	bombast
bon	bon
bona	bona
bond	bond
bondage	bondag
bonded	bond
bondmaid	bondmaid
bondman	bondman
bondmen	bondmen
bonds	bond
bondslave	bondslav
bone	bone
boneless	boneless
bones	bone
bonfire	bonfir
bonfires	bonfir
bonjour	bonjour
bonne	bonn
bonnet	bonnet
bonneted	bonnet
bonny	bonni
bonos	bono
bonto	bonto
bonville	bonvil
bood	bood
book	book
bookish	bookish
books	book
boon	boon
boor	boor
boorish	boorish
boors	boor
boot	boot

booted	boot
booties	booti
bootless	bootless
boots	boot
booty	booti
bor	bor
bora	bora
borachio	borachio
bordeaux	bordeaux
border	border
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borderers	border
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boreas	borea
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boroughs	borough
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borrowed	borrow
borrower	borrow
borrowing	borrow
borrows	borrow
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boskos	bosko
bosky	boski
bosom	bosom
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boson	boson
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bosworth	bosworth
botch	botch
botcher	botcher
botches	botch
botchy	botchi
both	both
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bottle	bottl
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bounds	bound
bounteous	bounteou
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bounties	bounti
bountiful	bounti
bountifully	bountifulli
bounty	bounti
bourbier	bourbier
bourbon	bourbon
bourchier	bourchier
bourdeaux	bourdeaux
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bowcase	bowcas
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bowels	bowel
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bowl	bowl
bowler	bowler
bowling	bowl
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bowsprit	bowsprit
bowstring	bowstr
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brabantio	brabantio
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braggards	braggard
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brained	brain
brainford	brainford
brainish	brainish
brainless	brainless
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brainsick	brainsick
brainsickly	brainsickli
brake	brake
brakenbury	brakenburi
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bravely	brave
braver	braver
bravery	braveri
braves	brave
bravest	bravest
braving	brave
brawl	brawl
brawler	brawler
brawling	brawl
brawls	brawl
brawn	brawn
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brazen	brazen
brazier	brazier
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breaker	breaker
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breaking	break
breaks	break
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breasts	breast
breath	breath
breathe	breath
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breathless	breathless
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breeches	breech
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breff	breff
bretagne	bretagn
brethen	brethen
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brethren	brethren
brevis	brevi
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brewage	brewag
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brews	brew
briareus	briareu
briars	briar
brib	brib
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briber	briber
bribes	bribe
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bricklayer	bricklay
bricks	brick
bridal	bridal
bride	bride
bridegroom	bridegroom
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bridge	bridg
bridgenorth	bridgenorth
bridges	bridg
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briefefer	briefefer
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brier	brier
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bright	bright
brighten	brighten

brightest	brightest
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brittany	brittani
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broach	broach
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broader	broader
broadsides	broadsid
brocas	broca
brock	brock
brogues	brogu
broil	broil
broiling	broil
broils	broil
broke	broke
broken	broken
brokenly	brokenli
broker	broker
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brooded	brood
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broth	broth
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brotherhood	brotherhood
brotherhoods	brotherhood
brotherly	brotherli
brothers	brother
broths	broth
brought	brought
brow	brow
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browner	browner
brownist	brownist
browny	browni
brows	brow
browse	brows
browsing	brows
bruise	brui
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bruised	bruise
bruises	bruise
bruising	bruise
bruit	bruit
bruted	bruit
brundusium	brundusium
brunt	brunt
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brute	brute
brutish	brutish
brutus	brutu
bubble	bubbl
bubbles	bubbl
bubbling	bubbl
bubukles	bubukl
buck	buck
bucket	bucket

buckets	bucket
bucking	buck
buckingham	buckingham
buckle	buckl
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buckler	buckler
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bucklersbury	bucklersburi
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buckram	buckram
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bud	bud
budded	bud
budding	bud
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budger	budger
budget	budget
buds	bud
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buffet	buffet
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bugbear	bugbear
bugle	bugl
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buildeth	buildeth
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buildings	build
builds	build
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bulks	bulk
bull	bull
bullcalf	bullcalf
bullen	bullen
bullens	bullen
bullet	bullet
bullets	bullet
bullocks	bullock
bulls	bull
bully	bulli
bulmer	bulmer
bulwark	bulwark
bulwarks	bulwark
bum	bum

bumbast	bumbast
bump	bump
bumper	bumper
bums	bum
bunch	bunch
bunches	bunch
bundle	bundl
bung	bung
bunghole	bunghol
bungle	bungl
bunting	bunt
buoy	buoi
bur	bur
burbolt	burbolt
burd	burd
burden	burden
burdened	burden
burdening	burden
burdenous	burden
burdens	burden
burgh	burgh
burgher	burgher
burghers	burgher
burglary	burglari
burgomasters	burgomast
burgonet	burgonet
burgundy	burgundi
burial	burial
buried	huri
burier	burier
buriest	buriest
burly	burli
burn	burn
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burning	burn
burnish	burnish
burns	burn
burnt	burnt
burr	burr
burrows	burrow
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burst	burst
bursting	burst
bursts	burst
burthen	burthen
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burton	burton
bury	huri
burying	huri
bush	bush
bushels	bushel
bushes	bush
bushy	bushi
busied	busi
busily	busili
business	busin
business	busi
businesses	busi
buskin	buskin
busky	buski
buss	buss
busses	buss
bussing	buss
bustle	bustl
bustling	bustl
busy	busi
but	but
butcheed	butche
butcher	butcher
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butcheries	butcheri
butcherly	butcherli
butchers	butcher
butchery	butcheri
butler	butler
butt	butt
butter	butter
battered	butter
butterflies	butterfli
butterfly	butterfli
butterwoman	butterwoman
buttery	butteri
buttock	buttock
buttocks	buttock
button	button
buttonhole	buttonhol
buttons	button
buttress	buttress
buttry	buttri
butts	butt
buxom	buxom
buy	bui
buyer	buyer
buying	bui

buys	bui
buzz	buzz
buzzard	buzzard
buzzards	buzzard
buzzers	buzzer
buzzing	buzz
by	by
bye	bye
byzantium	byzantium
c	c
ca	ca
cabbage	cabbag
cabileros	cabilero
cabin	cabin
cabins	cabin
cable	cabl
cables	cabl
cackling	cackl
cacodemon	cacodemon
caddis	caddi
caddisses	caddiss
cade	cade
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cadent	cadent
caes	cade
cadmus	cadmu
caduceus	caduceu
cadwal	cadwal
cadwallader	cadwallad
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caelo	caelo
caesar	caesar
caesarion	caesarion
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caius	caiu
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calaber	calab
calais	calai
calamities	calam

calamity	calam
calchas	calcha
calculate	calcul
calen	calen
calendar	calendar
calendars	calendar
calf	calf
caliban	caliban
calibans	caliban
calipolis	calipoli
cality	caliti
caliver	caliv
call	call
callat	callat
called	call
callet	callet
calling	call
calls	call
calm	calm
calmest	calmest
calmly	calmli
calmness	calm
calms	calm
calpurnia	calpurnia
calumniate	calumni
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calumnious	calumni
calumny	calumni
calve	calv
calved	calv
calves	calv
calveskins	calveskin
calydon	calydon
cam	cam
cambio	cambio
cambria	cambria
cambric	cambric
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cambridge	cambridg
cambyses	cambys
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camelot	camelot
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camest	camest
camillo	camillo
camlet	camlet
camomile	camomil

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campeius	campeiu
camping	camp
camps	camp
can	can
canakin	canakin
canaries	canari
canary	canari
cancel	cancel
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candied	candi
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candlesticks	candlestick
candy	candi
canidius	canidiu
cank	cank
canker	canker
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cannibals	cannib
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cannoneer	cannon
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canoniz	canoniz
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canopies	canopi
canopy	canopi
canst	canst
canstick	canstick
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cantle	cantl
cantons	canton
canus	canu
canvas	canva
canvass	canvass
canzonet	canzonet

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capability	capabl
capable	capabl
capacities	capac
capacity	capac
caparison	caparison
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capitol	capitol
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capricious	caprici
caps	cap
capt	capt
captain	captain
captains	captain
captainship	captainship
captious	captiou
captivate	captiv
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capucius	capuciu
capulet	capulet
capulets	capulet
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carack	carack
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carat	carat
caraways	carawai

carbonado	carbonado
carbuncle	carbuncl
carbuncled	carbuncl
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carcanet	carcanet
carcase	carcas
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cardmaker	cardmak
cards	card
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careful	care
carefully	carefulli
careless	careless
carelessly	carelessli
carelessness	careless
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cargo	cargo
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carlisle	carlisl
carlot	carlot
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carp	carp

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carper	carper
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carriage	carriag
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cas	ca
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casaer	casaer
casca	casca
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casement	casement
casements	casement
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cash	cash
cashier	cashier
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caskets	casket
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cassado	cassado
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cassibelan	cassibelan
cassio	cassio
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cassocks	cassock
cast	cast
castalion	castalion
castaway	castawai
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casted	cast
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castigate	castig
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castle	castl
castles	castl
casts	cast
casual	casual
casually	casual
casualties	casualti
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cat	cat
cataian	cataian
catalogue	catalogu
cataplasm	cataplasm
cataracts	cataract
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catechize	catech
cater	cater
caterpillars	caterpillar
caters	cater
caterwauling	caterwaul
cates	cate
catesby	catesbi
cathedral	cathedr
catlike	catlik
catling	catl
catlings	catl
cato	cato
cats	cat
cattle	cattl
caucasus	caucasu



caudle	caudl
cauf	cauf
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caused	caus
causeless	causeless
causer	causer
causes	caus
causest	causest
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cautel	cautel
cautelous	cautel
cautels	cautel
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cautions	caution
cavaleiro	cavaleiro
cavalery	cavaleri
cavaliers	cavali
cave	cave
cavern	cavern
caverns	cavern
caves	cave
caveto	caveto
caviary	caviari
cavil	cavil
cavilling	cavil
cawdor	cawdor
cawdron	cawdron
cawing	caw
ce	ce
ceas	cea
cease	ceas
ceases	ceas
ceaseth	ceaseth
cedar	cedar
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croaking	croak
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cytherea	cytherea
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daffodils	daffodil
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daggers	dagger
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daily	daili
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daintiest	daintiest
daintily	daintili
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dalmatians	dalmatian
dam	dam
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delightful	delight

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deliverance	deliver
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delphos	delpho
deluded	delud
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delve	delv
delver	delver
delves	delv
demand	demand
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fico	fico
fiction	fiction
fiddle	fiddl
fiddler	fiddler
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firstlings	firstl
fish	fish
fisher	fisher
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flew	flew
flexible	flexibl
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fliers	flier
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fumbles	fumbl
fumblest	fumblest
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gallowses	gallows
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gangren	gangren
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gaols	gaol
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gardens	garden
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gardon	gardon
gargantua	gargantua
gargrave	gargrav
garish	garish
garland	garland
garlands	garland
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garments	garment
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garner	garner
garners	garner
garnish	garnish
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garrison	garrison

garrisons	garrison
gart	gart
garter	garter
garterd	garterd
gartering	garter
garters	garter
gascony	gasconi
gash	gash
gashes	gash
gaskins	gaskin
gasp	gasp
gasping	gasp
gasted	gast
gastness	gast
gat	gat
gate	gate
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gates	gate
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gathers	gather
gatories	gatori
gatory	gatori
gaud	gaud
gaudeo	gaudeo
gaudy	gaudi
gauge	gaug
gaul	gaul
gaultree	gaultre
gaunt	gaunt
gauntlet	gauntlet
gauntlets	gauntlet
gav	gav
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gavest	gavest
gawded	gawd
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gawsey	gawsei
gay	gai
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gazeth	gazeth
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geffrey	geffrei
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gelida	gelida
gelidus	gelidu
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geminy	gemini
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gender	gender
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general	gener
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generals	gener
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generosity	generos
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genitive	genit
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genius	geniu
gennets	gennet
genoa	genoa
genoux	genoux
gens	gen
gent	gent
gentilhomme	gentilhomm
gentility	gentil
gentle	gentl
gentlefolks	gentlefolk
gentleman	gentleman
gentlemanlike	gentlemanlik
gentlemen	gentlemen
gentleness	gentl
gentler	gentler
gentles	gentl
gentlest	gentlest
gentlewoman	gentlewoman
gentlewomen	gentlewomen
gently	gentli



gentry	gentri
george	georg
gerard	gerard
germaines	germain
germans	germain
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germans	german
germany	germani
gertrude	gertrud
gest	gest
gests	gest
gesture	gestur
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getrude	getrud
gets	get
getter	getter
getting	get
ghastly	ghastli
ghost	ghost
ghosted	ghost
ghostly	ghostli
ghosts	ghost
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giant	giant
giantess	giantess
giantlike	giantlik
giants	giant
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gibber	gibber
gibbet	gibbet
gibbets	gibbet
gibe	gibe
giber	giber
gibes	gibe
gibing	gibe
gibingly	gibingli
giddily	giddili
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giglets	giglet
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gimmers	gimmer
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gingerly	gingerli
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gins	gin
gioucestershire	gioucestershir
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gipsies	gipsi
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girl	girl
girls	girl
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givers	giver
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givest	givest
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giving	give
givings	give
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gladded	glad
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gladly	gladli
gladness	glad
glamis	glami
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glanders	glander
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glisters	glisten
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glittering	glitter
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gloomy	gloomi
glories	glori
glorified	glorifi
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glorious	gloriou
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glosses	gloss
glou	glou
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glove	glove
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glowed	glow
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gnaws	gnaw
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goaded	goad
goads	goad
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goatish	goatish
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gobbo	gobbo

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goblins	goblin
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godden	godden
goddess	goddess
goddesses	goddess
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godfather	godfath
godfathers	godfath
godhead	godhead
godlike	godlik
godliness	godli
godly	godli
godmother	godmoth
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gogs	gog
going	go
gold	gold
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goldsmith	goldsmith
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golgotha	golgotha
goliases	goliias
goliath	goliath
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gondolier	gondoli
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goneril	goneril
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gonzalo	gonzalo
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goodlier	goodlier
goodliest	goodliest
goodly	goodli

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goodness	good
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goodwill	goodwil
goodwin	goodwin
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gooseberry	gooseberri
goosequills	goosequil
goot	goot
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gorbellied	gorbelli
gorboduc	gorboduc
gordian	gordian
gore	gore
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gorgeous	gorgeou
gorget	gorget
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gory	gori
gosling	gosl
gospel	gospel
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govern	govern

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grafters	grafter
grain	grain
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grandeur	grandeur
grandfather	grandfath
grandjurors	grandjuror
grandmother	grandmoth
grandpre	grandpr
grandsir	grandsir
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grant	grant
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grasshoppers	grasshopp
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gratiano	gratiano
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graymalkin	graymalkin
graz	graz
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grazing	graze
grease	greas



greases	greas
greasily	greasili
greasy	greasi
great	great
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green	green
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greenly	greenli
greens	green
greensleeves	greensleev
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greetings	greet
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gregory	gregori
gremio	gremio
grew	grew
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greybeard	greybeard
greybeards	greybeard
greyhound	greyhound
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grievance	grievanc
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grievous	grievou
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grin	grin
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groping	grope
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gross	gross
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grossness	gross
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groundlings	groundl
grounds	ground
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grudges	grudg
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grumblest	grumblest
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grumblings	grumbl
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grunt	grunt
gualtier	gualtier
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guardage	guardag
guardant	guardant
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gud	gud
gudgeon	gudgeon
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guerra	guerra
guess	guess
guesses	guess
guessingly	guessingli
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guiana	guiana
guichard	guichard
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guided	guid
guider	guider
guiderius	guideriu
guides	guid
guiding	guid

guidon	guidon
guienne	guienn
guil	guil
guidenstern	guidenstern
guilders	guilder
guildford	guildford
guildhall	guildhal
guile	guil
guiled	guil
guileful	guil
guilfords	guilford
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guiltian	guiltian
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guiltily	guiltili
guiltiness	guilti
guiltless	guiltless
guilts	guilt
guilty	guilti
guinea	guinea
guinever	guinev
guise	guis
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gulfs	gulf
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gulls	gull
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gun	gun
gunner	gunner
gunpowder	gunpowd
guns	gun
gurnet	gurnet
gurney	gurnei
gust	gust
gusts	gust
gusty	gusti
guts	gut
gutter	gutter
guy	gui
guynes	guyn
guysors	guysor
gypsy	gypsi
gyve	gyve
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haberdasher	haberdash
habiliment	habili
habiliments	habili
habit	habit
habitation	habit
habited	habit
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habitude	habitud
hack	hack
hacket	hacket
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haec	haec
haeres	haer
hag	hag
hagar	hagar
haggard	haggard
haggards	haggard
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haggled	haggl
hags	hag
hail	hail
hailed	hail
hailstone	hailston
hailstones	hailston
hair	hair
hairless	hairless
hairs	hair
hairy	hairi
hal	hal
halberd	halberd
halberds	halberd
halcyon	halcyon
hale	hale
haled	hale
hales	hale
half	half
halfcan	halfcan
halfpence	halfpenc
halfpenny	halfpenni
halfpennyworth	halfpennyworth
halfway	halfwai
halidom	halidom

hall	hall
halloa	halloa
halloing	hallo
hallond	hallond
halloo	halloo
halloing	halloo
hallow	hallow
hallowed	hallow
hallowmas	hallowma
hallown	hallown
hals	hal
halt	halt
halter	halter
halters	halter
halting	halt
halts	halt
halves	halv
ham	ham
hames	hame
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hammering	hammer
hammers	hammer
hamper	hamper
hampton	hampton
hams	ham
hamstring	hamstr
hand	hand
handed	hand
handful	hand
handicraft	handicraft
handicraftsmen	handicraftsmen
handing	hand
handiwork	handiwork
handkercher	handkerch
handkerchers	handkerch
handkerchief	handkerchief
handle	handl
handled	handl
handles	handl
handless	handless
handlest	handlest
handling	handl
handmaid	handmaid
handmaids	handmaid
hands	hand
handsaw	handsaw

handsome	handsom
handsomely	handsom
handsomeness	handsom
handwriting	handwrit
handy	handi
hang	hang
hanged	hang
hangers	hanger
hangeth	hangeth
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hangings	hang
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hangmen	hangmen
hangs	hang
hannibal	hannib
hap	hap
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happ	happ
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happiest	happiest
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harbinger	harbing
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harbours	harbour
harcourt	harcourt
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hardly	hardli
hardness	hard
hardocks	hardock
hardy	hardi
hare	hare
harelip	harelip

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harfleur	harfleur
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harlot	harlot
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haughty	haughti
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headborough	headborough
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headsman	headsman
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heady	headi
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healthy	healthi
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heaping	heap
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hearings	hear
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heartbreaking	heartbreak
hearted	heart
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hearths	hearth
heartily	heartili
heartiness	hearti
heartless	heartless

heartlings	heartl
heartly	heartli
hearts	heart
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heartstrings	heartstr
heartly	hearti
heat	heat
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heath	heath
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heathenish	heathenish
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heav	heav
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heaved	heav
heaven	heaven
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heaves	heav
heavier	heavier
heaviest	heaviest
heavily	heavili
heaviness	heavi
heaving	heav
heavings	heav
heavy	heavi
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hector	hector
hectors	hector
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hedg	hedg
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hedgehog	hedgehog
hedgehogs	hedgehog
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heedfull	heedful
heedfully	heedfulli
heedless	heedless
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hefted	heft
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heifers	heifer
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heighten	heighten
heinous	heinou
heinously	heinous
heir	heir
heiress	heiress
heirless	heirless
heirs	heir
held	held
helen	helen
helena	helena
helenus	helenu
helias	helia
helicons	helicon
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hellfire	hellfir
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hemp	hemp
hempen	hempen
hems	hem
hen	hen
hence	henc
henceforth	henceforth
henceforward	henceforward
henchman	henchman

henri	henri
henricus	henricu
henry	henri
hens	hen
hent	hent
henton	henton
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herald	herald
heraldry	heraldri
heralds	herald
herb	herb
herbert	herbert
herblets	herblet
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hercules	hercul
herd	herd
herds	herd
herdsman	herdsman
herdsmen	herdsmen
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hereabout	hereabout
hereabouts	hereabout
hereafter	hereaft
hereby	herebi
hereditary	hereditari
hereford	hereford
herefordshire	herefordshir
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hereof	hereof
heresies	heresi
heresy	heresi
heretic	heret
heretics	heret
hereto	hereto
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heritage	heritag
heritier	heriti
hermes	herm
hermia	hermia
hermione	hermion
hermit	hermit
hermitage	hermitag
hermits	hermit
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irrecoverable	irrecover
irregular	irregular
irregulous	irregul
irreligious	irreligi
irremovable	irremov
irreparable	irrepar
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itshall	itshal
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jack	jack
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jacob	jacob
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james	jame
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january	januari
janus	janu
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jawbone	jawbon
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jealous	jealou
jealousies	jealou <i>i</i>
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jelly	jelli
jenny	jenni
jeopardy	jeopardi
jephtha	jephtha
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jeshu	jeshu
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jolly	jolli
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jordan	jordan
joseph	joseph
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juno	juno
jupiter	jupit
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jurisdiction	jurisdict
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lace	lace
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lackey	lackei
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lackeys	lackei
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latches	latch
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laud	laud
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laughter	laughter
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lawrence	lawrenc
laws	law
lawyer	lawyer
lawyers	lawyer
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lazarus	lazaru
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leasing	leas
least	least

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leathern	leathern
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leave	leav
leaven	leaven
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leaver	leaver
leaves	leav
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leavy	leavi
lecher	lecher
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lecture	lectur
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legacies	legaci
legacy	legaci
legate	legat
legatine	legatin
lege	lege
legerity	leger
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legion	legion
legions	legion
legitimate	legitim
legitimation	legitim
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leicester	leicest
leicestershire	leicestershir
leiger	leiger
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leisurely	leisur
leisures	leisur
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leopard	leopard
leopards	leopard
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let	let
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lethe	leth
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letter	letter
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lettuce	lettuc
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liberte	libert
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library	librari
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licence	licenc
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licentious	licenti
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lictors	lictor
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lids	lid
lie	lie
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lief	lief
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liege	lieg
liegeman	liegeman
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lien	lien
lies	li
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lieu	lieu
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loquitur	loquitur
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lordings	lord
lordliness	lordli
lordly	lordli
lords	lord
lordship	lordship
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loudly	loudli
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louring	lour
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lubber	lubber
lubberly	lubberli
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luce	luce
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lucis	luce
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luciana	luciana
lucianus	lucianu
lucifer	lucif
lucifier	lucifi

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lucina	lucina
lucio	lucio
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luck	luck
luckier	luckier
luckiest	luckiest
luckily	luckili
luckless	luckless
lucky	lucki
lucre	lucr
lucrece	lucrec
lucretia	lucretia
lucullius	luculliu
lucullus	lucullu
lucy	luci
lud	lud
ludlow	ludlow
lug	lug
lugg	lugg
luggage	luggag
luke	luke
lukewarm	lukewarm
lull	lull
lulla	lulla
lullaby	lullabi
lulls	lull
lumbert	lumbert
lump	lump
lumpish	lumpish
luna	luna
lunacies	lunaci
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lunatic	lunat
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lunes	lune
lungs	lung
lupercal	luperc
lurch	lurch
lure	lure
lurk	lurk
lurketh	lurketh
lurking	lurk
lurks	lurk
luscious	luscio
lush	lush
lust	lust
lusted	lust

luster	luster
lustful	lust
lustier	lustier
lustiest	lustiest
lustig	lustig
lustihood	lustihood
lustily	lustili
lustre	lustr
lustrous	lustrou
lusts	lust
lusty	lusti
lute	lute
lutes	lute
lutestring	lutestr
lutheran	lutheran
luxurious	luxuri
luxuriously	luxuri
luxury	luxuri
ly	ly
lycaonia	lycaonia
lycurguses	lycurgus
lydia	lydia
lye	lye
lyen	lyen
lying	ly
lym	lym
lymoges	lymog
lynn	lynn
lysander	lysand
m	m
ma	ma
maan	maan
mab	mab
macbeth	macbeth
maccabaeus	maccabaeu
macdonwald	macdonwald
macduff	macduff
mace	mace
macedon	macedon
maces	mace
machiavel	machiavel
machination	machin
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machine	machin
mack	mack
macmorris	macmorri
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mad	mad
madam	madam
madame	madam
madams	madam
madcap	madcap
madded	mad
madding	mad
made	made
madeira	madeira
madly	madli
madman	madman
madmen	madmen
madness	mad
madonna	madonna
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mads	mad
maecenas	maecena
maggot	maggot
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magical	magic
magician	magician
magistrate	magistr
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magnanimity	magnanim
magnanimous	magnanim
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mahomet	mahomet
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maid	maid
maiden	maiden
maidenhead	maidenhead
maidenheads	maidenhead
maidenhood	maidenhood
maidenhoods	maidenhood
maidenliest	maidenliest
maidenly	maidenli
maidens	maiden
maidhood	maidhood
maids	maid
mail	mail
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mails	mail
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main	main
maincourse	maincours
maine	main
mainly	mainli
mainmast	mainmast
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mais	mai
maison	maison
majestas	majesta
majestee	majeste
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malcolm	malcolm
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malefactions	malefact
malefactor	malefactor
malefactors	malefactor

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malevolence	malevol
malevolent	malevol
malhecho	malhecho
malice	malic
malicious	malici
maliciously	malici
malign	malign
malignancy	malign
malignant	malign
malignantly	malignantli
malkin	malkin
mall	mall
mallard	mallard
mallet	mallet
mallows	mallow
malmsey	malmsei
malt	malt
maltworms	maltworm
malvolio	malvolio
mamillius	mamilliu
mammering	mammer
mammet	mammet
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manage	manag
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manakin	manakin
manchus	manchu
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mandragora	mandragora
mandrake	mandrak
mandrakes	mandrak
mane	mane
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manfully	manfulli
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manhood	manhood
manhoods	manhood
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manifests	manifest
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manifoldly	manifoldli
manka	manka
mankind	mankind
manlike	manlik
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manna	manna
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mannerly	mannerli
manners	manner
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mannish	mannish
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mans	man
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mansionry	mansionri
mansions	mansion
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mantle	mantl
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mar	mar
marble	marbl
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marcade	marcad
marcellus	marcellu
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marches	march
marcheth	marcheth
marching	march
marchioness	marchio

marchpane	marchpan
marcians	marcian
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mare	mare
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maria	maria
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marjoram	marjoram
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marketplace	marketplac
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markman	markman
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marquess	marquess
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marriage	marriag
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marseilles	marseil
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marshal	marshal
marshalsea	marshalsea
marshalship	marshalship
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martem	martem
martext	martext
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martin	martin
martino	martino
martius	martiu
martlemas	martlema
martlet	martlet
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marv	marv
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marvellous	marvel
marvellously	marvel
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masham	masham
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master	master
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masterest	masterest
masterless	masterless
masterly	masterli
masterpiece	masterpiec
masters	master
mastership	mastership
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mastiff	mastiff
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masts	mast
match	match
matches	match
matcheth	matcheth
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matchless	matchless
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material	materi
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mathematics	mathemat
matin	matin
matron	matron
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matters	matter
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mature	matur
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maud	maud
maudlin	maudlin
maugre	maugr
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mauri	mauri
mauritania	mauritania
mauvais	mauvai
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maxim	maxim
may	mai
mayday	maydai
mayest	mayest

mayor	mayor
maypole	maypol
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medlars	medlar
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meekly	meekli
meekness	meek
meet	meet
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meetest	meetest
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meetings	meet
meetly	meetli
meetness	meet
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mehercle	mehercl
meilleur	meilleur
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meisen	meisen
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mell	mell
mellifluous	melliflu
mellow	mellow
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melody	melodi
melt	melt



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memorandums	memorandum
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memorials	memori
memories	memori
memoriz	memoriz
memorize	memor
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menaphon	menaphon
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menelaus	menelau
menenius	meneniu
mental	mental
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mention	mention
mentis	menti
menton	menton
mephostophilus	mephostophilu
mer	mer
mercatante	mercatant
mercatio	mercatio
mercenaries	mercenari
mercenary	mercenari
mercer	mercer
merchandise	merchandis
merchandized	merchand
merchant	merchant
merchants	merchant
mercies	merci

merciful	merci
mercifully	mercifulli
merciless	merciless
mercurial	mercuri
mercuries	mercuri
mercury	mercuri
mercutio	mercutio
mercy	merci
mere	mere
mered	mere
merely	mere
merest	merest
meridian	meridian
merit	merit
merited	merit
meritorious	meritori
merits	merit
merlin	merlin
mermaid	mermaid
mermaids	mermaid
merops	merop
merrier	merrier
merriest	merriest
merrily	merrili
merriman	merriman
merriment	merriment
merriments	merriment
merriness	merri
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mes	me
mesh	mesh
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mesopotamia	mesopotamia
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message	messag
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messala	messala
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messenger	messeng
messengers	messeng
messes	mess
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metal	metal
metals	metal
metamorphis	metamorphi
metamorphoses	metamorphos

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metaphysical	metaphys
metaphysics	metaphys
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metellus	metellu
meteor	meteor
meteors	meteor
meteyard	meteyard
metheglin	metheglin
metheglins	metheglin
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methinks	methink
method	method
methods	method
methought	methought
methoughts	methought
metre	metr
metres	metr
metropolis	metropoli
mette	mett
mettle	mettl
mettled	mettl
meus	meu
mew	mew
mewed	mew
mewling	mewl
mexico	mexico
mi	mi
mice	mice
michael	michael
michaelmas	michaelma
micher	micher
miching	mich
mickle	mickl
microcosm	microcosm
mid	mid
midas	mida
middest	middest
middle	middl
middleham	middleham
midnight	midnight
midriff	midriff
midst	midst
midsummer	midsumm
midway	midwai
midwife	midwif
midwives	midwiv
mienne	mienn

might	might
mightful	might
mightier	mightier
mightiest	mightiest
mightily	mightily
mightiness	mighti
mightst	mightst
mighty	mighti
milan	milan
milch	milch
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milder	milder
mildest	mildest
mildew	mildew
mildews	mildew
mildly	mildli
mildness	mild
mile	mile
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milford	milford
militarist	militarist
military	militari
milk	milk
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milkmaid	milkmaid
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milksops	milksop
milky	milki
mill	mill
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milliner	millin
million	million
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millions	million
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millstones	millston
milo	milo
mimic	mimic
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mind	mind
minded	mind
mindng	mind
mindless	mindless
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mineral	miner
minerals	miner
minerva	minerva
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mingled	mingl
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minikin	minikin
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minime	minim
minimo	minimo
minimus	minimu
mining	mine
minion	minion
minions	minion
minist	minist
minister	minist
ministers	minist
ministration	ministr
minnow	minnow
minnows	minnow
minola	minola
minority	minor
minos	mino
minotaurs	minotaur
minstrel	minstrel
minstrels	minstrel
minstrelsy	minstrelsi
mint	mint
mints	mint
minute	minut
minutely	minut
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minx	minx
mio	mio
mir	mir
mirable	mirabl
miracle	miracl
miracles	miracl
miraculous	miracul
miranda	miranda
mire	mire
mirror	mirror
mirrors	mirror
mirth	mirth
mirthful	mirth
miry	miri

mis	mi
misadventur	misadventur
misadventure	misadventur
misanthropos	misanthropo
misapplied	misappli
misbecame	misbecam
misbecom	misbecom
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misbeliever	misbeliev
misbelieving	misbeliev
misbhav	misbhav
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miscarried	miscarri
miscarries	miscarri
miscarry	miscarri
miscarrying	miscarri
mischance	mischanc
mischances	mischanc
mischief	mischief
mischiefs	mischief
mischievous	mischiev
misconceived	misconceiv
misconst	misconst
misconster	misconst
misconstruction	misconstruct
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misconstrues	misconstru
miscreant	miscreant
miscreate	miscreat
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misdeeds	misde
misdemean	misdemean
misdemeanours	misdemeanour
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misdoubts	misdoubt
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miser	miser
miserable	miser
miserably	miser
misericorde	misericord
miseries	miseri
misers	miser
misery	miseri
misfortune	misfortun

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misgive	misgiv
misgives	misgiv
misgiving	misgiv
misgoverned	misgovern
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misguide	misguid
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missives	missiv
misspoke	misspok
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mistak	mistak
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mistaken	mistaken
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mistaketh	mistaketh

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mistakings	mistak
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misus	misu
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mithridates	mithrid
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mockery	mockeri
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mocks	mock



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moderation	moder
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modesties	modesti
modestly	modestli
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modicums	modicum
modo	modo
module	modul
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moiety	moiety
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moisture	moistur
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mollis	molli
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monarchize	monarch
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monarchy	monarchi
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monde	mond

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moneys	monei
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montant	montant
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montgomery	montgomeri
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monthly	monthli
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moods	mood
moody	moodi
moon	moon
moonbeams	moonbeam
moonish	moonish
moonlight	moonlight
moons	moon

moonshine	moonshin
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mopsa	mopsa
moral	moral
moraler	moral
morality	moral
moralize	moral
mordake	mordak
more	more
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mores	more
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mornings	morn
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morrows	morrow
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mortimer	mortim
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mortis	morti
mortise	mortis
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mothers	mother
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motive	motiv
motives	motiv
motley	motlei
mots	mot
mought	mought
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moulds	mould
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mounsieur	mounsieur
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mountaineer	mountain
mountaineers	mountain
mountainous	mountain
mountains	mountain
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mountanto	mountanto
mountebank	mountebank
mountebanks	mountebank
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mounts	mount
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mourned	mourn
mourner	mourner
mourners	mourner
mournful	mourn
mournfully	mournfulli
mourning	mourn
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paltry	paltri
paly	pali
pamp	pamp
pamper	pamper
pamphlets	pamphlet
pan	pan
pancakes	pancack
pancake	pancak
pancakes	pancak
pandar	pandar
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pandarus	pandaru
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panderly	panderli
panders	pander
pandulph	pandulph
panel	panel

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pangs	pang
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pannonians	pannonian
pansa	pansa
pansies	pansi
pant	pant
pantaloons	pantaloons
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pantheon	pantheon
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pantingly	pantingly
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pantry	pantri
pants	pant
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parable	parabl
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paradise	paradis
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patrician	patrician
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patroclus	patroclu
patron	patron
patronage	patronag



patroness	patro
patrons	patron
patrum	patrum
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patterns	pattern
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paulina	paulina
paunch	paunch
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pauses	paus
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pauvres	pauvr
pav	pav
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peaceful	peac
peacemakers	peacemak
peaces	peac
peach	peach
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peacock	peacock
peacocks	peacock

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peaking	peak
peal	peal
peals	peal
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pebbles	pebble
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pecus	pecu
pedant	pedant
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peeped	peep
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peereth	peereth
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peerless	peerless
peers	peer
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peevish	peevish

peevishly	peevishli
peflur	peflur
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pegasus	pegasu
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pelf	pelf
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peloponnesus	peloponnesu
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peradventure	peradventur
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perceive	perceiv
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percies	perci
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percy	perci
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perdita	perdita
perdition	perdit
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perdu	perdu
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perdy	perdi
pere	pere
peregrinate	peregrin
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peremptory	peremptori
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perfected	perfect

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perfectest	perfectest
perfection	perfect
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perfectly	perfectli
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perforce	perforc
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perhaps	perhap
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perilous	peril
perils	peril
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periods	period
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perishest	perishest
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perjur	perjur
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permanent	perman
permission	permiss

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perniciously	pernici
peroration	peror
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perpetuity	perpetu
perplex	perplex
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persecutions	persecut
persecutor	persecutor
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persever	persev
perseverance	persever
persevers	persev
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persuade	persuad
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persuades	persuad

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persuasions	persuas
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pertaunt	pertaunt
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pertly	pertli
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perturbations	perturb
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petitionary	petitionari
petitioner	petition
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peto	peto
petrarch	petrarch
petruchio	petruchio
petter	petter
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petticoats	petticoat
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pettish	pettish
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peu	peu
pew	pew
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pewterer	pewter
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phantasime	phantasim
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pharsalia	pharsalia
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pheebus	pheebu
pheeze	pheez
phibbus	phibbu
philadelphos	philadelpho
philario	philario
philarmonus	philarmonu
philemon	philemon
philip	philip
philippan	philippan
philippe	philipp
philippi	philippi
phillida	phillida
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philomel	philomel
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philosophers	philosoph
philosophical	philosoph
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philostrate	philostr
philotus	philotu
phlegmatic	phlegmat
phoebe	phoeb
phoebus	phoebu
phoenicia	phoenicia
phoenicians	phoenician
phoenix	phoenix
phorbus	phorbu
photinus	photinu
phrase	phrase
phraseless	phraseless



phrases	phrase
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phrynia	phrynia
physic	physic
physical	physic
physician	physician
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physics	physic
pia	pia
pibble	pibbl
pible	pibl
picardy	picardi
pick	pick
pickaxe	pickax
pickaxes	pickax
pickbone	pickbon
picked	pick
pickers	picker
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pickle	pickl
picklock	picklock
pickpurse	pickpurs
picks	pick
pickt	pickt
pickthanks	pickthank
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piec	piec
piece	piec
pieces	piec
piecing	piec
pied	pi
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ierce	pierc
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pierceth	pierceth
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piercy	pierci
piers	pier
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piety	pieti
pig	pig
pigeon	pigeon
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pigmy	pigmi
pigrogromitus	pigrogromitu
pike	pike
pikes	pike
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pilate	pilat
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pilchers	pilcher
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pillagers	pillag
pillar	pillar
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pinion	pinion
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pinnace	pinnac

pins	pin
pinse	pins
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pintpot	pintpot
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pities	piti
pitiful	piti
pitifully	pitifulli
pitiless	pitiless
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poet	poet
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polonius	poloniu
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pontic	pontic



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ponton	ponton
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poorer	poorer
poorest	poorest
poorly	poorli
pop	pop
pope	pope
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popilius	popiliu
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poppy	poppi
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popularity	popular
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posthorses	posthors
posthumus	posthumu
posting	post
postmaster	postmast
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postures	postur
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potations	potat

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potently	potent
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pottle	pottl
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poultice	poultic
poultney	poultnei
pouncet	pouncet
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snatchers	snatcher
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sobs	sob
sociable	sociabl
societies	societi
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socks	sock
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soe	soe
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softer	softer
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softly	softli
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sojourn	sojourn
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sola	sola
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solanio	solanio
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soles	sole
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somerville	somervil
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sometime	sometim
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soothing	sooth
soothsay	soothsai
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sophister	sophist
sophisticated	sophist
sophy	sophi
sops	sop
sorcerer	sorcer
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soul	soul
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southwark	southwark
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sovereign	sovereign
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spigot	spigot
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strappado	strappado
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stratford	stratford
strato	strato
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strawberries	strawberri
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stupid	stupid
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sub	sub
subcontracted	subcontract
subdu	subdu
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subject	subject
subjected	subject
subjection	subject
subjects	subject
submerg	submerg
submission	submiss
submissive	submiss
submit	submit
submits	submit
submitting	submit
suborn	suborn
subornation	suborn
suborned	suborn
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subscribe	subscrib
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subscribes	subscrib
subscription	subscript
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substitute	substitut
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summoners	summon
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sundays	sundai
sunder	sunder
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superficial	superfici
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superfluity	superflu
superfluous	superflu
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superior	superior
supernal	supern
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superpraise	superprais
superscript	superscript
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survivor	survivor
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suspect	suspect
suspected	suspect
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thousands	thousand
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thrall	thrall

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ton	ton
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trinkets	trinket
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truant	truant
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yea	yea
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yesty	yesti
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yielder	yielder
yielders	yielder
yielding	yield
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yokefellow	yokefellow
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zealous zealou
zeals zeal
zed zed
zenelophon zenelophon
zenith zenith
zephyrs zephyr
zir zir
zo zo
zodiac zodiac
zodiacs zodiac
zone zone
zounds zound
zwagger zwagger
}

```

```
Create a full-text index to use for testing the stemmer.
```

```
#
```

```
db close
```

```
sqlite3 db :memory:
```

```
db eval {
```

```
CREATE VIRTUAL TABLE t1 USING fts1(word, tokenize Porter);
```

```
}
```

```
foreach {pfrom pto} $porter_test_data {
```

```
do_test fts1porter-$pfrom {
```

```
execsql {
```

```
DELETE FROM t1_term;
```

```
DELETE FROM t1_content;
```

```
INSERT INTO t1(word) VALUES($pfrom);
```

```
SELECT term FROM t1_term;
```

```
}
```

```
} $pto
```

```
}
```

finish\_test

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/test/fts1porter.test  
No license file was found, but licenses were detected in source scan.

<dd><p>The psow query parameter works with the default windows and unix VFSes but might be a no-op for other proprietary or non-standard VFSes.

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/requirements.html  
No license file was found, but licenses were detected in source scan.

```
<html>
<head>
<title>SQLite Consortium Agreement</title>
</head>
<body bgcolor="white">
<h1 align="center">
SQLite Consortium Agreement
</h1>
```

<p>This SQLite Consortium Agreement ("Agreement") is made and entered into as of the \_\_\_\_ day of \_\_\_\_\_, 2007 ("Effective Date") by and between \_\_\_\_\_ (the "Company"), and Hipp, Wyrick & Company, Inc., a Georgia Corporation with headquarters at 6200 Maple Cove Lane, Charlotte, NC ("Hwaci").</p>

<p>WHEREAS, Hwaci is the developer of a serverless, embeddable, public domain SQL database engine available at <a href="http://www.sqlite.org">http://www.sqlite.org</a> ("SQLite"); and</p>

<p>WHEREAS, Company wishes to support the independent development of the SQLite database engine to insure the continuing reliability, vitality, and independence of SQLite, and in connection therewith, Company wishes to provide funds for ongoing research, development, and maintenance of the SQLite code base, operation of the SQLite website, protection and maintenance of the SQLite trademark, as well as for promotion of SQLite at conferences and trade shows; and</p>

<p>WHEREAS, Company wishes to receive benefits in the form of services from Hwaci in consideration for their support of SQLite; and</b>

<p>WHEREAS, Company and Hwaci each wish SQLite to be supported and

maintained as an independent, community-driven project, and to ensure the SQLite development team remains independent.</p>

<p>NOW, THEREFORE, in consideration of the mutual promises contained herein, the parties agree as follows:</p>

## <h2>1.0 Definitions</h2>

### <h3>1.1 SQLite Developers</h3>

<p>The "SQLite Developers" are the employees or contractors of Hwaci engaged in the development of SQLite, including without limitation the SQLite Architect.</p>

### <h3>1.2 SQLite Architect</h3>

<p>The "SQLite Architect" is the SQLite Developer with ultimate responsibility and authority over changes and maintenance of the SQLite code. The current SQLite Architect is the original designer and developer of SQLite, D. Richard Hipp. Hwaci may change the SQLite Architect from time to time upon approval by Company.</p>

### <h3>1.3 Consortium Member</h3>

<p>A "Consortium Member" is a company or organization, including but not limited to Company, which has entered into an agreement with Hwaci which is substantially similar to this Agreement.</p></p>

## <h2>2.0 Agreement</h2>

### <h3>2.1 Responsibilities And Obligations Of SQLite Developers</h3>

#### <h4>2.1.1 General Support</h4>

<p>The SQLite Developers shall provide, without limit, timely and accurate answers, advice, and instruction in response to questions and comments from Company about SQLite submitted by email or by telephone at any time day or night.</p></p>

#### <h4>2.1.2 Debugging Support</h4>

The SQLite Developers shall at Company's request provide Company with direct assistance in debugging applications that are built upon or use SQLite. The combined time for Debugging Support and Custom Development for Company is limited to 330 hours per year.</p></p>

#### <h4>2.1.3 Custom Development</h4>

<p>The SQLite Developers shall at the request of Company write new extensions or enhancements

to SQLite according to Company's specifications. These extensions and enhancements may be proprietary to Company or open source or with the consent of both Company and the SQLite Architect may be folded into the public domain SQLite source tree.

The time devoted to Custom Development for Company is limited 220 hours per year.

</p>

#### <h4>2.1.4 Custom Builds</h4>

The SQLite Developers shall at Company's request provide Company with specialized builds of SQLite according to Company's specifications.

</p>

#### <h4>2.1.5 Legacy Support</h4>

<p>The SQLite Developers shall at Company's request provide support and bug-fix patches for any historical version of SQLite.

</p>

#### <h4>2.1.6 Custom Testing</h4>

<p>The SQLite Developers shall at Company's request set up and run acceptance tests according Company's specifications that are specifically designed to exercise SQLite as configured and used by Company.

These acceptance tests shall be run and shall pass prior to any release of SQLite.

</p>

#### <h4>2.1.7 Priority Bug Fixes</h4>

<p>The SQLite Developers shall assign highest priority to fixing bugs in SQLite that are reported by Company or in which Company has expressed a specific interest.

</p>

#### <h4>2.1.8 Code Quality</h4>

<p>The SQLite Developers shall at all times keep the SQLite source code well commented and documented and clearly structured and organized so that an experienced and competent programmer can understand it and support it after no more than a few months of study.

</p>

#### <h4>2.1.9 Backwards Compatibility</h4>

<p>The SQLite Developers recognize that Company uses SQLite in mission-critical applications and therefore shall work diligently to ensure continuing bug-free correct operation and backwards compatibility with prior releases.

</p>

#### <h4>2.1.10 Test Coverage</h4>

<p>The SQLite Developers shall maintain the SQLite test suite such

that no less than 95% source code coverage is provided.

</p>

#### <h4>2.1.11 Website</h4>

<p>The SQLite Developers shall maintain the SQLite website at <a href="http://www.sqlite.org">http://www.sqlite.org</a> in good working order and all SQLite source code shall be made freely available at such website.

</p>

### <h3>2.2 Responsibilities And Obligations Of The SQLite Architect</h3>

#### <h4>2.2.1 Private Briefings</h4>

<p>The SQLite Architect shall, at the request of Company, provide Company with private notification and briefings of any new bugs or new features in SQLite that might effect Company's products.

</p>

#### <h4>2.2.2 Direction</h4>

<p>The SQLite Architect shall coordinate the activities of SQLite Developers and shall publish from time to time a roadmap of proposed future changes and enhancements to SQLite.

</p>

#### <h4>2.2.3 Oversight</h4>

<p>The SQLite Architect shall personally review all changes to the SQLite Source Code and take responsibility for the quality and correctness of those changes.

</p>

#### <h4>2.2.4 Continuity</h4>

<p>The initial SQLite Architect shall be the original developer of SQLite, D. Richard Hipp. The role of SQLite Architect shall not be assigned to another during the term of this Agreement except due to the disability of Dr. Hipp and with approval of Company.

</p>

### <h3>2.3 Responsibilities And Obligations Of Hwaci</h3>

#### <h4>2.3.1 Employer</h4>

<p>Hwaci shall act as the employer of the SQLite Developers and SQLite Architect and shall make all tax and legal filings and tax withholding required by employers. Hwaci shall provide Company with W-9 information upon request.

</p>

#### <h4>2.3.2 Responsible Party</h4>

<p>All obligations of the SQLite Developers set forth in this agreement are deemed obligations of Hwaci. Hwaci shall recruit, employ, and supervise SQLite Developers in such a way that the responsibilities and obligations of the SQLite Developers set forth in this agreement are upheld.</p>

#### <h4>2.3.3 Multiple Developers</h4>

<p>Hwaci shall recruit and employ as many SQLite Developers for as many hours as can be reasonably achieved using the funds received from Consortium Members under this agreement. So that support for SQLite will not be interrupted by the disability or withdrawal of any one SQLite Developer, Hwaci will keep at least two knowledgeable and competent SQLite Developers on staff.</p>

#### <h4>2.3.4 Mentorship</h4>

<p>Hwaci shall work to encourage independent programmers from around the world to become familiar with SQLite internals so that there will be a pool of talent able to support SQLite in the future.</p>

#### <h4>2.3.5 Audits</h4>

<p>Hwaci shall keep and maintain complete and accurate records of the use of development funds provided by Company and shall allow Company, or its representative, a certified public accountant mutually acceptable to Hwaci and Company, during office hours and at reasonable intervals, no more than once every 12 months, to inspect and make extracts or copies of such records solely for the purpose of ascertaining Hwaci's compliance with the objectives and requirements of this agreement.</p>

#### <h4>2.3.6 Disaster Planning</h4>

<p>Hwaci shall maintain backup copies of all SQLite source files and documentation, current and historical, at at least two separate locations separated from each other and from the primary on-line SQLite repository by at least 400 kilometers.</p>

#### <h4>2.3.7 Trademark</h4>

<p>Hwaci shall maintain ownership of the SQLite trademark and the sqlite.org domain name and shall purchase bandwidth and server space for the <a href="http://www.sqlite.org/">http://www.sqlite.org/</a> website.</p>

#### <h4>2.3.8 No Take-overs or Buy-outs</h4>

<p>Neither Hwaci nor the SQLite Architect shall relinquish development control of SQLite during the term of this Agreement, by acquisition or merger or by any other means, except with the consent of Company.</p></p>

#### <h4>2.3.9 New Consortium Members</h4>

<p>New Consortium Members may be accepted into the consortium from time to time under identical terms as this agreement, or under substantially similar terms that have been approved by existing Consortium Members.</p>

#### <h4>2.3.10 Adequate Staff</h4>

Hwaci shall recruit and employ a sufficient number of qualified SQLite Developers to easily cover all custom development, debugging, and general support service obligations for all Consortium Members while still providing ample time for the SQLite Developers to engage in general maintenance and extension of SQLite.</p></p>

#### <h4>2.3.11 Use Of Funds</h4>

<p>Hwaci shall use the funds provided hereunder solely for the development and maintenance of SQLite as set forth in this Agreement. Interest on funds received in advance and held in trust will be reinvested and used for the same purposes as the principal.</p></p>

### <h3>2.4 Responsibilities And Obligations Of Company</h3>

#### <h4>2.4.1 Funding</h4>

<p>Company shall provide funding for the ongoing support and maintenance of SQLite as set forth in section 3.0 "Fees".</p></p>

#### <h4>2.4.2 Copyright Disclaimer</h4>

<p>Company acknowledges that SQLite source code and documentation published on the <a href="http://www.sqlite.org/">SQLite website</a> is in the public domain and that nothing in this agreement shall change that fact.</p></p>

## <h2>3.0 Fees</h2>

<p>In consideration of the performance

by Hwaci, the SQLite Developers, and the SQLite Architect of the obligations described herein, Company shall pay Hwaci at least US \$75,000 per year in advance either annually, quarterly, or monthly, at Company's discretion.</p>

## <h2>4.0 Confidentiality</h2>

### <h3>4.1 Definition of Confidential Information</h3>

<p>"Confidential Information" means any Company proprietary information, technical data, trade secrets or know-how, including, but not limited to, research, product plans, products, services, customers, customer lists, markets, software, developments, inventions, processes, formulas, technology, designs, drawings, engineering, hardware configuration information, marketing, finances or other business information disclosed by Company either directly or indirectly in writing, orally or by drawings or inspection of parts or equipment.</p>

### <h3>4.2 Non-Use and Non-Disclosure.</h3>

<p>Hwaci shall not, during or subsequent to the term of this Agreement, use Company's Confidential Information for any purpose whatsoever other than the performance of the Services or disclose Company's Confidential Information to any third party. The parties acknowledge that Confidential Information will remain the sole property of Company. Hwaci shall take all reasonable precautions to prevent any unauthorized disclosure of Confidential Information including, but not limited to, having each employee or consultant of Hwaci, if any, with access to any Confidential Information, execute a nondisclosure agreement containing provisions in Company's favor substantially similar to this Agreement. Confidential Information does not include information that: (i) is known to Hwaci at the time of disclosure to Hwaci by Company as evidenced by written records of Hwaci; (ii) has become publicly known and made generally available through no wrongful act of Hwaci; or (iii) has been received by Hwaci from a third party who is authorized to make such disclosure.</p>

#### <h4>4.2.1 Disclosure Required by Law</h4>

In the event any Confidential Information is required to be disclosed by Hwaci under the terms of a valid and effective subpoena or order issued by a court of competent jurisdiction, or by a demand or information request from an executive or administrative agency or other governmental authority, Hwaci shall, unless prohibited by the terms of a subpoena, order, or demand, promptly notify Company of the existence, terms and circumstances surrounding such demand or request, shall consult with Company on the



advisability of taking legally available steps to resist or narrow such demand or request, and, if disclosure of such Confidential Information is required, shall exercise its reasonable best efforts to narrow the scope of disclosure and obtain an order or other reliable assurance that confidential treatment will be accorded to such Confidential Information. To the extent that Hwaci is prohibited from notifying Company of a subpoena, order or demand, by the terms of same, Hwaci shall exercise its reasonable efforts to narrow the scope of disclosure.</p>

### <h3>4.3 Return of Materials.</h3>

<p>Upon the termination of this Agreement, or upon Company's earlier request, Hwaci shall deliver to Company all of Company's property or Confidential Information that Hwaci may have in Hwaci's possession or control.</p>

## <h2>5.0 Intellectual Property</h2>

### <h3>5.1 No Assignment</h3>

<p>Company acknowledges that all copyrightable material, notes, records, drawings, designs, inventions, improvements, developments, discoveries and trade secrets made, generated, conceived, or reduced to practice by Hwaci related to SQLite will remain the property of Hwaci. Nothing in this Agreement will be construed to transfer any intellectual property right of Hwaci to Company.</p>

### <h3>5.2 Availability and Public Domain Dedication</h3>

<p>The SQLite Developers and Hwaci shall, subject to their discretion as to the quality and suitability of the SQLite source code and documentation for public release, make the SQLite source code and documentation publicly available as downloadable files and make a public statement ceding all intellectual property rights, including but not limited to copyright and patent rights, in the SQLite source code and documentation to the public domain.

To the extent that the SQLite Developers and Hwaci elect not to release the SQLite source code and documentation publicly, they shall provide copies thereof to Company and hereby grants to Company, under all of the SQLite Developers' and Hwaci's

rights including but not limited to copyright and patent rights, in and to the SQLite source code and documentation, perpetual, irrevocable, worldwide, non-exclusive, sublicenseable license to use, copy, prepare derivative works of, publicly perform and display the SQLite source code and documentation and derivative works thereof.</p>

### <h3>5.3 Trademark</h3>

<p>Hwaci shall use the name "SQLite" only to apply to the publicly available project known by such name as of the Effective Date. Hwaci may in its discretion file such trademark applications or registrations as it deems appropriate to protect or record its rights therein, and may set such policies as it deems appropriate for licensing the use of the trademark.</p>

## <h2>6.0 Representations And Warranties</h2>

### <h3>6.1 Intellectual Property Clearances.</h3>

<p>Hwaci hereby represents and warrants that Hwaci shall enter into agreements with the SQLite Developers sufficient to enable Hwaci to undertake the obligations of Section 5.</p>

### <h3>6.2 Disclaimer.</h3>

<p>THE WORK PRODUCT AND ALL MATERIAL PROVIDED BY HWACI AND COMPANY ARE PROVIDED "AS IS." NEITHER PARTY MAKES ANY REPRESENTATIONS OR WARRANTIES OF ANY KIND, WHETHER ORAL OR WRITTEN, WHETHER EXPRESS, IMPLIED, OR ARISING BY STATUTE, CUSTOM, COURSE OF DEALING OR TRADE USAGE, WITH RESPECT TO THE SUBJECT MATTER HEREOF, IN CONNECTION WITH THIS AGREEMENT. EACH PARTY SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OR CONDITIONS OF TITLE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT.</p>

## <h2>7.0 Term And Termination</h2>

### <h3>7.1 Term.</h3>

<p>This Agreement will commence on the Effective Date and will continue until 12 months after the Effective Date. Thereafter, the parties may by mutual consent renew this Agreement subject to agreement on fees to be paid by Company for sponsorship for additional periods.</p>

### <h3>7.2 Termination.</h3>

<p>If either party materially defaults in the performance of any of its material obligations hereunder and if any such default is not corrected within 30 days after notice in writing, then the non-defaulting party, at its option, may, in addition to any other remedies it may have, thereupon terminate this Agreement by giving written notice of termination to the defaulting party.</p>

### <h3>7.3 Survival.</h3>

<p>Upon such termination all rights and duties of the parties toward each other will cease except: Sections 4 (Confidentiality), 5 (Intellectual Property), and 8 (Miscellaneous) will survive termination of this Agreement.</p>

## <h2>8. Miscellaneous</h2>

### <h3>8.1 Nonassignment/Binding Agreement.</h3>

<p>The parties acknowledge that the unique nature of Hwaci's services are substantial consideration for the parties' entering into this Agreement. Neither this Agreement nor any rights under this Agreement may be assigned or otherwise transferred by Hwaci, in whole or in part, whether voluntarily or by operation of law, without the prior written consent of Company, which consent will not be unreasonably withheld. Subject to the foregoing, this Agreement will be binding upon and will inure to the benefit of the parties and their respective successors and assigns. Any assignment in violation of the foregoing will be null and void.</p>

### <h3>8.2 Notices.</h3>

<p>Any notice required or permitted under the terms of this Agreement or required by law must be in writing and must be: (a) delivered in person; (b) sent by first class registered mail, or air mail, as appropriate; or (c) sent by overnight air courier, in each case properly posted and fully prepaid to the appropriate address set forth in the preamble to this Agreement. Either party may change its address for notice by notice to the other party given in accordance with this Section. Notices will be considered to have been given at the time of actual delivery in person, three business days after

deposit in the mail as set forth above, or one day after delivery to an overnight air courier service.</p>

### <h3>8.3 Waiver.</h3>

<p>Any waiver of the provisions of this Agreement or of a party's rights or remedies under this Agreement must be in writing to be effective. Failure, neglect, or delay by a party to enforce the provisions of this Agreement or its rights or remedies at any time, will not be construed as a waiver of such party's rights under this Agreement and will not in any way affect the validity of the whole or any part of this Agreement or prejudice such party's right to take subsequent action. No exercise or enforcement by either party of any right or remedy under this Agreement will preclude the enforcement by such party of any other right or remedy under this Agreement or that such party is entitled by law to enforce.</p>

### <h3>8.4 Severability.</h3>

<p>If any term, condition, or provision in this Agreement is found to be invalid, unlawful or unenforceable to any extent, the parties shall endeavor in good faith to agree to such amendments that will preserve, as far as possible, the intentions expressed in this Agreement. If the parties fail to agree on such an amendment, such invalid term, condition or provision will be severed from the remaining terms, conditions and provisions, which will continue to be valid and enforceable to the fullest extent permitted by law.</p>

### <h3>8.5 Integration.</h3>

<p>This Agreement contains the entire agreement of the parties with respect to the subject matter of this Agreement and supersedes all previous communications, representations, understandings and agreements, either oral or written, between the parties with respect to said subject matter. This Agreement may not be amended, except by a writing signed by both parties.</p>

### <h3>8.6 Counterparts.</h3>

<p>This Agreement may be executed in counterparts, each of which so executed will be deemed to be an original and such counterparts together will constitute

one and the same agreement.</p>

### <h3>8.7 Governing Law.</h3>

<p>This Agreement will be interpreted and construed in accordance with the laws of the State of North Carolina and the United States of America, without regard to conflict of law principles. All disputes arising out of this Agreement will be subject to the exclusive jurisdiction of the state and federal courts located in North Carolina, and each party hereby consents to the personal jurisdiction thereof.</p>

### <h3>8.8 Independent Contractors.</h3>

<p>It is the intention of the parties that Hwaci is an independent contractor. Nothing in this Agreement will in any way be construed to constitute Hwaci or any of its employees as an agent, employee or representative of Company.</p>

## <h2>9.0 Signatures</h2>

<p>The parties have executed this Agreement below to indicate their acceptance of its terms.</p>

<p>HWACI&lt;br&gt; By:&lt;br&gt; &lt;p&gt;&amp;nbsp;&lt;/p&gt; Print Name:&lt;br&gt; &lt;p&gt;&amp;nbsp;&lt;/p&gt; Title:&lt;br&gt; &lt;p&gt;&amp;nbsp;&lt;/p&gt;</p>		<p>COMPANY&lt;br&gt; By:&lt;br&gt; &lt;p&gt;&amp;nbsp;&lt;/p&gt; Print Name:&lt;br&gt; &lt;p&gt;&amp;nbsp;&lt;/p&gt; Title:&lt;br&gt; &lt;p&gt;&amp;nbsp;&lt;/p&gt;</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.e17\_7.1-1.src.rpm-cosi-expand-archive-

lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/consortium\_agreement-20071201.html

No license file was found, but licenses were detected in source scan.

other proprietary or non-standard VFSes.

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/uri.html

No license file was found, but licenses were detected in source scan.

<html>

<title>SQLite Copyright Release Template</title>

<body bgcolor="white">

<h1 align="center">

Copyright Release for<br>

Contributions To SQLite

</h1>

<p>

SQLite is software that implements an embeddable SQL database engine.

SQLite is available for free download from <http://www.sqlite.org/>.

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</p>

<ol>

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<p>

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Date:

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Name (printed):

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</body>

</html>

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/copyright-release.html

No license file was found, but licenses were detected in source scan.

MMFauxFont.prc

Found in path(s):

\* %%BeginFile

No license file was found, but licenses were detected in source scan.

without a shared lock, other processes are free to modify the database

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/atomiccommit.html

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# 2010 July 16

#

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# a legal notice, here is a blessing:



```

#
May you do good and not evil.
May you find forgiveness for yourself and forgive others.
May you share freely, never taking more than you give.
#
#*****
#
This file implements tests to verify that the "testable statements" in
the lang_select.html document are correct.
#

set testdir [file dirname $argv0]
source $testdir/tester.tcl

ifcapable !compound {
 finish_test
 return
}

do_execsql_test e_select-1.0 {
 CREATE TABLE t1(a, b);
 INSERT INTO t1 VALUES('a', 'one');
 INSERT INTO t1 VALUES('b', 'two');
 INSERT INTO t1 VALUES('c', 'three');

 CREATE TABLE t2(a, b);
 INSERT INTO t2 VALUES('a', 'I');
 INSERT INTO t2 VALUES('b', 'II');
 INSERT INTO t2 VALUES('c', 'III');

 CREATE TABLE t3(a, c);
 INSERT INTO t3 VALUES('a', 1);
 INSERT INTO t3 VALUES('b', 2);

 CREATE TABLE t4(a, c);
 INSERT INTO t4 VALUES('a', NULL);
 INSERT INTO t4 VALUES('b', 2);
} {}

set t1_cross_t2 [list \
 a one a I a one b II \
 a one c III b two a I \
 b two b II b two c III \
 c three a I c three b II \
 c three c III \
]

set t1_cross_t1 [list \
 a one a one a one b two \
 a one c three b two a one \

```

```

b two b two b two c three \
c three a one c three b two \
c three c three \
]

```

```

This proc is a specialized version of [do_execsql_test].
#
The second argument to this proc must be a SELECT statement that
features a cross join of some time. Instead of the usual ",",
"CROSS JOIN" or "INNER JOIN" join-op, the string %JOIN% must be
substituted.
#
This test runs the SELECT three times - once with:
#
* s/%JOIN%/./
* s/%JOIN%/JOIN/
* s/%JOIN%/INNER JOIN/
* s/%JOIN%/CROSS JOIN/
#
and checks that each time the results of the SELECT are $res.
#
proc do_join_test {tn select res} {
 foreach {tn2 joinop} [list 1, 2 "CROSS JOIN" 3 "INNER JOIN"] {
 set S [string map [list %JOIN% $joinop] $select]
 uplevel do_execsql_test $tn.$tn2 [list $S] [list $res]
 }
}

#-----
The following tests check that all paths on the syntax diagrams on
the lang_select.html page may be taken.
#
EVIDENCE-OF: R-11353-33501 -- syntax diagram join-constraint
#
do_join_test e_select-0.1.1 {
 SELECT count(*) FROM t1 %JOIN% t2 ON (t1.a=t2.a)
} {3}
do_join_test e_select-0.1.2 {
 SELECT count(*) FROM t1 %JOIN% t2 USING (a)
} {3}
do_join_test e_select-0.1.3 {
 SELECT count(*) FROM t1 %JOIN% t2
} {9}
do_catchsql_test e_select-0.1.4 {
 SELECT count(*) FROM t1, t2 ON (t1.a=t2.a) USING (a)
} {1 {cannot have both ON and USING clauses in the same join}}
do_catchsql_test e_select-0.1.5 {

```

```
SELECT count(*) FROM t1, t2 USING (a) ON (t1.a=t2.a)
} {1 {near "ON": syntax error}}
```

```
EVIDENCE-OF: R-40919-40941 -- syntax diagram select-core
```

```
#
```

```
0: SELECT ...
```

```
1: SELECT DISTINCT ...
```

```
2: SELECT ALL ...
```

```
#
```

```
0: No FROM clause
```

```
1: Has FROM clause
```

```
#
```

```
0: No WHERE clause
```

```
1: Has WHERE clause
```

```
#
```

```
0: No GROUP BY clause
```

```
1: Has GROUP BY clause
```

```
2: Has GROUP BY and HAVING clauses
```

```
#
```

```
do_select_tests e_select-0.2 {
```

```
0000.1 "SELECT 1, 2, 3 " {1 2 3}
```

```
1000.1 "SELECT DISTINCT 1, 2, 3 " {1 2 3}
```

```
2000.1 "SELECT ALL 1, 2, 3 " {1 2 3}
```

```
0100.1 "SELECT a, b, a||b FROM t1 " {
```

```
 a one aone b two btwo c three cthree
```

```
}
```

```
1100.1 "SELECT DISTINCT a, b, a||b FROM t1 " {
```

```
 a one aone b two btwo c three cthree
```

```
}
```

```
1200.1 "SELECT ALL a, b, a||b FROM t1 " {
```

```
 a one aone b two btwo c three cthree
```

```
}
```

```
0010.1 "SELECT 1, 2, 3 WHERE 1 " {1 2 3}
```

```
0010.2 "SELECT 1, 2, 3 WHERE 0 " {}
```

```
0010.3 "SELECT 1, 2, 3 WHERE NULL " {}
```

```
1010.1 "SELECT DISTINCT 1, 2, 3 WHERE 1 " {1 2 3}
```

```
2010.1 "SELECT ALL 1, 2, 3 WHERE 1 " {1 2 3}
```

```
0110.1 "SELECT a, b, a||b FROM t1 WHERE a!='x' " {
```

```
 a one aone b two btwo c three cthree
```

```
}
```

```
0110.2 "SELECT a, b, a||b FROM t1 WHERE a=='x' " {}
```

```
1110.1 "SELECT DISTINCT a, b, a||b FROM t1 WHERE a!='x' " {
```

```

a one aone b two btwo c three cthree
}

2110.0 "SELECT ALL a, b, a||b FROM t1 WHERE a='x' {}

0001.1 "SELECT 1, 2, 3 GROUP BY 2" {1 2 3}
0002.1 "SELECT 1, 2, 3 GROUP BY 2 HAVING count(*)=1" {1 2 3}
0002.2 "SELECT 1, 2, 3 GROUP BY 2 HAVING count(*)>1" {}

1001.1 "SELECT DISTINCT 1, 2, 3 GROUP BY 2" {1 2 3}
1002.1 "SELECT DISTINCT 1, 2, 3 GROUP BY 2 HAVING count(*)=1" {1 2 3}
1002.2 "SELECT DISTINCT 1, 2, 3 GROUP BY 2 HAVING count(*)>1" {}

2001.1 "SELECT ALL 1, 2, 3 GROUP BY 2" {1 2 3}
2002.1 "SELECT ALL 1, 2, 3 GROUP BY 2 HAVING count(*)=1" {1 2 3}
2002.2 "SELECT ALL 1, 2, 3 GROUP BY 2 HAVING count(*)>1" {}

0101.1 "SELECT count(*), max(a) FROM t1 GROUP BY b" {1 a 1 c 1 b}
0102.1 "SELECT count(*), max(a) FROM t1 GROUP BY b HAVING count(*)=1" {
 1 a 1 c 1 b
}
0102.2 "SELECT count(*), max(a) FROM t1 GROUP BY b HAVING count(*)=2" {}

1101.1 "SELECT DISTINCT count(*), max(a) FROM t1 GROUP BY b" {1 a 1 c 1 b}
1102.1 "SELECT DISTINCT count(*), max(a) FROM t1
 GROUP BY b HAVING count(*)=1" {
 1 a 1 c 1 b
}
1102.2 "SELECT DISTINCT count(*), max(a) FROM t1
 GROUP BY b HAVING count(*)=2" {}

2101.1 "SELECT ALL count(*), max(a) FROM t1 GROUP BY b" {1 a 1 c 1 b}
2102.1 "SELECT ALL count(*), max(a) FROM t1
 GROUP BY b HAVING count(*)=1" {
 1 a 1 c 1 b
}
2102.2 "SELECT ALL count(*), max(a) FROM t1
 GROUP BY b HAVING count(*)=2" {}

0011.1 "SELECT 1, 2, 3 WHERE 1 GROUP BY 2" {1 2 3}
0012.1 "SELECT 1, 2, 3 WHERE 0 GROUP BY 2 HAVING count(*)=1" {}
0012.2 "SELECT 1, 2, 3 WHERE 0 GROUP BY 2 HAVING count(*)>1" {}

1011.1 "SELECT DISTINCT 1, 2, 3 WHERE 0 GROUP BY 2" {}
1012.1 "SELECT DISTINCT 1, 2, 3 WHERE 1 GROUP BY 2 HAVING count(*)=1"
 {1 2 3}

```

1012.2 "SELECT DISTINCT 1, 2, 3 WHERE NULL GROUP BY 2 HAVING count(\*)>1" { }

2011.1 "SELECT ALL 1, 2, 3 WHERE 1 GROUP BY 2" { 1 2 3 }

2012.1 "SELECT ALL 1, 2, 3 WHERE 0 GROUP BY 2 HAVING count(\*)=1" { }

2012.2 "SELECT ALL 1, 2, 3 WHERE 'abc' GROUP BY 2 HAVING count(\*)>1" { }

0111.1 "SELECT count(\*), max(a) FROM t1 WHERE a='a' GROUP BY b" { 1 a }

0112.1 "SELECT count(\*), max(a) FROM t1  
WHERE a='c' GROUP BY b HAVING count(\*)=1" { 1 c }

0112.2 "SELECT count(\*), max(a) FROM t1  
WHERE 0 GROUP BY b HAVING count(\*)=2" { }

1111.1 "SELECT DISTINCT count(\*), max(a) FROM t1 WHERE a<'c' GROUP BY b"  
{ 1 a 1 b }

1112.1 "SELECT DISTINCT count(\*), max(a) FROM t1 WHERE a>'a'  
GROUP BY b HAVING count(\*)=1" {

1 c 1 b

}

1112.2 "SELECT DISTINCT count(\*), max(a) FROM t1 WHERE 0  
GROUP BY b HAVING count(\*)=2" {

}

2111.1 "SELECT ALL count(\*), max(a) FROM t1 WHERE b>'one' GROUP BY b"  
{ 1 c 1 b }

2112.1 "SELECT ALL count(\*), max(a) FROM t1 WHERE a!='b'  
GROUP BY b HAVING count(\*)=1" {

1 a 1 c

}

2112.2 "SELECT ALL count(\*), max(a) FROM t1  
WHERE 0 GROUP BY b HAVING count(\*)=2" { }

}

# EVIDENCE-OF: R-41378-26734 -- syntax diagram result-column

#

do\_select\_tests e\_select-0.3 {

1 "SELECT \* FROM t1" { a one b two c three }

2 "SELECT t1.\* FROM t1" { a one b two c three }

3 "SELECT 'x' || a || 'x' FROM t1" { xax xbx xc }

4 "SELECT 'x' || a || 'x' alias FROM t1" { xax xbx xc }

5 "SELECT 'x' || a || 'x' AS alias FROM t1" { xax xbx xc }

}

# EVIDENCE-OF: R-43129-35648 -- syntax diagram join-source

#

# EVIDENCE-OF: R-36683-37460 -- syntax diagram join-op

#

do\_select\_tests e\_select-0.4 {

1 "SELECT t1.rowid FROM t1" { 1 2 3 }

```

2 "SELECT t1.rowid FROM t1,t2" {1 1 1 2 2 2 3 3 3}
3 "SELECT t1.rowid FROM t1,t2,t3" {1 1 1 1 1 1 2 2 2 2 2 2 3 3 3 3 3 3}

4 "SELECT t1.rowid FROM t1" {1 2 3}
5 "SELECT t1.rowid FROM t1 JOIN t2" {1 1 1 2 2 2 3 3 3}
6 "SELECT t1.rowid FROM t1 JOIN t2 JOIN t3"
 {1 1 1 1 1 1 2 2 2 2 2 2 3 3 3 3 3 3}

7 "SELECT t1.rowid FROM t1 NATURAL JOIN t3" {1 2}
8 "SELECT t1.rowid FROM t1 NATURAL LEFT OUTER JOIN t3" {1 2 3}
9 "SELECT t1.rowid FROM t1 NATURAL LEFT JOIN t3" {1 2 3}
10 "SELECT t1.rowid FROM t1 NATURAL INNER JOIN t3" {1 2}
11 "SELECT t1.rowid FROM t1 NATURAL CROSS JOIN t3" {1 2}

12 "SELECT t1.rowid FROM t1 JOIN t3" {1 1 2 2 3 3}
13 "SELECT t1.rowid FROM t1 LEFT OUTER JOIN t3" {1 1 2 2 3 3}
14 "SELECT t1.rowid FROM t1 LEFT JOIN t3" {1 1 2 2 3 3}
15 "SELECT t1.rowid FROM t1 INNER JOIN t3" {1 1 2 2 3 3}
16 "SELECT t1.rowid FROM t1 CROSS JOIN t3" {1 1 2 2 3 3}
}

EVIDENCE-OF: R-28308-37813 -- syntax diagram compound-operator
#
do_select_tests e_select-0.5 {
1 "SELECT rowid FROM t1 UNION ALL SELECT rowid+2 FROM t4" {1 2 3 3 4}
2 "SELECT rowid FROM t1 UNION SELECT rowid+2 FROM t4" {1 2 3 4}
3 "SELECT rowid FROM t1 INTERSECT SELECT rowid+2 FROM t4" {3}
4 "SELECT rowid FROM t1 EXCEPT SELECT rowid+2 FROM t4" {1 2}
}

EVIDENCE-OF: R-06480-34950 -- syntax diagram ordering-term
#
do_select_tests e_select-0.6 {
1 "SELECT b||a FROM t1 ORDER BY b||a" {onea threec twob}
2 "SELECT b||a FROM t1 ORDER BY (b||a) COLLATE nocase" {onea threec twob}
3 "SELECT b||a FROM t1 ORDER BY (b||a) ASC" {onea threec twob}
4 "SELECT b||a FROM t1 ORDER BY (b||a) DESC" {twob threec onea}
}

EVIDENCE-OF: R-23926-36668 -- syntax diagram select-stmt
#
do_select_tests e_select-0.7 {
1 "SELECT * FROM t1" {a one b two c three}
2 "SELECT * FROM t1 ORDER BY b" {a one c three b two}
3 "SELECT * FROM t1 ORDER BY b, a" {a one c three b two}

4 "SELECT * FROM t1 LIMIT 10" {a one b two c three}
5 "SELECT * FROM t1 LIMIT 10 OFFSET 5" {}
}

```

```

6 "SELECT * FROM t1 LIMIT 10, 5" {}

7 "SELECT * FROM t1 ORDER BY a LIMIT 10" {a one b two c three}
8 "SELECT * FROM t1 ORDER BY b LIMIT 10 OFFSET 5" {}
9 "SELECT * FROM t1 ORDER BY a,b LIMIT 10, 5" {}

10 "SELECT * FROM t1 UNION SELECT b, a FROM t1"
 {a one b two c three one a three c two b}
11 "SELECT * FROM t1 UNION SELECT b, a FROM t1 ORDER BY b"
 {one a two b three c a one c three b two}
12 "SELECT * FROM t1 UNION SELECT b, a FROM t1 ORDER BY b, a"
 {one a two b three c a one c three b two}
13 "SELECT * FROM t1 UNION SELECT b, a FROM t1 LIMIT 10"
 {a one b two c three one a three c two b}
14 "SELECT * FROM t1 UNION SELECT b, a FROM t1 LIMIT 10 OFFSET 5"
 {two b}
15 "SELECT * FROM t1 UNION SELECT b, a FROM t1 LIMIT 10, 5"
 {}
16 "SELECT * FROM t1 UNION SELECT b, a FROM t1 ORDER BY a LIMIT 10"
 {a one b two c three one a three c two b}
17 "SELECT * FROM t1 UNION SELECT b, a FROM t1 ORDER BY b LIMIT 10 OFFSET 5"
 {b two}
18 "SELECT * FROM t1 UNION SELECT b, a FROM t1 ORDER BY a,b LIMIT 10, 5"
 {}
}

```

```

#-----
The following tests focus on FROM clause (join) processing.
#

```

```

EVIDENCE-OF: R-16074-54196 If the FROM clause is omitted from a simple
SELECT statement, then the input data is implicitly a single row zero
columns wide
#

```

```

do_select_tests e_select-1.1 {
1 "SELECT 'abc'" {abc}
2 "SELECT 'abc' WHERE NULL" {}
3 "SELECT NULL" {{{}}
4 "SELECT count(*)" {1}
5 "SELECT count(*) WHERE 0" {0}
6 "SELECT count(*) WHERE 1" {1}
}

```

```

EVIDENCE-OF: R-48114-33255 If there is only a single table in the
join-source following the FROM clause, then the input data used by the
SELECT statement is the contents of the named table.
#
The results of the SELECT queries suggest that they are operating on the

```

```

contents of the table 'xx'.
#
do_execsql_test e_select-1.2.0 {
CREATE TABLE xx(x, y);
INSERT INTO xx VALUES('iJlsIPepMuAhU', X'10B00B897A15BAA02E3F98DCE8F2');
INSERT INTO xx VALUES(NULL, -16.87);
INSERT INTO xx VALUES(-17.89, 'linguistically');
} {}
do_select_tests e_select-1.2 {
1 "SELECT quote(x), quote(y) FROM xx" {
'iJlsIPepMuAhU' X'10B00B897A15BAA02E3F98DCE8F2'
NULL -16.87
-17.89 'linguistically'
}

2 "SELECT count(*), count(x), count(y) FROM xx" {3 2 3}
3 "SELECT sum(x), sum(y) FROM xx" {-17.89 -16.87}
}

```

```

EVIDENCE-OF: R-23593-12456 If there is more than one table specified
as part of the join-source following the FROM keyword, then the
contents of each named table are joined into a single dataset for the
simple SELECT statement to operate on.

```

```

#
There are more detailed tests for subsequent requirements that add
more detail to this idea. We just add a single test that shows that
data is coming from each of the three tables following the FROM clause
here to show that the statement, vague as it is, is not incorrect.
#

```

```

do_select_tests e_select-1.3 {
1 "SELECT * FROM t1, t2, t3" {
a one a I a 1 a one a I b 2 a one b II a 1
a one b II b 2 a one c III a 1 a one c III b 2
b two a I a 1 b two a I b 2 b two b II a 1
b two b II b 2 b two c III a 1 b two c III b 2
c three a I a 1 c three a I b 2 c three b II a 1
c three b II b 2 c three c III a 1 c three c III b 2
}
}

```

```

#
The following block of tests - e_select-1.4.* - test that the description
of cartesian joins in the SELECT documentation is consistent with SQLite.
In doing so, we test the following three requirements as a side-effect:
#
EVIDENCE-OF: R-46122-14930 If the join-op is "CROSS JOIN", "INNER
JOIN", "JOIN" or a comma (",") and there is no ON or USING clause,
then the result of the join is simply the cartesian product of the

```



```

left and right-hand datasets.
#
The tests are built on this assertion. Really, they test that the output
of a CROSS JOIN, JOIN, INNER JOIN or "," join matches the expected result
of calculating the cartesian product of the left and right-hand datasets.
#
EVIDENCE-OF: R-46256-57243 There is no difference between the "INNER
JOIN", "JOIN" and "," join operators.
#
EVIDENCE-OF: R-07544-24155 The "CROSS JOIN" join operator produces the
same data as the "INNER JOIN", "JOIN" and "," operators
#
All tests are run 4 times, with the only difference in each run being
which of the 4 equivalent cartesian product join operators are used.
Since the output data is the same in all cases, we consider that this
qualifies as testing the two statements above.
#
do_execsql_test e_select-1.4.0 {
CREATE TABLE x1(a, b);
CREATE TABLE x2(c, d, e);
CREATE TABLE x3(f, g, h, i);

-- x1: 3 rows, 2 columns
INSERT INTO x1 VALUES(24, 'converging');
INSERT INTO x1 VALUES(NULL, X'CB71');
INSERT INTO x1 VALUES('blonds', 'proprietary');

-- x2: 2 rows, 3 columns
INSERT INTO x2 VALUES(-60.06, NULL, NULL);
INSERT INTO x2 VALUES(-58, NULL, 1.21);

-- x3: 5 rows, 4 columns
INSERT INTO x3 VALUES(-39.24, NULL, 'encompass', -1);
INSERT INTO x3 VALUES('presenting', 51, 'reformation', 'dignified');
INSERT INTO x3 VALUES('conducting', -87.24, 37.56, NULL);
INSERT INTO x3 VALUES('coldest', -96, 'dramatists', 82.3);
INSERT INTO x3 VALUES('alerting', NULL, -93.79, NULL);
} {}

EVIDENCE-OF: R-59089-25828 The columns of the cartesian product
dataset are, in order, all the columns of the left-hand dataset
followed by all the columns of the right-hand dataset.
#
do_join_test e_select-1.4.1.1 {
SELECT * FROM x1 %JOIN% x2 LIMIT 1
} [concat {24 converging} {-60.06 {} {}}]

do_join_test e_select-1.4.1.2 {

```

```
SELECT * FROM x2 %JOIN% x1 LIMIT 1
} [concat {-60.06 {} {}} {24 converging}]
```

```
do_join_test e_select-1.4.1.3 {
SELECT * FROM x3 %JOIN% x2 LIMIT 1
} [concat {-39.24 {} encompass -1} {-60.06 {} {}}]
```

```
do_join_test e_select-1.4.1.4 {
SELECT * FROM x2 %JOIN% x3 LIMIT 1
} [concat {-60.06 {} {}} {-39.24 {} encompass -1}]
```

```
EVIDENCE-OF: R-44414-54710 There is a row in the cartesian product
dataset formed by combining each unique combination of a row from the
left-hand and right-hand datasets.
```

```
#
```

```
do_join_test e_select-1.4.2.1 {
SELECT * FROM x2 %JOIN% x3
} [list -60.06 {} {} -39.24 {} encompass -1 \
-60.06 {} {} presenting 51 reformation dignified \
-60.06 {} {} conducting -87.24 37.56 {} \
-60.06 {} {} coldest -96 dramatists 82.3 \
-60.06 {} {} alerting {} -93.79 {} \
-58 {} 1.21 -39.24 {} encompass -1 \
-58 {} 1.21 presenting 51 reformation dignified \
-58 {} 1.21 conducting -87.24 37.56 {} \
-58 {} 1.21 coldest -96 dramatists 82.3 \
-58 {} 1.21 alerting {} -93.79 {} \
]
```

```
TODO: Come back and add a few more like the above.
```

```
EVIDENCE-OF: R-20659-43267 In other words, if the left-hand dataset
consists of Nlhs rows of Mlhs columns, and the right-hand dataset of
Nrhs rows of Mrhs columns, then the cartesian product is a dataset of
Nlhs.Nrhs rows, each containing Mlhs+Mrhs columns.
```

```
#
```

```
x1, x2 (Nlhs=3, Nrhs=2) (Mlhs=2, Mrhs=3)
```

```
do_join_test e_select-1.4.3.1 {
SELECT count(*) FROM x1 %JOIN% x2
} [expr 3*2]
do_test e_select-1.4.3.2 {
expr {[length [execsql {SELECT * FROM x1, x2}]] / 6}
} [expr 2+3]
```

```
x2, x3 (Nlhs=2, Nrhs=5) (Mlhs=3, Mrhs=4)
```

```
do_join_test e_select-1.4.3.3 {
SELECT count(*) FROM x2 %JOIN% x3
} [expr 2*5]
do_test e_select-1.4.3.4 {
```

```

expr {[length [execsql {SELECT * FROM x2 JOIN x3}]] / 10}
} [expr 3+4]

x3, x1 (Nlhs=5, Nrhs=3) (Mlhs=4, Mrhs=2)
do_join_test e_select-1.4.3.5 {
 SELECT count(*) FROM x3 %JOIN% x1
} [expr 5*3]
do_test e_select-1.4.3.6 {
 expr {[length [execsql {SELECT * FROM x3 CROSS JOIN x1}]] / 15}
} [expr 4+2]

x3, x3 (Nlhs=5, Nrhs=5) (Mlhs=4, Mrhs=4)
do_join_test e_select-1.4.3.7 {
 SELECT count(*) FROM x3 %JOIN% x3
} [expr 5*5]
do_test e_select-1.4.3.8 {
 expr {[length [execsql {SELECT * FROM x3 INNER JOIN x3 AS x4}]] / 25}
} [expr 4+4]

Some extra cartesian product tests using tables t1 and t2.
#
do_execsql_test e_select-1.4.4.1 { SELECT * FROM t1, t2 } $t1_cross_t2
do_execsql_test e_select-1.4.4.2 { SELECT * FROM t1 AS x, t1 AS y } $t1_cross_t1

do_select_tests e_select-1.4.5 [list
\
 1 { SELECT * FROM t1 CROSS JOIN t2 } $t1_cross_t2 \
 2 { SELECT * FROM t1 AS y CROSS JOIN t1 AS x } $t1_cross_t1 \
 3 { SELECT * FROM t1 INNER JOIN t2 } $t1_cross_t2 \
 4 { SELECT * FROM t1 AS y INNER JOIN t1 AS x } $t1_cross_t1 \
]

EVIDENCE-OF: R-22775-56496 If there is an ON clause specified, then
the ON expression is evaluated for each row of the cartesian product
as a boolean expression. All rows for which the expression evaluates
to false are excluded from the dataset.
#
foreach {tn select res} [list
\
 1 { SELECT * FROM t1 %JOIN% t2 ON (1) } $t1_cross_t2 \
 2 { SELECT * FROM t1 %JOIN% t2 ON (0) } [list] \
 3 { SELECT * FROM t1 %JOIN% t2 ON (NULL) } [list] \
 4 { SELECT * FROM t1 %JOIN% t2 ON ('abc') } [list] \
 5 { SELECT * FROM t1 %JOIN% t2 ON ('1ab') } $t1_cross_t2 \
 6 { SELECT * FROM t1 %JOIN% t2 ON (0.9) } $t1_cross_t2 \
 7 { SELECT * FROM t1 %JOIN% t2 ON ('0.9') } $t1_cross_t2 \
 8 { SELECT * FROM t1 %JOIN% t2 ON (0.0) } [list] \
\
 9 { SELECT t1.b, t2.b FROM t1 %JOIN% t2 ON (t1.a = t2.a) } \

```

```

 {one I two II three III} \
10 { SELECT t1.b, t2.b FROM t1 %JOIN% t2 ON (t1.a = 'a') } \
 {one I one II one III} \
11 { SELECT t1.b, t2.b
 FROM t1 %JOIN% t2 ON (CASE WHEN t1.a = 'a' THEN NULL ELSE 1 END) } \
 {two I two II two III three I three II three III} \
] {
do_join_test e_select-1.3.$tn $select $res
}

```

# EVIDENCE-OF: R-63358-54862 If there is a USING clause specified as part of the join-constraint, then each of the column names specified must exist in the datasets to both the left and right of the join-op.

```

#
do_select_tests e_select-1.4 -error {
cannot join using column %s - column not present in both tables
} {
1 { SELECT * FROM t1, t3 USING (b) } "b"
2 { SELECT * FROM t3, t1 USING (c) } "c"
3 { SELECT * FROM t3, (SELECT a AS b, b AS c FROM t1) USING (a) } "a"
}

```

# EVIDENCE-OF: R-55987-04584 For each pair of namesake columns, the expression "lhs.X = rhs.X" is evaluated for each row of the cartesian product as a boolean expression. All rows for which one or more of the expressions evaluates to false are excluded from the result set.

```

#
do_select_tests e_select-1.5 {
1 { SELECT * FROM t1, t3 USING (a) } {a one 1 b two 2}
2 { SELECT * FROM t3, t4 USING (a,c) } {b 2}
}

```

# EVIDENCE-OF: R-54046-48600 When comparing values as a result of a USING clause, the normal rules for handling affinities, collation sequences and NULL values in comparisons apply.

# EVIDENCE-OF: R-35466-18578 The column from the dataset on the left-hand side of the join operator is considered to be on the left-hand side of the comparison operator (=) for the purposes of collation sequence and affinity precedence.

```

#
do_execsql_test e_select-1.6.0 {
CREATE TABLE t5(a COLLATE nocase, b COLLATE binary);
INSERT INTO t5 VALUES('AA', 'cc');
INSERT INTO t5 VALUES('BB', 'dd');
INSERT INTO t5 VALUES(NULL, NULL);
CREATE TABLE t6(a COLLATE binary, b COLLATE nocase);
INSERT INTO t6 VALUES('aa', 'cc');
}

```

```

INSERT INTO t6 VALUES('bb', 'DD');
INSERT INTO t6 VALUES(NULL, NULL);
} {}
foreach {tn select res} {
 1 { SELECT * FROM t5 %JOIN% t6 USING (a) } {AA cc cc BB dd DD}
 2 { SELECT * FROM t6 %JOIN% t5 USING (a) } {}
 3 { SELECT * FROM (SELECT a COLLATE nocase, b FROM t6) %JOIN% t5 USING (a) }
 {aa cc cc bb DD dd}
 4 { SELECT * FROM t5 %JOIN% t6 USING (a,b) } {AA cc}
 5 { SELECT * FROM t6 %JOIN% t5 USING (a,b) } {}
} {
do_join_test e_select-1.6.$tn $select $res
}

```

# EVIDENCE-OF: R-57047-10461 For each pair of columns identified by a  
# USING clause, the column from the right-hand dataset is omitted from  
# the joined dataset.

#

# EVIDENCE-OF: R-56132-15700 This is the only difference between a USING  
# clause and its equivalent ON constraint.

#

```

foreach {tn select res} {
 1a { SELECT * FROM t1 %JOIN% t2 USING (a) }
 {a one I b two II c three III}
 1b { SELECT * FROM t1 %JOIN% t2 ON (t1.a=t2.a) }
 {a one a I b two b II c three c III}

 2a { SELECT * FROM t3 %JOIN% t4 USING (a) }
 {a 1 {} b 2 2}
 2b { SELECT * FROM t3 %JOIN% t4 ON (t3.a=t4.a) }
 {a 1 a {} b 2 b 2}

 3a { SELECT * FROM t3 %JOIN% t4 USING (a,c) } {b 2}
 3b { SELECT * FROM t3 %JOIN% t4 ON (t3.a=t4.a AND t3.c=t4.c) } {b 2 b 2}

```

```

4a { SELECT * FROM (SELECT a COLLATE nocase, b FROM t6) AS x
 %JOIN% t5 USING (a) }
 {aa cc cc bb DD dd}

```

```

4b { SELECT * FROM (SELECT a COLLATE nocase, b FROM t6) AS x
 %JOIN% t5 ON (x.a=t5.a) }
 {aa cc AA cc bb DD BB dd}
} {
do_join_test e_select-1.7.$tn $select $res
}

```

# EVIDENCE-OF: R-41434-12448 If the join-op is a "LEFT JOIN" or "LEFT  
# OUTER JOIN", then after the ON or USING filtering clauses have been  
# applied, an extra row is added to the output for each row in the

```

original left-hand input dataset that corresponds to no rows at all in
the composite dataset (if any).
#
do_execsql_test e_select-1.8.0 {
CREATE TABLE t7(a, b, c);
CREATE TABLE t8(a, d, e);

INSERT INTO t7 VALUES('x', 'ex', 24);
INSERT INTO t7 VALUES('y', 'why', 25);

INSERT INTO t8 VALUES('x', 'abc', 24);
INSERT INTO t8 VALUES('z', 'ghi', 26);
} {}

do_select_tests e_select-1.8 {
1a "SELECT count(*) FROM t7 JOIN t8 ON (t7.a=t8.a)" {1}
1b "SELECT count(*) FROM t7 LEFT JOIN t8 ON (t7.a=t8.a)" {2}
2a "SELECT count(*) FROM t7 JOIN t8 USING (a)" {1}
2b "SELECT count(*) FROM t7 LEFT JOIN t8 USING (a)" {2}
}

EVIDENCE-OF: R-15607-52988 The added rows contain NULL values in the
columns that would normally contain values copied from the right-hand
input dataset.
#
do_select_tests e_select-1.9 {
1a "SELECT * FROM t7 JOIN t8 ON (t7.a=t8.a)" {x ex 24 x abc 24}
1b "SELECT * FROM t7 LEFT JOIN t8 ON (t7.a=t8.a)"
{x ex 24 x abc 24 y why 25 {} {} {}}
2a "SELECT * FROM t7 JOIN t8 USING (a)" {x ex 24 abc 24}
2b "SELECT * FROM t7 LEFT JOIN t8 USING (a)" {x ex 24 abc 24 y why 25 {} {}}
}

EVIDENCE-OF: R-01809-52134 If the NATURAL keyword is added to any of
the join-ops, then an implicit USING clause is added to the
join-constraints. The implicit USING clause contains each of the
column names that appear in both the left and right-hand input
datasets.
#
do_select_tests e_select-1-10 {
1a "SELECT * FROM t7 JOIN t8 USING (a)" {x ex 24 abc 24}
1b "SELECT * FROM t7 NATURAL JOIN t8" {x ex 24 abc 24}

2a "SELECT * FROM t8 JOIN t7 USING (a)" {x abc 24 ex 24}
2b "SELECT * FROM t8 NATURAL JOIN t7" {x abc 24 ex 24}

3a "SELECT * FROM t7 LEFT JOIN t8 USING (a)" {x ex 24 abc 24 y why 25 {} {}}

```

```
3b "SELECT * FROM t7 NATURAL LEFT JOIN t8" {x ex 24 abc 24 y why 25 {} {}}
```

```
4a "SELECT * FROM t8 LEFT JOIN t7 USING (a)" {x abc 24 ex 24 z ghi 26 {} {}}
```

```
4b "SELECT * FROM t8 NATURAL LEFT JOIN t7" {x abc 24 ex 24 z ghi 26 {} {}}
```

```
5a "SELECT * FROM t3 JOIN t4 USING (a,c)" {b 2}
```

```
5b "SELECT * FROM t3 NATURAL JOIN t4" {b 2}
```

```
6a "SELECT * FROM t3 LEFT JOIN t4 USING (a,c)" {a 1 b 2}
```

```
6b "SELECT * FROM t3 NATURAL LEFT JOIN t4" {a 1 b 2}
```

```
}
```

```
EVIDENCE-OF: R-49566-01570 If the left and right-hand input datasets
```

```
feature no common column names, then the NATURAL keyword has no effect
```

```
on the results of the join.
```

```
#
```

```
do_execsql_test e_select-1.11.0 {
```

```
CREATE TABLE t10(x, y);
```

```
INSERT INTO t10 VALUES(1, 'true');
```

```
INSERT INTO t10 VALUES(0, 'false');
```

```
} {}
```

```
do_select_tests e_select-1-11 {
```

```
1a "SELECT a, x FROM t1 CROSS JOIN t10" {a 1 a 0 b 1 b 0 c 1 c 0}
```

```
1b "SELECT a, x FROM t1 NATURAL CROSS JOIN t10" {a 1 a 0 b 1 b 0 c 1 c 0}
```

```
}
```

```
EVIDENCE-OF: R-39625-59133 A USING or ON clause may not be added to a
```

```
join that specifies the NATURAL keyword.
```

```
#
```

```
foreach {tn sql} {
```

```
1 {SELECT * FROM t1 NATURAL LEFT JOIN t2 USING (a)}
```

```
2 {SELECT * FROM t1 NATURAL LEFT JOIN t2 ON (t1.a=t2.a)}
```

```
3 {SELECT * FROM t1 NATURAL LEFT JOIN t2 ON (45)}
```

```
} {
```

```
do_catchsql_test e_select-1.12.$tn "
```

```
$sql
```

```
" {1 {a NATURAL join may not have an ON or USING clause}}
```

```
}
```

```
#-----
```

```
The next block of tests - e_select-3.* - concentrate on verifying
```

```
statements made regarding WHERE clause processing.
```

```
#
```

```
drop_all_tables
```

```
do_execsql_test e_select-3.0 {
```

```
CREATE TABLE x1(k, x, y, z);
```

```
INSERT INTO x1 VALUES(1, 'relinquished', 'aphasia', 78.43);
```

```
INSERT INTO x1 VALUES(2, X'A8E8D66F', X'07CF', -81);
```

```

INSERT INTO x1 VALUES(3, -22, -27.57, NULL);
INSERT INTO x1 VALUES(4, NULL, 'bygone', 'picky');
INSERT INTO x1 VALUES(5, NULL, 96.28, NULL);
INSERT INTO x1 VALUES(6, 0, 1, 2);

```

```

CREATE TABLE x2(k, x, y2);
INSERT INTO x2 VALUES(1, 50, X'B82838');
INSERT INTO x2 VALUES(5, 84.79, 65.88);
INSERT INTO x2 VALUES(3, -22, X'0E1BE452A393');
INSERT INTO x2 VALUES(7, 'mistrusted', 'standardized');
} {}

```

```

EVIDENCE-OF: R-06999-14330 If a WHERE clause is specified, the WHERE
expression is evaluated for each row in the input data as a boolean
expression. All rows for which the WHERE clause expression evaluates
to false are excluded from the dataset before continuing.
#

```

```

do_execsql_test e_select-3.1.1 { SELECT k FROM x1 WHERE x } {3}
do_execsql_test e_select-3.1.2 { SELECT k FROM x1 WHERE y } {3 5 6}
do_execsql_test e_select-3.1.3 { SELECT k FROM x1 WHERE z } {1 2 6}
do_execsql_test e_select-3.1.4 { SELECT k FROM x1 WHERE '1' || z } {1 2 4 6}
do_execsql_test e_select-3.1.5 { SELECT k FROM x1 WHERE x IS NULL } {4 5}
do_execsql_test e_select-3.1.6 { SELECT k FROM x1 WHERE z - 78.43 } {2 4 6}

```

```

do_execsql_test e_select-3.2.1a {
 SELECT k FROM x1 LEFT JOIN x2 USING(k)
} {1 2 3 4 5 6}
do_execsql_test e_select-3.2.1b {
 SELECT k FROM x1 LEFT JOIN x2 USING(k) WHERE x2.k
} {1 3 5}
do_execsql_test e_select-3.2.2 {
 SELECT k FROM x1 LEFT JOIN x2 USING(k) WHERE x2.k IS NULL
} {2 4 6}

```

```

do_execsql_test e_select-3.2.3 {
 SELECT k FROM x1 NATURAL JOIN x2 WHERE x2.k
} {3}
do_execsql_test e_select-3.2.4 {
 SELECT k FROM x1 NATURAL JOIN x2 WHERE x2.k-3
} {}

```

```

#-----
Tests below this point are focused on verifying the testable statements
related to calculating the result rows of a simple SELECT statement.
#

```

```

drop_all_tables
do_execsql_test e_select-4.0 {

```



```

CREATE TABLE z1(a, b, c);
CREATE TABLE z2(d, e);
CREATE TABLE z3(a, b);

INSERT INTO z1 VALUES(51.65, -59.58, 'belfries');
INSERT INTO z1 VALUES(-5, NULL, 75);
INSERT INTO z1 VALUES(-2.2, -23.18, 'suiters');
INSERT INTO z1 VALUES(NULL, 67, 'quartets');
INSERT INTO z1 VALUES(-1.04, -32.3, 'aspen');
INSERT INTO z1 VALUES(63, 'born', -26);

INSERT INTO z2 VALUES(NULL, 21);
INSERT INTO z2 VALUES(36, 6);

INSERT INTO z3 VALUES('subsistence', 'gauze');
INSERT INTO z3 VALUES(49.17, -67);
} {}

EVIDENCE-OF: R-36327-17224 If a result expression is the special
expression "*" then all columns in the input data are substituted for
that one expression.
#
EVIDENCE-OF: R-43693-30522 If the expression is the alias of a table
or subquery in the FROM clause followed by ".*" then all columns from
the named table or subquery are substituted for the single expression.
#
do_select_tests e_select-4.1 {
 1 "SELECT * FROM z1 LIMIT 1" {51.65 -59.58 belfries}
 2 "SELECT * FROM z1,z2 LIMIT 1" {51.65 -59.58 belfries {} 21}
 3 "SELECT z1.* FROM z1,z2 LIMIT 1" {51.65 -59.58 belfries}
 4 "SELECT z2.* FROM z1,z2 LIMIT 1" {{{} 21}
 5 "SELECT z2.*, z1.* FROM z1,z2 LIMIT 1" {{{} 21 51.65 -59.58 belfries}

 6 "SELECT count(*), * FROM z1" {6 63 born -26}
 7 "SELECT max(a), * FROM z1" {63 63 born -26}
 8 "SELECT *, min(a) FROM z1" {-5 {} 75 -5}

 9 "SELECT *,* FROM z1,z2 LIMIT 1" {
 51.65 -59.58 belfries {} 21 51.65 -59.58 belfries {} 21
 }
 10 "SELECT z1.*,z1.* FROM z2,z1 LIMIT 1" {
 51.65 -59.58 belfries 51.65 -59.58 belfries
 }
}

EVIDENCE-OF: R-61869-22578 It is an error to use a "*" or "alias.*"
expression in any context other than than a result expression list.
#

```

```
EVIDENCE-OF: R-44324-41166 It is also an error to use a "*" or
"alias.*" expression in a simple SELECT query that does not have a
FROM clause.
```

```
#
```

```
foreach {tn select err} {
 1.1 "SELECT a, b, c FROM z1 WHERE *" {near "*": syntax error}
 1.2 "SELECT a, b, c FROM z1 GROUP BY *" {near "*": syntax error}
 1.3 "SELECT 1 + * FROM z1" {near "*": syntax error}
 1.4 "SELECT * + 1 FROM z1" {near "+": syntax error}

 2.1 "SELECT *" {no tables specified}
 2.2 "SELECT * WHERE 1" {no tables specified}
 2.3 "SELECT * WHERE 0" {no tables specified}
 2.4 "SELECT count(*), *" {no tables specified}
} {
do_catchsql_test e_select-4.2.$tn $select [list 1 $err]
}
```

```
EVIDENCE-OF: R-08669-22397 The number of columns in the rows returned
by a simple SELECT statement is equal to the number of expressions in
the result expression list after substitution of * and alias.*
expressions.
```

```
#
```

```
foreach {tn select nCol} {
 1 "SELECT * FROM z1" 3
 2 "SELECT * FROM z1 NATURAL JOIN z3" 3
 3 "SELECT z1.* FROM z1 NATURAL JOIN z3" 3
 4 "SELECT z3.* FROM z1 NATURAL JOIN z3" 2
 5 "SELECT z1.*, z3.* FROM z1 NATURAL JOIN z3" 5
 6 "SELECT 1, 2, z1.* FROM z1" 5
 7 "SELECT a, *, b, c FROM z1" 6
} {
set ::stmt [sqlite3_prepare_v2 db $select -1 DUMMY]
do_test e_select-4.3.$tn { sqlite3_column_count $::stmt } $nCol
sqlite3_finalize $::stmt
}
```

```
In lang_select.html, a non-aggregate query is defined as any simple SELECT
that has no GROUP BY clause and no aggregate expressions in the result
expression list. Other queries are aggregate queries. Test cases
e_select-4.4.* through e_select-4.12.*, inclusive, which test the part of
simple SELECT that is different for aggregate and non-aggregate queries
verify (in a way) that these definitions are consistent:
```

```
#
```

```
EVIDENCE-OF: R-20637-43463 A simple SELECT statement is an aggregate
query if it contains either a GROUP BY clause or one or more aggregate
```

```

functions in the result-set.
#
EVIDENCE-OF: R-23155-55597 Otherwise, if a simple SELECT contains no
aggregate functions or a GROUP BY clause, it is a non-aggregate query.
#

EVIDENCE-OF: R-44050-47362 If the SELECT statement is a non-aggregate
query, then each expression in the result expression list is evaluated
for each row in the dataset filtered by the WHERE clause.
#
do_select_tests e_select-4.4 {
 1 "SELECT a, b FROM z1"
 {51.65 -59.58 -5 {} -2.2 -23.18 {} 67 -1.04 -32.3 63 born}

 2 "SELECT a IS NULL, b+1, * FROM z1" {
 0 -58.58 51.65 -59.58 belfries
 0 {} -5 {} 75
 0 -22.18 -2.2 -23.18 suiters
 1 68 {} 67 quartets
 0 -31.3 -1.04 -32.3 aspen
 0 1 63 born -26
 }

 3 "SELECT 32*32, d||e FROM z2" {1024 {} 1024 366}
}

Test cases e_select-4.5.* and e_select-4.6.* together show that:
#
EVIDENCE-OF: R-51988-01124 The single row of result-set data created
by evaluating the aggregate and non-aggregate expressions in the
result-set forms the result of an aggregate query without a GROUP BY
clause.
#

EVIDENCE-OF: R-57629-25253 If the SELECT statement is an aggregate
query without a GROUP BY clause, then each aggregate expression in the
result-set is evaluated once across the entire dataset.
#
do_select_tests e_select-4.5 {
 1 "SELECT count(a), max(a), count(b), max(b) FROM z1" {5 63 5 born}
 2 "SELECT count(*), max(1)" {1 1}

 3 "SELECT sum(b+1) FROM z1 NATURAL LEFT JOIN z3" {-43.06}
 4 "SELECT sum(b+2) FROM z1 NATURAL LEFT JOIN z3" {-38.06}
 5 "SELECT sum(b IS NOT NULL) FROM z1 NATURAL LEFT JOIN z3" {5}
}

```

```

EVIDENCE-OF: R-26684-40576 Each non-aggregate expression in the
result-set is evaluated once for an arbitrarily selected row of the
dataset.
#
EVIDENCE-OF: R-27994-60376 The same arbitrarily selected row is used
for each non-aggregate expression.
#
Note: The results of many of the queries in this block of tests are
technically undefined, as the documentation does not specify which row
SQLite will arbitrarily select to use for the evaluation of the
non-aggregate expressions.
#
drop_all_tables
do_execsql_test e_select-4.6.0 {
CREATE TABLE a1(one PRIMARY KEY, two);
INSERT INTO a1 VALUES(1, 1);
INSERT INTO a1 VALUES(2, 3);
INSERT INTO a1 VALUES(3, 6);
INSERT INTO a1 VALUES(4, 10);

CREATE TABLE a2(one PRIMARY KEY, three);
INSERT INTO a2 VALUES(1, 1);
INSERT INTO a2 VALUES(3, 2);
INSERT INTO a2 VALUES(6, 3);
INSERT INTO a2 VALUES(10, 4);
} {}
do_select_tests e_select-4.6 {
1 "SELECT one, two, count(*) FROM a1" {4 10 4}
2 "SELECT one, two, count(*) FROM a1 WHERE one<3" {2 3 2}
3 "SELECT one, two, count(*) FROM a1 WHERE one>3" {4 10 1}
4 "SELECT *, count(*) FROM a1 JOIN a2" {4 10 10 4 16}
5 "SELECT *, sum(three) FROM a1 NATURAL JOIN a2" {3 6 2 3}
6 "SELECT *, sum(three) FROM a1 NATURAL JOIN a2" {3 6 2 3}
7 "SELECT group_concat(three, ''), a1.* FROM a1 NATURAL JOIN a2" {12 3 6}
}

EVIDENCE-OF: R-04486-07266 Or, if the dataset contains zero rows, then
each non-aggregate expression is evaluated against a row consisting
entirely of NULL values.
#
do_select_tests e_select-4.7 {
1 "SELECT one, two, count(*) FROM a1 WHERE 0" {{{} {} 0}
2 "SELECT sum(two), * FROM a1, a2 WHERE three>5" {{{} {} {} {} {}}}
3 "SELECT max(one) IS NULL, one IS NULL, two IS NULL FROM a1 WHERE two=7" {
1 1 1
}
}
}

```

```

EVIDENCE-OF: R-64138-28774 An aggregate query without a GROUP BY
clause always returns exactly one row of data, even if there are zero
rows of input data.
#
foreach {tn select} {
 8.1 "SELECT count(*) FROM a1"
 8.2 "SELECT count(*) FROM a1 WHERE 0"
 8.3 "SELECT count(*) FROM a1 WHERE 1"
 8.4 "SELECT max(a1.one)+min(two), a1.one, two, * FROM a1, a2 WHERE 1"
 8.5 "SELECT max(a1.one)+min(two), a1.one, two, * FROM a1, a2 WHERE 0"
} {
 # Set $nRow to the number of rows returned by $select:
 set ::stmt [sqlite3_prepare_v2 db $select -1 DUMMY]
 set nRow 0
 while {"SQLITE_ROW" == [sqlite3_step $::stmt]} { incr nRow }
 set rc [sqlite3_finalize $::stmt]

 # Test that $nRow==1 and that statement execution was successful
 # (rc==SQLITE_OK).
 do_test e_select-4.$tn [list list $rc $nRow] {SQLITE_OK 1}
}

drop_all_tables
do_execsql_test e_select-4.9.0 {
 CREATE TABLE b1(one PRIMARY KEY, two);
 INSERT INTO b1 VALUES(1, 'o');
 INSERT INTO b1 VALUES(4, 'f');
 INSERT INTO b1 VALUES(3, 't');
 INSERT INTO b1 VALUES(2, 't');
 INSERT INTO b1 VALUES(5, 'f');
 INSERT INTO b1 VALUES(7, 's');
 INSERT INTO b1 VALUES(6, 's');

 CREATE TABLE b2(x, y);
 INSERT INTO b2 VALUES(NULL, 0);
 INSERT INTO b2 VALUES(NULL, 1);
 INSERT INTO b2 VALUES('xyz', 2);
 INSERT INTO b2 VALUES('abc', 3);
 INSERT INTO b2 VALUES('xyz', 4);

 CREATE TABLE b3(a COLLATE nocase, b COLLATE binary);
 INSERT INTO b3 VALUES('abc', 'abc');
 INSERT INTO b3 VALUES('aBC', 'aBC');
 INSERT INTO b3 VALUES('Def', 'Def');
 INSERT INTO b3 VALUES('dEF', 'dEF');
} {}

```

```

EVIDENCE-OF: R-57754-57109 If the SELECT statement is an aggregate

```

```

query with a GROUP BY clause, then each of the expressions specified
as part of the GROUP BY clause is evaluated for each row of the
dataset. Each row is then assigned to a "group" based on the results;
rows for which the results of evaluating the GROUP BY expressions are
the same are assigned to the same group.
#
These tests also show that the following is not untrue:
#
EVIDENCE-OF: R-25883-55063 The expressions in the GROUP BY clause do
not have to be expressions that appear in the result.
#
do_select_tests e_select-4.9 {
 1 "SELECT group_concat(one), two FROM b1 GROUP BY two" {
 /#,# f 1 o #,# s #,# t/
 }
 2 "SELECT group_concat(one), sum(one) FROM b1 GROUP BY (one>4)" {
 1,2,3,4 10 5,6,7 18
 }
 3 "SELECT group_concat(one) FROM b1 GROUP BY (two>'o'), one%2" {
 4 1,5 2,6 3,7
 }
 4 "SELECT group_concat(one) FROM b1 GROUP BY (one==2 OR two=='o')" {
 4,3,5,7,6 1,2
 }
}

EVIDENCE-OF: R-14926-50129 For the purposes of grouping rows, NULL
values are considered equal.
#
do_select_tests e_select-4.10 {
 1 "SELECT group_concat(y) FROM b2 GROUP BY x" {/#,# 3 #,#/}
 2 "SELECT count(*) FROM b2 GROUP BY CASE WHEN y<4 THEN NULL ELSE 0 END" {4 1}
}

EVIDENCE-OF: R-10470-30318 The usual rules for selecting a collation
sequence with which to compare text values apply when evaluating
expressions in a GROUP BY clause.
#
do_select_tests e_select-4.11 {
 1 "SELECT count(*) FROM b3 GROUP BY b" {1 1 1 1}
 2 "SELECT count(*) FROM b3 GROUP BY a" {2 2}
 3 "SELECT count(*) FROM b3 GROUP BY +b" {1 1 1 1}
 4 "SELECT count(*) FROM b3 GROUP BY +a" {2 2}
 5 "SELECT count(*) FROM b3 GROUP BY b||'" {1 1 1 1}
 6 "SELECT count(*) FROM b3 GROUP BY a||'" {1 1 1 1}
}

EVIDENCE-OF: R-63573-50730 The expressions in a GROUP BY clause may

```

```

not be aggregate expressions.
#
foreach {tn select} {
 12.1 "SELECT * FROM b3 GROUP BY count(*)"
 12.2 "SELECT max(a) FROM b3 GROUP BY max(b)"
 12.3 "SELECT group_concat(a) FROM b3 GROUP BY a, max(b)"
} {
 set res {1 {aggregate functions are not allowed in the GROUP BY clause}}
 do_catchsql_test e_select-4.$tn $select $res
}

EVIDENCE-OF: R-31537-00101 If a HAVING clause is specified, it is
evaluated once for each group of rows as a boolean expression. If the
result of evaluating the HAVING clause is false, the group is
discarded.
#
This requirement is tested by all e_select-4.13.* tests.
#
EVIDENCE-OF: R-04132-09474 If the HAVING clause is an aggregate
expression, it is evaluated across all rows in the group.
#
Tested by e_select-4.13.1.*
#
EVIDENCE-OF: R-28262-47447 If a HAVING clause is a non-aggregate
expression, it is evaluated with respect to an arbitrarily selected
row from the group.
#
Tested by e_select-4.13.2.*
#
Tests in this block also show that this is not untrue:
#
EVIDENCE-OF: R-55403-13450 The HAVING expression may refer to values,
even aggregate functions, that are not in the result.
#
do_execsql_test e_select-4.13.0 {
 CREATE TABLE c1(up, down);
 INSERT INTO c1 VALUES('x', 1);
 INSERT INTO c1 VALUES('x', 2);
 INSERT INTO c1 VALUES('x', 4);
 INSERT INTO c1 VALUES('x', 8);
 INSERT INTO c1 VALUES('y', 16);
 INSERT INTO c1 VALUES('y', 32);

 CREATE TABLE c2(i, j);
 INSERT INTO c2 VALUES(1, 0);
 INSERT INTO c2 VALUES(2, 1);
 INSERT INTO c2 VALUES(3, 3);
 INSERT INTO c2 VALUES(4, 6);

```

```

INSERT INTO c2 VALUES(5, 10);
INSERT INTO c2 VALUES(6, 15);
INSERT INTO c2 VALUES(7, 21);
INSERT INTO c2 VALUES(8, 28);
INSERT INTO c2 VALUES(9, 36);

```

```

CREATE TABLE c3(i PRIMARY KEY, k TEXT);
INSERT INTO c3 VALUES(1, 'hydrogen');
INSERT INTO c3 VALUES(2, 'helium');
INSERT INTO c3 VALUES(3, 'lithium');
INSERT INTO c3 VALUES(4, 'beryllium');
INSERT INTO c3 VALUES(5, 'boron');
INSERT INTO c3 VALUES(94, 'plutonium');
} {}

```

```

do_select_tests e_select-4.13 {
 1.1 "SELECT up FROM c1 GROUP BY up HAVING count(*)>3" {x}
 1.2 "SELECT up FROM c1 GROUP BY up HAVING sum(down)>16" {y}
 1.3 "SELECT up FROM c1 GROUP BY up HAVING sum(down)<16" {x}
 1.4 "SELECT up||down FROM c1 GROUP BY (down<5) HAVING max(down)<10" {x4}

 2.1 "SELECT up FROM c1 GROUP BY up HAVING down>10" {y}
 2.2 "SELECT up FROM c1 GROUP BY up HAVING up='y'" {y}

 2.3 "SELECT i, j FROM c2 GROUP BY i>4 HAVING i>6" {9 36}
}

```

```

EVIDENCE-OF: R-23927-54081 Each expression in the result-set is then
evaluated once for each group of rows.
#

```

```

EVIDENCE-OF: R-53735-47017 If the expression is an aggregate
expression, it is evaluated across all rows in the group.
#

```

```

do_select_tests e_select-4.15 {
 1 "SELECT sum(down) FROM c1 GROUP BY up" {15 48}
 2 "SELECT sum(j), max(j) FROM c2 GROUP BY (i%3)" {54 36 27 21 39 28}
 3 "SELECT sum(j), max(j) FROM c2 GROUP BY (j%2)" {80 36 40 21}
 4 "SELECT 1+sum(j), max(j)+1 FROM c2 GROUP BY (j%2)" {81 37 41 22}
 5 "SELECT count(*), round(avg(i),2) FROM c1, c2 ON (i=down) GROUP BY j%2"
 {3 4.33 1 2.0}
}

```

```

EVIDENCE-OF: R-62913-19830 Otherwise, it is evaluated against a single
arbitrarily chosen row from within the group.
#

```

```

EVIDENCE-OF: R-53924-08809 If there is more than one non-aggregate
expression in the result-set, then all such expressions are evaluated
for the same row.

```



```

#
do_select_tests e_select-4.15 {
 1 "SELECT i, j FROM c2 GROUP BY i%2" {8 28 9 36}
 2 "SELECT i, j FROM c2 GROUP BY i%2 HAVING j<30" {8 28}
 3 "SELECT i, j FROM c2 GROUP BY i%2 HAVING j>30" {9 36}
 4 "SELECT i, j FROM c2 GROUP BY i%2 HAVING j>30" {9 36}
 5 "SELECT count(*), i, k FROM c2 NATURAL JOIN c3 GROUP BY substr(k, 1, 1)"
 {2 5 boron 2 2 helium 1 3 lithium}
}

```

# EVIDENCE-OF: R-19334-12811 Each group of input dataset rows

# contributes a single row to the set of result rows.

#

# EVIDENCE-OF: R-02223-49279 Subject to filtering associated with the

# DISTINCT keyword, the number of rows returned by an aggregate query

# with a GROUP BY clause is the same as the number of groups of rows

# produced by applying the GROUP BY and HAVING clauses to the filtered

# input dataset.

#

```

do_select_tests e_select.4.16 -count {
 1 "SELECT i, j FROM c2 GROUP BY i%2" 2
 2 "SELECT i, j FROM c2 GROUP BY i" 9
 3 "SELECT i, j FROM c2 GROUP BY i HAVING i<5" 4
}

```

#-----

# The following tests attempt to verify statements made regarding the ALL

# and DISTINCT keywords.

#

drop\_all\_tables

```
do_execsql_test e_select-5.1.0 {
```

```
CREATE TABLE h1(a, b);
```

```
INSERT INTO h1 VALUES(1, 'one');
```

```
INSERT INTO h1 VALUES(1, 'T');
```

```
INSERT INTO h1 VALUES(1, 'i');
```

```
INSERT INTO h1 VALUES(4, 'four');
```

```
INSERT INTO h1 VALUES(4, 'IV');
```

```
INSERT INTO h1 VALUES(4, 'iv');
```

```
CREATE TABLE h2(x COLLATE nocase);
```

```
INSERT INTO h2 VALUES('One');
```

```
INSERT INTO h2 VALUES('Two');
```

```
INSERT INTO h2 VALUES('Three');
```

```
INSERT INTO h2 VALUES('Four');
```

```
INSERT INTO h2 VALUES('one');
```

```
INSERT INTO h2 VALUES('two');
```

```
INSERT INTO h2 VALUES('three');
```

```
INSERT INTO h2 VALUES('four');
```

```

CREATE TABLE h3(c, d);
INSERT INTO h3 VALUES(1, NULL);
INSERT INTO h3 VALUES(2, NULL);
INSERT INTO h3 VALUES(3, NULL);
INSERT INTO h3 VALUES(4, '2');
INSERT INTO h3 VALUES(5, NULL);
INSERT INTO h3 VALUES(6, '2,3');
INSERT INTO h3 VALUES(7, NULL);
INSERT INTO h3 VALUES(8, '2,4');
INSERT INTO h3 VALUES(9, '3');
} {}

```

```

EVIDENCE-OF: R-60770-10612 One of the ALL or DISTINCT keywords may
follow the SELECT keyword in a simple SELECT statement.

```

```

#
do_select_tests e_select-5.1 {
 1 "SELECT ALL a FROM h1" {1 1 1 4 4 4}
 2 "SELECT DISTINCT a FROM h1" {1 4}
}

```

```

EVIDENCE-OF: R-08861-34280 If the simple SELECT is a SELECT ALL, then
the entire set of result rows are returned by the SELECT.

```

```

#
EVIDENCE-OF: R-47911-02086 If neither ALL or DISTINCT are present,
then the behavior is as if ALL were specified.

```

```

#
EVIDENCE-OF: R-14442-41305 If the simple SELECT is a SELECT DISTINCT,
then duplicate rows are removed from the set of result rows before it
is returned.

```

```

#
The three testable statements above are tested by e_select-5.2.*,
5.3.* and 5.4.* respectively.

```

```

#
do_select_tests e_select-5 {
 3.1 "SELECT ALL x FROM h2" {One Two Three Four one two three four}
 3.2 "SELECT ALL x FROM h1, h2 ON (x=b)" {One one Four four}

 3.1 "SELECT x FROM h2" {One Two Three Four one two three four}
 3.2 "SELECT x FROM h1, h2 ON (x=b)" {One one Four four}

 4.1 "SELECT DISTINCT x FROM h2" {One Two Three Four}
 4.2 "SELECT DISTINCT x FROM h1, h2 ON (x=b)" {One Four}
}

```

```

EVIDENCE-OF: R-02054-15343 For the purposes of detecting duplicate
rows, two NULL values are considered to be equal.

```

```

#

```

```

do_select_tests e_select-5.5 {
 1 "SELECT DISTINCT d FROM h3" {{ 2 2,3 2,4 3 }
}

EVIDENCE-OF: R-58359-52112 The normal rules for selecting a collation
sequence to compare text values with apply.
#
do_select_tests e_select-5.6 {
 1 "SELECT DISTINCT b FROM h1" {one I i four IV iv}
 2 "SELECT DISTINCT b COLLATE nocase FROM h1" {one I four IV}
 3 "SELECT DISTINCT x FROM h2" {One Two Three Four}
 4 "SELECT DISTINCT x COLLATE binary FROM h2" {
 One Two Three Four one two three four
 }
}

#-----
The following tests - e_select-7.* - test that statements made to do
with compound SELECT statements are correct.
#

EVIDENCE-OF: R-39368-64333 In a compound SELECT, all the constituent
SELECTs must return the same number of result columns.
#
All the other tests in this section use compound SELECTs created
using component SELECTs that do return the same number of columns.
So the tests here just show that it is an error to attempt otherwise.
#
drop_all_tables
do_execsql_test e_select-7.1.0 {
 CREATE TABLE j1(a, b, c);
 CREATE TABLE j2(e, f);
 CREATE TABLE j3(g);
} {}
do_select_tests e_select-7.1 -error {
 SELECTs to the left and right of %s do not have the same number of result columns
} {
 1 "SELECT a, b FROM j1 UNION ALL SELECT g FROM j3" {{UNION ALL}}
 2 "SELECT * FROM j1 UNION ALL SELECT * FROM j3" {{UNION ALL}}
 3 "SELECT a, b FROM j1 UNION ALL SELECT g FROM j3" {{UNION ALL}}
 4 "SELECT a, b FROM j1 UNION ALL SELECT * FROM j3,j2" {{UNION ALL}}
 5 "SELECT * FROM j3,j2 UNION ALL SELECT a, b FROM j1" {{UNION ALL}}

 6 "SELECT a, b FROM j1 UNION SELECT g FROM j3" {UNION}
 7 "SELECT * FROM j1 UNION SELECT * FROM j3" {UNION}
 8 "SELECT a, b FROM j1 UNION SELECT g FROM j3" {UNION}
 9 "SELECT a, b FROM j1 UNION SELECT * FROM j3,j2" {UNION}
 10 "SELECT * FROM j3,j2 UNION SELECT a, b FROM j1" {UNION}
}

```

```

11 "SELECT a, b FROM j1 INTERSECT SELECT g FROM j3" {INTERSECT}
12 "SELECT * FROM j1 INTERSECT SELECT * FROM j3" {INTERSECT}
13 "SELECT a, b FROM j1 INTERSECT SELECT g FROM j3" {INTERSECT}
14 "SELECT a, b FROM j1 INTERSECT SELECT * FROM j3,j2" {INTERSECT}
15 "SELECT * FROM j3,j2 INTERSECT SELECT a, b FROM j1" {INTERSECT}

16 "SELECT a, b FROM j1 EXCEPT SELECT g FROM j3" {EXCEPT}
17 "SELECT * FROM j1 EXCEPT SELECT * FROM j3" {EXCEPT}
18 "SELECT a, b FROM j1 EXCEPT SELECT g FROM j3" {EXCEPT}
19 "SELECT a, b FROM j1 EXCEPT SELECT * FROM j3,j2" {EXCEPT}
20 "SELECT * FROM j3,j2 EXCEPT SELECT a, b FROM j1" {EXCEPT}
}

```

# EVIDENCE-OF: R-01450-11152 As the components of a compound SELECT must  
# be simple SELECT statements, they may not contain ORDER BY or LIMIT  
# clauses.

#

foreach {tn select op1 op2} {

```

1 "SELECT * FROM j1 ORDER BY a UNION ALL SELECT * FROM j2,j3"
 {ORDER BY} {UNION ALL}
2 "SELECT count(*) FROM j1 ORDER BY 1 UNION ALL SELECT max(e) FROM j2"
 {ORDER BY} {UNION ALL}
3 "SELECT count(*), * FROM j1 ORDER BY 1,2,3 UNION ALL SELECT *,* FROM j2"
 {ORDER BY} {UNION ALL}
4 "SELECT * FROM j1 LIMIT 10 UNION ALL SELECT * FROM j2,j3"
 LIMIT {UNION ALL}
5 "SELECT * FROM j1 LIMIT 10 OFFSET 5 UNION ALL SELECT * FROM j2,j3"
 LIMIT {UNION ALL}
6 "SELECT a FROM j1 LIMIT (SELECT e FROM j2) UNION ALL SELECT g FROM j2,j3"
 LIMIT {UNION ALL}

7 "SELECT * FROM j1 ORDER BY a UNION SELECT * FROM j2,j3"
 {ORDER BY} {UNION}
8 "SELECT count(*) FROM j1 ORDER BY 1 UNION SELECT max(e) FROM j2"
 {ORDER BY} {UNION}
9 "SELECT count(*), * FROM j1 ORDER BY 1,2,3 UNION SELECT *,* FROM j2"
 {ORDER BY} {UNION}
10 "SELECT * FROM j1 LIMIT 10 UNION SELECT * FROM j2,j3"
 LIMIT {UNION}
11 "SELECT * FROM j1 LIMIT 10 OFFSET 5 UNION SELECT * FROM j2,j3"
 LIMIT {UNION}
12 "SELECT a FROM j1 LIMIT (SELECT e FROM j2) UNION SELECT g FROM j2,j3"
 LIMIT {UNION}

13 "SELECT * FROM j1 ORDER BY a EXCEPT SELECT * FROM j2,j3"
 {ORDER BY} {EXCEPT}
14 "SELECT count(*) FROM j1 ORDER BY 1 EXCEPT SELECT max(e) FROM j2"

```

```

 {ORDER BY} {EXCEPT}
15 "SELECT count(*), * FROM j1 ORDER BY 1,2,3 EXCEPT SELECT *,* FROM j2"
 {ORDER BY} {EXCEPT}
16 "SELECT * FROM j1 LIMIT 10 EXCEPT SELECT * FROM j2,j3"
 LIMIT {EXCEPT}
17 "SELECT * FROM j1 LIMIT 10 OFFSET 5 EXCEPT SELECT * FROM j2,j3"
 LIMIT {EXCEPT}
18 "SELECT a FROM j1 LIMIT (SELECT e FROM j2) EXCEPT SELECT g FROM j2,j3"
 LIMIT {EXCEPT}

19 "SELECT * FROM j1 ORDER BY a INTERSECT SELECT * FROM j2,j3"
 {ORDER BY} {INTERSECT}
20 "SELECT count(*) FROM j1 ORDER BY 1 INTERSECT SELECT max(e) FROM j2"
 {ORDER BY} {INTERSECT}
21 "SELECT count(*), * FROM j1 ORDER BY 1,2,3 INTERSECT SELECT *,* FROM j2"
 {ORDER BY} {INTERSECT}
22 "SELECT * FROM j1 LIMIT 10 INTERSECT SELECT * FROM j2,j3"
 LIMIT {INTERSECT}
23 "SELECT * FROM j1 LIMIT 10 OFFSET 5 INTERSECT SELECT * FROM j2,j3"
 LIMIT {INTERSECT}
24 "SELECT a FROM j1 LIMIT (SELECT e FROM j2) INTERSECT SELECT g FROM j2,j3"
 LIMIT {INTERSECT}
} {
set err "$op1 clause should come after $op2 not before"
do_catchsql_test e_select-7.2.$tn $select [list 1 $err]
}

EVIDENCE-OF: R-22874-32655 ORDER BY and LIMIT clauses may only occur
at the end of the entire compound SELECT.
#
foreach {tn select} {
 1 "SELECT * FROM j1 UNION ALL SELECT * FROM j2,j3 ORDER BY a"
 2 "SELECT count(*) FROM j1 UNION ALL SELECT max(e) FROM j2 ORDER BY 1"
 3 "SELECT count(*), * FROM j1 UNION ALL SELECT *,* FROM j2 ORDER BY 1,2,3"
 4 "SELECT * FROM j1 UNION ALL SELECT * FROM j2,j3 LIMIT 10"
 5 "SELECT * FROM j1 UNION ALL SELECT * FROM j2,j3 LIMIT 10 OFFSET 5"
 6 "SELECT a FROM j1 UNION ALL SELECT g FROM j2,j3 LIMIT (SELECT 10)"

 7 "SELECT * FROM j1 UNION SELECT * FROM j2,j3 ORDER BY a"
 8 "SELECT count(*) FROM j1 UNION SELECT max(e) FROM j2 ORDER BY 1"
 9 "SELECT count(*), * FROM j1 UNION SELECT *,* FROM j2 ORDER BY 1,2,3"
 10 "SELECT * FROM j1 UNION SELECT * FROM j2,j3 LIMIT 10"
 11 "SELECT * FROM j1 UNION SELECT * FROM j2,j3 LIMIT 10 OFFSET 5"
 12 "SELECT a FROM j1 UNION SELECT g FROM j2,j3 LIMIT (SELECT 10)"

 13 "SELECT * FROM j1 EXCEPT SELECT * FROM j2,j3 ORDER BY a"
 14 "SELECT count(*) FROM j1 EXCEPT SELECT max(e) FROM j2 ORDER BY 1"
 15 "SELECT count(*), * FROM j1 EXCEPT SELECT *,* FROM j2 ORDER BY 1,2,3"

```

```

16 "SELECT * FROM j1 EXCEPT SELECT * FROM j2,j3 LIMIT 10"
17 "SELECT * FROM j1 EXCEPT SELECT * FROM j2,j3 LIMIT 10 OFFSET 5"
18 "SELECT a FROM j1 EXCEPT SELECT g FROM j2,j3 LIMIT (SELECT 10)"

19 "SELECT * FROM j1 INTERSECT SELECT * FROM j2,j3 ORDER BY a"
20 "SELECT count(*) FROM j1 INTERSECT SELECT max(e) FROM j2 ORDER BY 1"
21 "SELECT count(*), * FROM j1 INTERSECT SELECT *,* FROM j2 ORDER BY 1,2,3"
22 "SELECT * FROM j1 INTERSECT SELECT * FROM j2,j3 LIMIT 10"
23 "SELECT * FROM j1 INTERSECT SELECT * FROM j2,j3 LIMIT 10 OFFSET 5"
24 "SELECT a FROM j1 INTERSECT SELECT g FROM j2,j3 LIMIT (SELECT 10)"
} {
do_test e_select-7.3.$tn { catch {execsql $select} msg } 0
}

EVIDENCE-OF: R-08531-36543 A compound SELECT created using UNION ALL
operator returns all the rows from the SELECT to the left of the UNION
ALL operator, and all the rows from the SELECT to the right of it.
#
drop_all_tables
do_execsql_test e_select-7.4.0 {
CREATE TABLE q1(a TEXT, b INTEGER, c);
CREATE TABLE q2(d NUMBER, e BLOB);
CREATE TABLE q3(f REAL, g);

INSERT INTO q1 VALUES(16, -87.66, NULL);
INSERT INTO q1 VALUES('legible', 94, -42.47);
INSERT INTO q1 VALUES('beauty', 36, NULL);

INSERT INTO q2 VALUES('legible', 1);
INSERT INTO q2 VALUES('beauty', 2);
INSERT INTO q2 VALUES(-65.91, 4);
INSERT INTO q2 VALUES('emanating', -16.56);

INSERT INTO q3 VALUES('beauty', 2);
INSERT INTO q3 VALUES('beauty', 2);
} {}
do_select_tests e_select-7.4 {
1 {SELECT a FROM q1 UNION ALL SELECT d FROM q2}
 {16 legible beauty legible beauty -65.91 emanating}

2 {SELECT * FROM q1 WHERE a=16 UNION ALL SELECT 'x', * FROM q2 WHERE oid=1}
 {16 -87.66 {} x legible 1}

3 {SELECT count(*) FROM q1 UNION ALL SELECT min(e) FROM q2}
 {3 -16.56}

4 {SELECT * FROM q2 UNION ALL SELECT * FROM q3}
 {legible 1 beauty 2 -65.91 4 emanating -16.56 beauty 2 beauty 2}

```

```

}

EVIDENCE-OF: R-20560-39162 The UNION operator works the same way as
UNION ALL, except that duplicate rows are removed from the final
result set.
#
do_select_tests e_select-7.5 {
 1 {SELECT a FROM q1 UNION SELECT d FROM q2}
 {-65.91 16 beauty emanating legible}

 2 {SELECT * FROM q1 WHERE a=16 UNION SELECT 'x', * FROM q2 WHERE oid=1}
 {16 -87.66 {} x legible 1}

 3 {SELECT count(*) FROM q1 UNION SELECT min(e) FROM q2}
 {-16.56 3}

 4 {SELECT * FROM q2 UNION SELECT * FROM q3}
 {-65.91 4 beauty 2 emanating -16.56 legible 1}
}

EVIDENCE-OF: R-45764-31737 The INTERSECT operator returns the
intersection of the results of the left and right SELECTs.
#
do_select_tests e_select-7.6 {
 1 {SELECT a FROM q1 INTERSECT SELECT d FROM q2} {beauty legible}
 2 {SELECT * FROM q2 INTERSECT SELECT * FROM q3} {beauty 2}
}

EVIDENCE-OF: R-25787-28949 The EXCEPT operator returns the subset of
rows returned by the left SELECT that are not also returned by the
right-hand SELECT.
#
do_select_tests e_select-7.7 {
 1 {SELECT a FROM q1 EXCEPT SELECT d FROM q2} {16}

 2 {SELECT * FROM q2 EXCEPT SELECT * FROM q3}
 {-65.91 4 emanating -16.56 legible 1}
}

EVIDENCE-OF: R-40729-56447 Duplicate rows are removed from the results
of INTERSECT and EXCEPT operators before the result set is returned.
#
do_select_tests e_select-7.8 {
 0 {SELECT * FROM q3} {beauty 2 beauty 2}

 1 {SELECT * FROM q3 INTERSECT SELECT * FROM q3} {beauty 2}
 2 {SELECT * FROM q3 EXCEPT SELECT a,b FROM q1} {beauty 2}
}

```

```

EVIDENCE-OF: R-46765-43362 For the purposes of determining duplicate
rows for the results of compound SELECT operators, NULL values are
considered equal to other NULL values and distinct from all non-NULL
values.
#
db nullvalue null
do_select_tests e_select-7.9 {
 1 {SELECT NULL UNION ALL SELECT NULL} {null null}
 2 {SELECT NULL UNION SELECT NULL} {null}
 3 {SELECT NULL INTERSECT SELECT NULL} {null}
 4 {SELECT NULL EXCEPT SELECT NULL} {}

 5 {SELECT NULL UNION ALL SELECT 'ab'} {null ab}
 6 {SELECT NULL UNION SELECT 'ab'} {null ab}
 7 {SELECT NULL INTERSECT SELECT 'ab'} {}
 8 {SELECT NULL EXCEPT SELECT 'ab'} {null}

 9 {SELECT NULL UNION ALL SELECT 0} {null 0}
 10 {SELECT NULL UNION SELECT 0} {null 0}
 11 {SELECT NULL INTERSECT SELECT 0} {}
 12 {SELECT NULL EXCEPT SELECT 0} {null}

 13 {SELECT c FROM q1 UNION ALL SELECT g FROM q3} {null -42.47 null 2 2}
 14 {SELECT c FROM q1 UNION SELECT g FROM q3} {null -42.47 2}
 15 {SELECT c FROM q1 INTERSECT SELECT g FROM q3} {}
 16 {SELECT c FROM q1 EXCEPT SELECT g FROM q3} {null -42.47}
}
db nullvalue {}

```

```

EVIDENCE-OF: R-51232-50224 The collation sequence used to compare two
text values is determined as if the columns of the left and right-hand
SELECT statements were the left and right-hand operands of the equals
(=) operator, except that greater precedence is not assigned to a
collation sequence specified with the postfix COLLATE operator.
#

```

```

drop_all_tables
do_execsql_test e_select-7.10.0 {
 CREATE TABLE y1(a COLLATE nocase, b COLLATE binary, c);
 INSERT INTO y1 VALUES('Abc', 'abc', 'ABC');
} {}
do_select_tests e_select-7.10 {
 1 {SELECT 'abc' UNION SELECT 'ABC'} {ABC abc}
 2 {SELECT 'abc' COLLATE nocase UNION SELECT 'ABC'} {ABC}
 3 {SELECT 'abc' UNION SELECT 'ABC' COLLATE nocase} {ABC}
 4 {SELECT 'abc' COLLATE binary UNION SELECT 'ABC' COLLATE nocase} {ABC abc}
 5 {SELECT 'abc' COLLATE nocase UNION SELECT 'ABC' COLLATE binary} {ABC}

```



```

6 {SELECT a FROM y1 UNION SELECT b FROM y1} {abc}
7 {SELECT b FROM y1 UNION SELECT a FROM y1} {Abc abc}
8 {SELECT a FROM y1 UNION SELECT c FROM y1} {aBC}

9 {SELECT a FROM y1 UNION SELECT c COLLATE binary FROM y1} {aBC}
}

```

```

EVIDENCE-OF: R-32706-07403 No affinity transformations are applied to
any values when comparing rows as part of a compound SELECT.

```

```
#
```

```
drop_all_tables
```

```
do_execsql_test e_select-7.10.0 {
```

```
CREATE TABLE w1(a TEXT, b NUMBER);
```

```
CREATE TABLE w2(a, b TEXT);
```

```
INSERT INTO w1 VALUES('1', 4.1);
```

```
INSERT INTO w2 VALUES(1, 4.1);
```

```
} {}
```

```
do_select_tests e_select-7.11 {
```

```
1 { SELECT a FROM w1 UNION SELECT a FROM w2 } {1 1}
```

```
2 { SELECT a FROM w2 UNION SELECT a FROM w1 } {1 1}
```

```
3 { SELECT b FROM w1 UNION SELECT b FROM w2 } {4.1 4.1}
```

```
4 { SELECT b FROM w2 UNION SELECT b FROM w1 } {4.1 4.1}
```

```
5 { SELECT a FROM w1 INTERSECT SELECT a FROM w2 } {}
```

```
6 { SELECT a FROM w2 INTERSECT SELECT a FROM w1 } {}
```

```
7 { SELECT b FROM w1 INTERSECT SELECT b FROM w2 } {}
```

```
8 { SELECT b FROM w2 INTERSECT SELECT b FROM w1 } {}
```

```
9 { SELECT a FROM w1 EXCEPT SELECT a FROM w2 } {1}
```

```
10 { SELECT a FROM w2 EXCEPT SELECT a FROM w1 } {1}
```

```
11 { SELECT b FROM w1 EXCEPT SELECT b FROM w2 } {4.1}
```

```
12 { SELECT b FROM w2 EXCEPT SELECT b FROM w1 } {4.1}
```

```
}
```

```
EVIDENCE-OF: R-32562-20566 When three or more simple SELECTs are
```

```
connected into a compound SELECT, they group from left to right. In
```

```
other words, if "A", "B" and "C" are all simple SELECT statements, (A
```

```
op B op C) is processed as ((A op B) op C).
```

```
#
```

```
e_select-7.12.1: Precedence of UNION vs. INTERSECT
```

```
e_select-7.12.2: Precedence of UNION vs. UNION ALL
```

```
e_select-7.12.3: Precedence of UNION vs. EXCEPT
```

```
e_select-7.12.4: Precedence of INTERSECT vs. UNION ALL
```

```
e_select-7.12.5: Precedence of INTERSECT vs. EXCEPT
```

```
e_select-7.12.6: Precedence of UNION ALL vs. EXCEPT
```

```

e_select-7.12.7: Check that "a EXCEPT b EXCEPT c" is processed as
"(a EXCEPT b) EXCEPT c".
#
The INTERSECT and EXCEPT operations are mutually commutative. So
the e_select-7.12.5 test cases do not prove very much.
#
drop_all_tables
do_execsql_test e_select-7.12.0 {
 CREATE TABLE t1(x);
 INSERT INTO t1 VALUES(1);
 INSERT INTO t1 VALUES(2);
 INSERT INTO t1 VALUES(3);
} {}
foreach {tn select res} {
 1a "(1,2) INTERSECT (1) UNION (3)" {1 3}
 1b "(3) UNION (1,2) INTERSECT (1)" {1}

 2a "(1,2) UNION (3) UNION ALL (1)" {1 2 3 1}
 2b "(1) UNION ALL (3) UNION (1,2)" {1 2 3}

 3a "(1,2) UNION (3) EXCEPT (1)" {2 3}
 3b "(1,2) EXCEPT (3) UNION (1)" {1 2}

 4a "(1,2) INTERSECT (1) UNION ALL (3)" {1 3}
 4b "(3) UNION (1,2) INTERSECT (1)" {1}

 5a "(1,2) INTERSECT (2) EXCEPT (2)" {}
 5b "(2,3) EXCEPT (2) INTERSECT (2)" {}

 6a "(2) UNION ALL (2) EXCEPT (2)" {}
 6b "(2) EXCEPT (2) UNION ALL (2)" {2}

 7 "(2,3) EXCEPT (2) EXCEPT (3)" {}
} {}
set select [string map {({SELECT x FROM t1 WHERE x IN ({})} $select)
do_execsql_test e_select-7.12.$tn $select [list {*}]$res]
}

#-----
ORDER BY clauses
#

drop_all_tables
do_execsql_test e_select-8.1.0 {
 CREATE TABLE d1(x, y, z);

 INSERT INTO d1 VALUES(1, 2, 3);

```

```

INSERT INTO d1 VALUES(2, 5, -1);
INSERT INTO d1 VALUES(1, 2, 8);
INSERT INTO d1 VALUES(1, 2, 7);
INSERT INTO d1 VALUES(2, 4, 93);
INSERT INTO d1 VALUES(1, 2, -20);
INSERT INTO d1 VALUES(1, 4, 93);
INSERT INTO d1 VALUES(1, 5, -1);

```

```

CREATE TABLE d2(a, b);
INSERT INTO d2 VALUES('gently', 'failings');
INSERT INTO d2 VALUES('commercials', 'bathrobe');
INSERT INTO d2 VALUES('iterate', 'sexton');
INSERT INTO d2 VALUES('babied', 'charitableness');
INSERT INTO d2 VALUES('solemnness', 'annexed');
INSERT INTO d2 VALUES('rejoicing', 'liabilities');
INSERT INTO d2 VALUES('pragmatist', 'guarded');
INSERT INTO d2 VALUES('barked', 'interrupted');
INSERT INTO d2 VALUES('reemphasizes', 'reply');
INSERT INTO d2 VALUES('lad', 'relenting');
} {}

```

# EVIDENCE-OF: R-44988-41064 Rows are first sorted based on the results  
# of evaluating the left-most expression in the ORDER BY list, then ties  
# are broken by evaluating the second left-most expression and so on.

```

#
do_select_tests e_select-8.1 {
 1 "SELECT * FROM d1 ORDER BY x, y, z" {
 1 2 -20 1 2 3 1 2 7 1 2 8
 1 4 93 1 5 -1 2 4 93 2 5 -1
 }
}

```

# EVIDENCE-OF: R-06617-54588 Each ORDER BY expression may be optionally  
# followed by one of the keywords ASC (smaller values are returned  
# first) or DESC (larger values are returned first).

```

#
Test cases e_select-8.2.* test the above.
#

```

# EVIDENCE-OF: R-18705-33393 If neither ASC or DESC are specified, rows  
# are sorted in ascending (smaller values first) order by default.

```

#
Test cases e_select-8.3.* test the above. All 8.3 test cases are
copies of 8.2 test cases with the explicit "ASC" removed.
#

```

```

do_select_tests e_select-8 {
 2.1 "SELECT * FROM d1 ORDER BY x ASC, y ASC, z ASC" {
 1 2 -20 1 2 3 1 2 7 1 2 8
 1 4 93 1 5 -1 2 4 93 2 5 -1
 }
}

```

```

}
2.2 "SELECT * FROM d1 ORDER BY x DESC, y DESC, z DESC" {
 2 5 -1 2 4 93 1 5 -1 1 4 93
 1 2 8 1 2 7 1 2 3 1 2 -20
}
2.3 "SELECT * FROM d1 ORDER BY x DESC, y ASC, z DESC" {
 2 4 93 2 5 -1 1 2 8 1 2 7
 1 2 3 1 2 -20 1 4 93 1 5 -1
}
2.4 "SELECT * FROM d1 ORDER BY x DESC, y ASC, z ASC" {
 2 4 93 2 5 -1 1 2 -20 1 2 3
 1 2 7 1 2 8 1 4 93 1 5 -1
}

```

```

3.1 "SELECT * FROM d1 ORDER BY x, y, z" {
 1 2 -20 1 2 3 1 2 7 1 2 8
 1 4 93 1 5 -1 2 4 93 2 5 -1
}

```

```

3.3 "SELECT * FROM d1 ORDER BY x DESC, y, z DESC" {
 2 4 93 2 5 -1 1 2 8 1 2 7
 1 2 3 1 2 -20 1 4 93 1 5 -1
}

```

```

3.4 "SELECT * FROM d1 ORDER BY x DESC, y, z" {
 2 4 93 2 5 -1 1 2 -20 1 2 3
 1 2 7 1 2 8 1 4 93 1 5 -1
}
}

```

# EVIDENCE-OF: R-29779-04281 If the ORDER BY expression is a constant  
# integer K then the expression is considered an alias for the K-th  
# column of the result set (columns are numbered from left to right  
# starting with 1).  
#

```

do_select_tests e_select-8.4 {
 1 "SELECT * FROM d1 ORDER BY 1 ASC, 2 ASC, 3 ASC" {
 1 2 -20 1 2 3 1 2 7 1 2 8
 1 4 93 1 5 -1 2 4 93 2 5 -1
 }
 2 "SELECT * FROM d1 ORDER BY 1 DESC, 2 DESC, 3 DESC" {
 2 5 -1 2 4 93 1 5 -1 1 4 93
 1 2 8 1 2 7 1 2 3 1 2 -20
 }
 3 "SELECT * FROM d1 ORDER BY 1 DESC, 2 ASC, 3 DESC" {
 2 4 93 2 5 -1 1 2 8 1 2 7
 1 2 3 1 2 -20 1 4 93 1 5 -1
 }
 4 "SELECT * FROM d1 ORDER BY 1 DESC, 2 ASC, 3 ASC" {
 2 4 93 2 5 -1 1 2 -20 1 2 3
 }
}

```

```

1 2 7 1 2 8 1 4 93 1 5 -1
}
5 "SELECT * FROM d1 ORDER BY 1, 2, 3" {
1 2 -20 1 2 3 1 2 7 1 2 8
1 4 93 1 5 -1 2 4 93 2 5 -1
}
6 "SELECT * FROM d1 ORDER BY 1 DESC, 2, 3 DESC" {
2 4 93 2 5 -1 1 2 8 1 2 7
1 2 3 1 2 -20 1 4 93 1 5 -1
}
7 "SELECT * FROM d1 ORDER BY 1 DESC, 2, 3" {
2 4 93 2 5 -1 1 2 -20 1 2 3
1 2 7 1 2 8 1 4 93 1 5 -1
}
8 "SELECT z, x FROM d1 ORDER BY 2" {
/# 1 # 1 # 1 # 1
1 # 1 # 2 # 2/
}
9 "SELECT z, x FROM d1 ORDER BY 1" {
/-20 1 -1 # -1 # 3 1
7 1 8 1 93 # 93 #/
}
}

```

# EVIDENCE-OF: R-63286-51977 If the ORDER BY expression is an identifier  
# that corresponds to the alias of one of the output columns, then the  
# expression is considered an alias for that column.  
#

```

do_select_tests e_select-8.5 {
1 "SELECT z+1 AS abc FROM d1 ORDER BY abc" {
-19 0 0 4 8 9 94 94
}
2 "SELECT z+1 AS abc FROM d1 ORDER BY abc DESC" {
94 94 9 8 4 0 0 -19
}
3 "SELECT z AS x, x AS z FROM d1 ORDER BY z" {
/# 1 # 1 # 1 # 1 # 1 # 1 # 2 # 2/
}
4 "SELECT z AS x, x AS z FROM d1 ORDER BY x" {
/-20 1 -1 # -1 # 3 1 7 1 8 1 93 # 93 #/
}
}

```

# EVIDENCE-OF: R-65068-27207 Otherwise, if the ORDER BY expression is  
# any other expression, it is evaluated and the returned value used to  
# order the output rows.  
#

# EVIDENCE-OF: R-03421-57988 If the SELECT statement is a simple SELECT,

```

then an ORDER BY may contain any arbitrary expressions.
#
do_select_tests e_select-8.6 {
 1 "SELECT * FROM d1 ORDER BY x+y+z" {
 1 2 -20 1 5 -1 1 2 3 2 5 -1
 1 2 7 1 2 8 1 4 93 2 4 93
 }
 2 "SELECT * FROM d1 ORDER BY x*z" {
 1 2 -20 2 5 -1 1 5 -1 1 2 3
 1 2 7 1 2 8 1 4 93 2 4 93
 }
 3 "SELECT * FROM d1 ORDER BY y*z" {
 1 2 -20 2 5 -1 1 5 -1 1 2 3
 1 2 7 1 2 8 2 4 93 1 4 93
 }
}

EVIDENCE-OF: R-28853-08147 However, if the SELECT is a compound
SELECT, then ORDER BY expressions that are not aliases to output
columns must be exactly the same as an expression used as an output
column.
#
do_select_tests e_select-8.7.1 -error {
 %s ORDER BY term does not match any column in the result set
} {
 1 "SELECT x FROM d1 UNION ALL SELECT a FROM d2 ORDER BY x*z" 1st
 2 "SELECT x,z FROM d1 UNION ALL SELECT a,b FROM d2 ORDER BY x, x/z" 2nd
}

do_select_tests e_select-8.7.2 {
 1 "SELECT x*z FROM d1 UNION ALL SELECT a FROM d2 ORDER BY x*z" {
 -20 -2 -1 3 7 8 93 186 babied barked commercials gently
 iterate lad pragmatist reemphasizes rejoicing solemnness
 }
 2 "SELECT x, x/z FROM d1 UNION ALL SELECT a,b FROM d2 ORDER BY x, x/z" {
 1 -1 1 0 1 0 1 0 1 0 1 0 2 -2 2 0
 babied charitableness barked interrupted commercials bathrobe gently
 failings iterate sexton lad relenting pragmatist guarded reemphasizes reply
 rejoicing liabilities solemnness annexed
 }
}

do_execsql_test e_select-8.8.0 {
 CREATE TABLE d3(a);
 INSERT INTO d3 VALUES('text');
 INSERT INTO d3 VALUES(14.1);
 INSERT INTO d3 VALUES(13);
 INSERT INTO d3 VALUES(X'78787878');
}

```

```
INSERT INTO d3 VALUES(15);
INSERT INTO d3 VALUES(12.9);
INSERT INTO d3 VALUES(null);
```

```
CREATE TABLE d4(x COLLATE nocase);
INSERT INTO d4 VALUES('abc');
INSERT INTO d4 VALUES('ghi');
INSERT INTO d4 VALUES('DEF');
INSERT INTO d4 VALUES('JKL');
} {}
```

# EVIDENCE-OF: R-10883-17697 For the purposes of sorting rows, values  
# are compared in the same way as for comparison expressions.

#

# The following tests verify that values of different types are sorted  
# correctly, and that mixed real and integer values are compared properly.

#

```
do_execsql_test e_select-8.8.1 {
 SELECT a FROM d3 ORDER BY a
} {{} 12.9 13 14.1 15 text xxxx}
do_execsql_test e_select-8.8.2 {
 SELECT a FROM d3 ORDER BY a DESC
} {xxxx text 15 14.1 13 12.9 {}}
```

# EVIDENCE-OF: R-64199-22471 If the ORDER BY expression is assigned a  
# collation sequence using the postfix COLLATE operator, then the  
# specified collation sequence is used.

#

```
do_execsql_test e_select-8.9.1 {
 SELECT x FROM d4 ORDER BY 1 COLLATE binary
} {DEF JKL abc ghi}
do_execsql_test e_select-8.9.2 {
 SELECT x COLLATE binary FROM d4 ORDER BY 1 COLLATE nocase
} {abc DEF ghi JKL}
```

# EVIDENCE-OF: R-09398-26102 Otherwise, if the ORDER BY expression is  
# an alias to an expression that has been assigned a collation sequence  
# using the postfix COLLATE operator, then the collation sequence  
# assigned to the aliased expression is used.

#

# In the test 8.10.2, the only result-column expression has no alias. So the  
# ORDER BY expression is not a reference to it and therefore does not inherit  
# the collation sequence. In test 8.10.3, "x" is the alias (as well as the  
# column name), so the ORDER BY expression is interpreted as an alias and the  
# collation sequence attached to the result column is used for sorting.

#

```
do_execsql_test e_select-8.10.1 {
```

```

SELECT x COLLATE binary FROM d4 ORDER BY 1
} {DEF JKL abc ghi}
do_execsql_test e_select-8.10.2 {
SELECT x COLLATE binary FROM d4 ORDER BY x
} {abc DEF ghi JKL}
do_execsql_test e_select-8.10.3 {
SELECT x COLLATE binary AS x FROM d4 ORDER BY x
} {DEF JKL abc ghi}

```

# EVIDENCE-OF: R-27301-09658 Otherwise, if the ORDER BY expression is a  
# column or an alias of an expression that is a column, then the default  
# collation sequence for the column is used.

```

#
do_execsql_test e_select-8.11.1 {
SELECT x AS y FROM d4 ORDER BY y
} {abc DEF ghi JKL}
do_execsql_test e_select-8.11.2 {
SELECT x||" FROM d4 ORDER BY x
} {abc DEF ghi JKL}

```

# EVIDENCE-OF: R-49925-55905 Otherwise, the BINARY collation sequence is  
# used.

```

#
do_execsql_test e_select-8.12.1 {
SELECT x FROM d4 ORDER BY x||"
} {DEF JKL abc ghi}

```

# EVIDENCE-OF: R-44130-32593 If an ORDER BY expression is not an integer  
# alias, then SQLite searches the left-most SELECT in the compound for a  
# result column that matches either the second or third rules above. If  
# a match is found, the search stops and the expression is handled as an  
# alias for the result column that it has been matched against.  
# Otherwise, the next SELECT to the right is tried, and so on.

```

#
do_execsql_test e_select-8.13.0 {
CREATE TABLE d5(a, b);
CREATE TABLE d6(c, d);
CREATE TABLE d7(e, f);

INSERT INTO d5 VALUES(1, 'f');
INSERT INTO d6 VALUES(2, 'e');
INSERT INTO d7 VALUES(3, 'd');
INSERT INTO d5 VALUES(4, 'c');
INSERT INTO d6 VALUES(5, 'b');
INSERT INTO d7 VALUES(6, 'a');

```

```

CREATE TABLE d8(x COLLATE nocase);
CREATE TABLE d9(y COLLATE nocase);

```



```

INSERT INTO d8 VALUES('a');
INSERT INTO d9 VALUES('B');
INSERT INTO d8 VALUES('c');
INSERT INTO d9 VALUES('D');
} {}
do_select_tests e_select-8.13 {
1 { SELECT a FROM d5 UNION ALL SELECT c FROM d6 UNION ALL SELECT e FROM d7
 ORDER BY a
 } {1 2 3 4 5 6}
2 { SELECT a FROM d5 UNION ALL SELECT c FROM d6 UNION ALL SELECT e FROM d7
 ORDER BY c
 } {1 2 3 4 5 6}
3 { SELECT a FROM d5 UNION ALL SELECT c FROM d6 UNION ALL SELECT e FROM d7
 ORDER BY e
 } {1 2 3 4 5 6}
4 { SELECT a FROM d5 UNION ALL SELECT c FROM d6 UNION ALL SELECT e FROM d7
 ORDER BY 1
 } {1 2 3 4 5 6}

5 { SELECT a, b FROM d5 UNION ALL SELECT b, a FROM d5 ORDER BY b }
 {f1 c4 4c 1f}
6 { SELECT a, b FROM d5 UNION ALL SELECT b, a FROM d5 ORDER BY 2 }
 {f1 c4 4c 1f}

7 { SELECT a, b FROM d5 UNION ALL SELECT b, a FROM d5 ORDER BY a }
 {1f 4c c4 f1}
8 { SELECT a, b FROM d5 UNION ALL SELECT b, a FROM d5 ORDER BY 1 }
 {1f 4c c4 f1}

9 { SELECT a, b FROM d5 UNION ALL SELECT b, a+1 FROM d5 ORDER BY a+1 }
 {f2 c5 4c 1f}
10 { SELECT a, b FROM d5 UNION ALL SELECT b, a+1 FROM d5 ORDER BY 2 }
 {f2 c5 4c 1f}

11 { SELECT a+1, b FROM d5 UNION ALL SELECT b, a+1 FROM d5 ORDER BY a+1 }
 {2f 5c c5 f2}
12 { SELECT a+1, b FROM d5 UNION ALL SELECT b, a+1 FROM d5 ORDER BY 1 }
 {2f 5c c5 f2}
}

EVIDENCE-OF: R-39265-04070 If no matching expression can be found in
the result columns of any constituent SELECT, it is an error.
#
do_select_tests e_select-8.14 -error {
 %s ORDER BY term does not match any column in the result set
} {
1 { SELECT a FROM d5 UNION SELECT c FROM d6 ORDER BY a+1 } 1st

```

```

2 { SELECT a FROM d5 UNION SELECT c FROM d6 ORDER BY a, a+1 } 2nd
3 { SELECT * FROM d5 INTERSECT SELECT * FROM d6 ORDER BY 'hello' } 1st
4 { SELECT * FROM d5 INTERSECT SELECT * FROM d6 ORDER BY blah } 1st
5 { SELECT * FROM d5 INTERSECT SELECT * FROM d6 ORDER BY c,d,c+d } 3rd
6 { SELECT * FROM d5 EXCEPT SELECT * FROM d7 ORDER BY 1,2,b,a/b } 4th
}

```

```

EVIDENCE-OF: R-03407-11483 Each term of the ORDER BY clause is
processed separately and may be matched against result columns from
different SELECT statements in the compound.
#

```

```

do_select_tests e_select-8.15 {
1 { SELECT a, b FROM d5 UNION ALL SELECT c-1, d FROM d6 ORDER BY a, d }
 {1 e 1 f 4 b 4 c}
2 { SELECT a, b FROM d5 UNION ALL SELECT c-1, d FROM d6 ORDER BY c-1, b }
 {1 e 1 f 4 b 4 c}
3 { SELECT a, b FROM d5 UNION ALL SELECT c-1, d FROM d6 ORDER BY 1, 2 }
 {1 e 1 f 4 b 4 c}
}

```

```

#-----
Tests related to statements made about the LIMIT/OFFSET clause.
#

```

```

do_execsql_test e_select-9.0 {
CREATE TABLE f1(a, b);
INSERT INTO f1 VALUES(26, 'z');
INSERT INTO f1 VALUES(25, 'y');
INSERT INTO f1 VALUES(24, 'x');
INSERT INTO f1 VALUES(23, 'w');
INSERT INTO f1 VALUES(22, 'v');
INSERT INTO f1 VALUES(21, 'u');
INSERT INTO f1 VALUES(20, 't');
INSERT INTO f1 VALUES(19, 's');
INSERT INTO f1 VALUES(18, 'r');
INSERT INTO f1 VALUES(17, 'q');
INSERT INTO f1 VALUES(16, 'p');
INSERT INTO f1 VALUES(15, 'o');
INSERT INTO f1 VALUES(14, 'n');
INSERT INTO f1 VALUES(13, 'm');
INSERT INTO f1 VALUES(12, 'l');
INSERT INTO f1 VALUES(11, 'k');
INSERT INTO f1 VALUES(10, 'j');
INSERT INTO f1 VALUES(9, 'i');
INSERT INTO f1 VALUES(8, 'h');
INSERT INTO f1 VALUES(7, 'g');
INSERT INTO f1 VALUES(6, 'f');
INSERT INTO f1 VALUES(5, 'e');
}

```

```
INSERT INTO f1 VALUES(4, 'd');
INSERT INTO f1 VALUES(3, 'c');
INSERT INTO f1 VALUES(2, 'b');
INSERT INTO f1 VALUES(1, 'a');
} {}
```

# EVIDENCE-OF: R-30481-56627 Any scalar expression may be used in the  
# LIMIT clause, so long as it evaluates to an integer or a value that  
# can be losslessly converted to an integer.

```
#
do_select_tests e_select-9.1 {
 1 { SELECT b FROM f1 ORDER BY a LIMIT 5 } {a b c d e}
 2 { SELECT b FROM f1 ORDER BY a LIMIT 2+3 } {a b c d e}
 3 { SELECT b FROM f1 ORDER BY a LIMIT (SELECT a FROM f1 WHERE b = 'e') }
 {a b c d e}
 4 { SELECT b FROM f1 ORDER BY a LIMIT 5.0 } {a b c d e}
 5 { SELECT b FROM f1 ORDER BY a LIMIT '5' } {a b c d e}
}
```

# EVIDENCE-OF: R-46155-47219 If the expression evaluates to a NULL value  
# or any other value that cannot be losslessly converted to an integer,  
# an error is returned.

```
#
do_select_tests e_select-9.2 -error "datatype mismatch" {
 1 { SELECT b FROM f1 ORDER BY a LIMIT 'hello' } {}
 2 { SELECT b FROM f1 ORDER BY a LIMIT NULL } {}
 3 { SELECT b FROM f1 ORDER BY a LIMIT X'ABCD' } {}
 4 { SELECT b FROM f1 ORDER BY a LIMIT 5.1 } {}
 5 { SELECT b FROM f1 ORDER BY a LIMIT (SELECT group_concat(b) FROM f1) } {}
}
```

# EVIDENCE-OF: R-03014-26414 If the LIMIT expression evaluates to a  
# negative value, then there is no upper bound on the number of rows  
# returned.

```
#
do_select_tests e_select-9.4 {
 1 { SELECT b FROM f1 ORDER BY a LIMIT -1 }
 {a b c d e f g h i j k l m n o p q r s t u v w x y z}
 2 { SELECT b FROM f1 ORDER BY a LIMIT length('abc')-100 }
 {a b c d e f g h i j k l m n o p q r s t u v w x y z}
 3 { SELECT b FROM f1 ORDER BY a LIMIT (SELECT count(*) FROM f1)/2 - 14 }
 {a b c d e f g h i j k l m n o p q r s t u v w x y z}
}
```

# EVIDENCE-OF: R-33750-29536 Otherwise, the SELECT returns the first N  
# rows of its result set only, where N is the value that the LIMIT  
# expression evaluates to.

```

#
do_select_tests e_select-9.5 {
 1 { SELECT b FROM f1 ORDER BY a LIMIT 0 } {}
 2 { SELECT b FROM f1 ORDER BY a DESC LIMIT 4 } {z y x w}
 3 { SELECT b FROM f1 ORDER BY a DESC LIMIT 8 } {z y x w v u t s}
 4 { SELECT b FROM f1 ORDER BY a DESC LIMIT '12.0' } {z y x w v u t s r q p o}
}

EVIDENCE-OF: R-54935-19057 Or, if the SELECT statement would return
less than N rows without a LIMIT clause, then the entire result set is
returned.
#
do_select_tests e_select-9.6 {
 1 { SELECT b FROM f1 WHERE a>21 ORDER BY a LIMIT 10 } {v w x y z}
 2 { SELECT count(*) FROM f1 GROUP BY a/5 ORDER BY 1 LIMIT 10 } {2 4 5 5 5 5}
}

EVIDENCE-OF: R-24188-24349 The expression attached to the optional
OFFSET clause that may follow a LIMIT clause must also evaluate to an
integer, or a value that can be losslessly converted to an integer.
#
foreach {tn select} {
 1 { SELECT b FROM f1 ORDER BY a LIMIT 2 OFFSET 'hello' }
 2 { SELECT b FROM f1 ORDER BY a LIMIT 2 OFFSET NULL }
 3 { SELECT b FROM f1 ORDER BY a LIMIT 2 OFFSET X'ABCD' }
 4 { SELECT b FROM f1 ORDER BY a LIMIT 2 OFFSET 5.1 }
 5 { SELECT b FROM f1 ORDER BY a
 LIMIT 2 OFFSET (SELECT group_concat(b) FROM f1)
 }
} {
do_catchsql_test e_select-9.7.$tn $select {1 {datatype mismatch}}
}

EVIDENCE-OF: R-20467-43422 If an expression has an OFFSET clause, then
the first M rows are omitted from the result set returned by the
SELECT statement and the next N rows are returned, where M and N are
the values that the OFFSET and LIMIT clauses evaluate to,
respectively.
#
do_select_tests e_select-9.8 {
 1 { SELECT b FROM f1 ORDER BY a LIMIT 10 OFFSET 5 } {f g h i j k l m n o}
 2 { SELECT b FROM f1 ORDER BY a LIMIT 2+3 OFFSET 10 } {k l m n o}
 3 { SELECT b FROM f1 ORDER BY a
 LIMIT (SELECT a FROM f1 WHERE b='j')
 OFFSET (SELECT a FROM f1 WHERE b='b')
 } {c d e f g h i j k l}
 4 { SELECT b FROM f1 ORDER BY a LIMIT '5' OFFSET 3.0 } {d e f g h}
}

```

```

5 { SELECT b FROM f1 ORDER BY a LIMIT '5' OFFSET 0 } {a b c d e}
6 { SELECT b FROM f1 ORDER BY a LIMIT 0 OFFSET 10 } {}
7 { SELECT b FROM f1 ORDER BY a LIMIT 3 OFFSET '1' || '5' } {p q r}
}

```

# EVIDENCE-OF: R-34648-44875 Or, if the SELECT would return less than # M+N rows if it did not have a LIMIT clause, then the first M rows are # skipped and the remaining rows (if any) are returned.

```

#
do_select_tests e_select-9.9 {
1 { SELECT b FROM f1 ORDER BY a LIMIT 10 OFFSET 20 } {u v w x y z}
2 { SELECT a FROM f1 ORDER BY a DESC LIMIT 100 OFFSET 18+4 } {4 3 2 1}
}

```

# EVIDENCE-OF: R-23293-62447 If the OFFSET clause evaluates to a # negative value, the results are the same as if it had evaluated to # zero.

```

#
do_select_tests e_select-9.10 {
1 { SELECT b FROM f1 ORDER BY a LIMIT 5 OFFSET -1 } {a b c d e}
2 { SELECT b FROM f1 ORDER BY a LIMIT 5 OFFSET -500 } {a b c d e}
3 { SELECT b FROM f1 ORDER BY a LIMIT 5 OFFSET 0 } {a b c d e}
}

```

# EVIDENCE-OF: R-19509-40356 Instead of a separate OFFSET clause, the # LIMIT clause may specify two scalar expressions separated by a comma.

# # EVIDENCE-OF: R-33788-46243 In this case, the first expression is used # as the OFFSET expression and the second as the LIMIT expression.

```

#
do_select_tests e_select-9.11 {
1 { SELECT b FROM f1 ORDER BY a LIMIT 5, 10 } {f g h i j k l m n o}
2 { SELECT b FROM f1 ORDER BY a LIMIT 10, 2+3 } {k l m n o}
3 { SELECT b FROM f1 ORDER BY a
LIMIT (SELECT a FROM f1 WHERE b='b'), (SELECT a FROM f1 WHERE b='j')
} {c d e f g h i j k l}
4 { SELECT b FROM f1 ORDER BY a LIMIT 3.0, '5' } {d e f g h}
5 { SELECT b FROM f1 ORDER BY a LIMIT 0, '5' } {a b c d e}
6 { SELECT b FROM f1 ORDER BY a LIMIT 10, 0 } {}
7 { SELECT b FROM f1 ORDER BY a LIMIT '1' || '5', 3 } {p q r}

```

```

8 { SELECT b FROM f1 ORDER BY a LIMIT 20, 10 } {u v w x y z}
9 { SELECT a FROM f1 ORDER BY a DESC LIMIT 18+4, 100 } {4 3 2 1}

```

```

10 { SELECT b FROM f1 ORDER BY a LIMIT -1, 5 } {a b c d e}
11 { SELECT b FROM f1 ORDER BY a LIMIT -500, 5 } {a b c d e}
12 { SELECT b FROM f1 ORDER BY a LIMIT 0, 5 } {a b c d e}

```

}

finish\_test

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/test/e\_select.test

No license file was found, but licenses were detected in source scan.

public domain.</li>

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/changes.html

No license file was found, but licenses were detected in source scan.

/\*

\* This code implements the MD5 message-digest algorithm.  
\* The algorithm is due to Ron Rivest. This code was  
\* written by Colin Plumb in 1993, no copyright is claimed.  
\* This code is in the public domain; do with it what you wish.  
\*

\* Equivalent code is available from RSA Data Security, Inc.  
\* This code has been tested against that, and is equivalent,  
\* except that you don't need to include two pages of legalese  
\* with every copy.  
\*

\* To compute the message digest of a chunk of bytes, declare an  
\* MD5Context structure, pass it to MD5Init, call MD5Update as  
\* needed on buffers full of bytes, and then call MD5Final, which  
\* will fill a supplied 16-byte array with the digest.  
\*/

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/src/tclsqlite.c

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/test/threadtest3.c

No license file was found, but licenses were detected in source scan.

SQLite is in the public domain. This document describes what that means

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/docs.html

No license file was found, but licenses were detected in source scan.

2.31 0

1.23 0

1.0 0

Found in path(s):

\* %%Version

No license file was found, but licenses were detected in source scan.

<h3>Proprietary SQLite Extensions</h3>

<a href="copyright.html">public domain</a>. But there also exist proprietary, licensed extensions to SQLite, written and maintained by the SQLite developers. You are welcomed to use SQLite in closed source, proprietary, and/or

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/support.html

No license file was found, but licenses were detected in source scan.

<html>

<body bgcolor="white">

<p>FOR IMMEDIATE RELEASE:</p>

<h2 align="center">SQLite Consortium Launches With Mozilla And Symbian As Charter Members</h2>

<h3 align="center">Ensures independent technical direction for world's most deployed SQL database engine</h3>

<p><b>Charlotte, North Carolina - December 12, 2007</b> - The SQLite Consortium, a new membership association dedicated to maintaining SQLite as a fully open and independent product, was formally announced today. Mozilla and Symbian Ltd. have joined the SQLite Consortium as charter members.</p>

<p>SQLite is a compact, high efficiency, high reliability, embeddable SQL database engine. The source code to SQLite is in the public domain and is available with no associated fees. SQLite is the most deployed SQL database engine in the world and is currently used in a wide range of commercial software products and electronic devices from leading manufacturers. SQLite is found today in many mobile phones, MP3 players, set-top boxes, and PCs.</p>

<p>The mission of the SQLite Consortium is to continue developing and enhancing SQLite as a product that anyone may use without paying royalties or licensing fees. Members of the SQLite Consortium provide funding to enable this mission and in return receive enterprise-level technical support. Technical control and direction of SQLite remains entirely with the SQLite developers.</p>

<p>Mozilla, developer of the popular open-source Firefox web browser, and Symbian, the market-leading open operating system for advanced data-enabled smartphones, both deploy the SQLite database engine in their products. As charter members of

the Consortium, Mozilla and Symbian are ensuring the development and support of SQLite as a freely accessible and public domain software asset.</p>

<p>"SQLite has become a popular embedded database because it is lightweight, fast, and open source," said Michael Schroepfer, Vice President of Engineering, Mozilla. "As a charter member of the SQLite Consortium, Mozilla is excited to help ensure SQLite remains a vibrant and open technology, in line with our mission to promote choice and innovation on the Internet."</p>

<p>"The SQLite Consortium will help set the standards for database management which are essential in smartphone functionality and will also help create a pool of developers, highly-skilled in SQLite for future mobile phone development, " said Bruce Carney, Director, Developer Programmes & Services, Symbian. "Our involvement with the SQL Consortium not only demonstrates Symbian's commitment to open standards in the industry, but as mobile phones become increasingly powerful and smartphones become increasingly popular, we are focused on ensuring that desktop developers, who move to the mobile space, have the easiest and most productive experience possible."</p>

<p>SQLite is a winner of the 2005 Google/O'Reilly Open Source Award. Additional information regarding the SQLite Consortium is available at the SQLite website, <http://www.sqlite.org/>.</p>

<center>  
# # #  
</center>

<p><b>About SQLite</b></p>

<p>SQLite is a software library that implements a self-contained, embeddable, serverless, zero-configuration, transactional SQL database engine. The code for SQLite is in the public domain and is free for any use, commercial or private. SQLite is currently found in countless software titles and electronic devices.</p>

<p>SQLite was originally developed and released 2000 by Dr. D. Richard Hipp. The code continues to be maintained and enhanced by an international team of developers under Hipp's direction.</p>

<p>  
CONTACT INFORMATION:<br>  
SQLite Consortium<br>  
Dr. D. Richard Hipp<br>  
6200 Maple Cove Lane<br>  
Charlotte, NC 28269<br>  
Email: [drh@sqlite.org](mailto:drh@sqlite.org)<br>  
<http://www.sqlite.org/><br>  
Tel: +1.704.948.4565



</p>

<p><b>About Mozilla</b></p>

<p>Mozilla is a global community dedicated to building free, open source products and technologies that improve the online experience for people everywhere. Mozilla works in the open with a highly disciplined, transparent and cooperative development process, under the umbrella of the non-profit Mozilla Foundation. As a wholly owned subsidiary, the Mozilla Corporation organizes the development and marketing of Mozilla products. This unique structure has enabled Mozilla to financially support and cultivate competitive, viable community innovation. For more information, visit [www.mozilla.com](http://www.mozilla.com).</p>

<p>CONTACT INFORMATION:<br>

Mozilla Corporation<br>

Jessica Waight<br>

Tel: +1.415.345.4754<br>

Email: [jwaight@outcastpr.com](mailto:jwaight@outcastpr.com)

</p>

<p><b>About Symbian Limited</b></p>

<p>Symbian is a software licensing company that develops and licenses Symbian OS, the market-leading open operating system for advanced, data-enabled mobile phones known as smartphones.</p>

<p>Symbian licenses Symbian OS to the world's leading handset manufacturers and has built close co-operative business relationships with leading companies across the mobile industry. During Q3 2007, 20.4 million Symbian smartphones were sold worldwide to over 250 major network operators, bringing the total number of Symbian smartphones shipped up to 30 September 2007 to 165 million.</p>

<p>Symbian has its headquarters in London, United Kingdom, with offices in the United States, United Kingdom, Asia (India, P.R. China, and Korea) and Japan. For more information, please visit [www.symbian.com](http://www.symbian.com).</p>

<p>CONTACT INFORMATION:<br>

Symbian Global Press Office<br>

Karen Hamblen<br>

+44 207 154 1707<br>

[press@symbian.com](mailto:press@symbian.com)

</p>

</body></html>

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/pressrelease-20071212.html

No license file was found, but licenses were detected in source scan.

```
2006 September 14
#
The author disclaims copyright to this source code. In place of
a legal notice, here is a blessing:
#
May you do good and not evil.
May you find forgiveness for yourself and forgive others.
May you share freely, never taking more than you give.
#
#*****
This file implements regression tests for SQLite library. The
focus of this script is testing the FTS2 module.
#
$Id: fts2c.test,v 1.1 2006/10/19 23:36:26 shess Exp $
#

set testdir [file dirname $argv0]
source $testdir/tester.tcl

If SQLITE_ENABLE_FTS2 is defined, omit this file.
ifcapable !fts2 {
 finish_test
 return
}

Create a table of sample email data. The data comes from email
archives of Enron executives that was published as part of the
litigation against that company.
#
do_test fts2c-1.1 {
 db eval {
 CREATE VIRTUAL TABLE email USING fts2([from],[to],subject,body);
 BEGIN TRANSACTION;
 INSERT INTO email([from],[to],subject,body) VALUES('savita.puthigai@enron.com', 'traders.eol@enron.com,
traders.eol@enron.com', 'EnronOnline- Change to Autohedge', 'Effective Monday, October 22, 2001 the following
changes will be made to the Autohedge functionality on EnronOnline.

The volume on the hedge will now respect the minimum volume and volume increment settings on the parent
product. See rules below:

? If the transaction volume on the child is less than half of the parent's minimum volume no hedge will occur.
? If the transaction volume on the child is more than half the parent's minimum volume but less than half the volume
increment on the parent, the hedge will volume will be the parent's minimum volume.
? For all other volumes, the same rounding rules will apply based on the volume increment on the parent product.
```

Please see example below:

Parent's Settings:

Minimum: 5000

Increment: 1000

Volume on Autohedge transaction    Volume Hedged

1    - 2499    0

2500 - 5499    5000

5500 - 6499    6000');

INSERT INTO email([from],[to],subject,body) VALUES('dana.davis@enron.com', 'laynie.east@enron.com, lisa.king@enron.com, lisa.best@enron.com,', 'Leaving Early', 'FYI:

If it's ok with everyone's needs, I would like to leave @4pm. If you think you will need my assistance past the 4 o'clock hour just let me know; I'll be more than willing to stay.');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concuere workplace.com', 'louise.kitchen@enron.com', '<<Concur Expense Document>> - CC02.06.02', 'The following expense report is ready for approval:

Employee Name: Christopher F. Calger

Status last changed by: Mollie E. Gustafson Ms

Expense Report Name: CC02.06.02

Report Total: \$3,972.93

Amount Due Employee: \$3,972.93

To approve this expense report, click on the following link for Concur Expense.

<http://expensexms.enron.com>');

INSERT INTO email([from],[to],subject,body) VALUES('jeff.duff@enron.com', 'julie.johnson@enron.com', 'Work request', 'Julie,

Could you print off the current work request report by 1:30 today?

Gentlemen,

I'd like to review this today at 1:30 in our office. Also, could you provide me with your activity reports so I can have Julie enter this information.

JD');

INSERT INTO email([from],[to],subject,body) VALUES('v.weldon@enron.com', 'gary.l.carrier@usa.dupont.com, scott.joyce@bankofamerica.com', 'Enron News', 'This could turn into something big....

<http://biz.yahoo.com/rf/010129/n29305829.html>');

INSERT INTO email([from],[to],subject,body) VALUES('mark.haedicke@enron.com', 'paul.simons@enron.com', 'Re: First Polish Deal!', 'Congrats! Things seem to be building rapidly now on the Continent. Mark');

INSERT INTO email([from],[to],subject,body) VALUES('e.carter@enron.com', 't..robinson@enron.com', 'FW: Producers Newsletter 9-24-2001', '

The producer lumber pricing sheet.

-----Original Message-----

From: Johnson, Jay

Sent: Tuesday, October 16, 2001 3:42 PM  
To: Carter, Karen E.  
Subject: FW: Producers Newsletter 9-24-2001

-----Original Message-----

From: Daigre, Sergai  
Sent: Friday, September 21, 2001 8:33 PM  
Subject: Producers Newsletter 9-24-2001

);

INSERT INTO email([from],[to],subject,body) VALUES('david.delainey@enron.com', 'kenneth.lay@enron.com', 'Greater Houston Partnership', 'Ken, in response to the letter from Mr Miguel San Juan, my suggestion would be to offer up the Falcon for their use; however, given the tight time frame and your recent visit with Mr. Fox that it would be difficult for either you or me to participate.

I spoke to Max and he agrees with this approach.

I hope this meets with your approval.

Regards

Delainey');

INSERT INTO email([from],[to],subject,body) VALUES('lachandra.fenceroy@enron.com', 'lindy.donoho@enron.com', 'FW: Bus Applications Meeting Follow Up', 'Lindy,

Here is the original memo we discussed earlier. Please provide any information that you may have.

Your cooperation is greatly appreciated.

Thanks,

lachandra.fenceroy@enron.com  
713.853.3884  
877.498.3401 Pager

-----Original Message-----

From: Bisbee, Joanne  
Sent: Wednesday, September 26, 2001 7:50 AM  
To: Fenceroy, LaChandra  
Subject: FW: Bus Applications Meeting Follow Up

Lachandra, Please get with David Duff today and see what this is about. Who are our TW accounting business users?

-----Original Message-----

From: Koh, Wendy

Sent: Tuesday, September 25, 2001 2:41 PM  
To: Bisbee, Joanne  
Subject: Bus Applications Meeting Follow Up

Lisa brought up a TW change effective Nov 1. It involves eliminating a turnback surcharge. I have no other information, but you might check with the business folks for any system changes required.

Wendy');

INSERT INTO email([from],[to],subject,body) VALUES('danny.mccarty@enron.com', 'fran.fagan@enron.com', 'RE: worksheets', 'Fran,

If Julie's merit needs to be lump sum, just move it over to that column. Also, send me Eric Gadd's sheets as well.  
Thanks.

Dan

-----Original Message-----

From: Fagan, Fran  
Sent: Thursday, December 20, 2001 11:10 AM  
To: McCarty, Danny  
Subject: worksheets

As discussed, attached are your sheets for bonus and merit.

Thanks,

Fran Fagan  
Sr. HR Rep  
713.853.5219

<< File: McCartyMerit.xls >> << File: mccartyBonusCommercial\_UnP.xls >>

);

INSERT INTO email([from],[to],subject,body) VALUES('bert.meyers@enron.com', 'shift.dl-portland@enron.com', 'OCTOBER SCHEDULE', 'TEAM,

PLEASE SEND ME ANY REQUESTS THAT YOU HAVE FOR OCTOBER. SO FAR I HAVE THEM FOR LEAF. I WOULD LIKE TO HAVE IT DONE BY THE 15TH OF THE MONTH. ANY QUESTIONS PLEASE GIVE ME A CALL.

BERT');

INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com', 'john.arnold@enron.com, bilal.bajwa@enron.com, john.griffith@enron.com,', 'TRV Notification: (NG - PROPT P/L - 09/27/2001)', 'The report named: NG - PROPT P/L <[http://trv.corp.enron.com/linkFromExcel.asp?report\\_cd=11&report\\_name=NG+-+PROPT+P/L&category\\_cd=5&category\\_name=FINANCIAL&toc\\_hide=1&sTV1=5&TV1Exp=Y&current\\_efct\\_d ate=09/27/2001](http://trv.corp.enron.com/linkFromExcel.asp?report_cd=11&report_name=NG+-+PROPT+P/L&category_cd=5&category_name=FINANCIAL&toc_hide=1&sTV1=5&TV1Exp=Y&current_efct_d ate=09/27/2001)>, published as of 09/27/2001 is now available for viewing on the website.');

INSERT INTO email([from],[to],subject,body) VALUES('patrice.mims@enron.com', 'calvin.eakins@enron.com', 'Re: Small business supply assistance', 'Hi Calvin

I spoke with Rickey (boy, is he long-winded!!). Gave him the name of our credit guy, Russell Diamond.

Thank for your help!');

INSERT INTO email([from],[to],subject,body) VALUES('legal <.hall@enron.com>', 'stephanie.panus@enron.com', 'Termination update', 'City of Vernon and Salt River Project terminated their contracts. I will fax these notices to you.');

INSERT INTO email([from],[to],subject,body) VALUES('d..steffes@enron.com', 'richard.shapiro@enron.com', 'EES / ENA Government Affairs Staffing & Outside Services', 'Rick --

Here is the information on staffing and outside services. Call if you need anything else.

Jim

);

INSERT INTO email([from],[to],subject,body) VALUES('gelliott@industrialinfo.com', 'pcopello@industrialinfo.com', 'ECAAR (Gavin), WSCC (Diablo Canyon), & NPCC (Seabrook)', 'Dear Power Outage Database Customer,

Attached you will find an excel document. The outages contained within are forced or rescheduled outages. Your daily delivery will still contain these outages.

In addition to the two excel documents, there is a dbf file that is formatted like your daily deliveries you receive nightly. This will enable you to load the data into your regular database. Any questions please let me know. Thanks.

Greg Elliott

IRR, Inc.

713-783-5147 x 3481

outages@industrialinfo.com

THE INFORMATION CONTAINED IN THIS E-MAIL IS LEGALLY PRIVILEGED AND CONFIDENTIAL INFORMATION INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY NAMED ABOVE. YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION, OR COPY OF THIS E-MAIL TO UNAUTHORIZED ENTITIES IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS E-MAIL IN ERROR, PLEASE DELETE IT.

- OUTAGE.dbf

- 111201R.xls

- 111201.xls ');

INSERT INTO email([from],[to],subject,body) VALUES('enron.announcements@enron.com', 'all\_ena\_egm\_eim@enron.com', 'EWS Brown Bag', 'MARK YOUR LUNCH CALENDARS NOW !

You are invited to attend the EWS Brown Bag Lunch Series

Featuring: RAY BOWEN, COO

Topic: Enron Industrial Markets

Thursday, March 15, 2001

11:30 am - 12:30 pm

EB 5 C2

You bring your lunch, Limited Seating  
We provide drinks and dessert. RSVP x 3-9610');  
INSERT INTO email([from],[to],subject,body) VALUES('chris.germany@enron.com',  
'ingrid.immer@williams.com', 'Re: About St Pauls', 'Sounds good to me. I bet this is next to the Warick?? Hotel.

"Immer, Ingrid" <Ingrid.Immer@Williams.com> on 12/21/2000 11:48:47 AM  
To: "'chris.germany@enron.com'" <chris.germany@enron.com>  
cc:  
Subject: About St Pauls

<<About St Pauls.url>>  
?  
?http://www.stpaulshouston.org/about.html

Chris,

I like the looks of this place.? What do you think about going here Christmas  
eve?? They have an 11:00 a.m. service and a candlelight service at 5:00 p.m.,  
among others.

Let me know.?? ii

- About St Pauls.url

);  
INSERT INTO email([from],[to],subject,body) VALUES('nas@cpuc.ca.gov', 'skatz@sempratradng.com,  
kmccrea@sabl原因.com, thompson@wrightlaw.com,', 'Reply Brief filed July 31, 2000', '- CPUC01-#76371-v1-  
Revised\_Reply\_Brief\_\_Due\_today\_7\_31\_.doc');  
INSERT INTO email([from],[to],subject,body) VALUES('gascontrol@aglresources.com', 'dscott4@enron.com,  
lcampbel@enron.com', 'Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder', 'Alert Posted 10:00  
AM November 20,2000: E-GAS Request Reminder  
As discussed in the Winter Operations Meeting on Sept.29,2000,  
E-Gas(Emergency Gas) will not be offered this winter as a service from AGLC.  
Marketers and Poolers can receive gas via Peaking and IBSS nominations(daisy  
chain) from other marketers up to the 6 p.m. Same Day 2 nomination cycle.  
);  
INSERT INTO email([from],[to],subject,body) VALUES('dutch.quigley@enron.com',  
'rwolkwitz@powermerchants.com', ', ')

Here is a goody for you');  
INSERT INTO email([from],[to],subject,body) VALUES('ryan.o"rourke@enron.com', 'k..allen@enron.com,

randy.bhatia@enron.com, frank.ermis@enron.com,', 'TRV Notification: (West VaR - 11/07/2001)', 'The report named: West VaR  
<[http://trv.corp.enron.com/linkFromExcel.asp?report\\_cd=36&report\\_name=West+VaR&category\\_cd=2&category\\_name=WEST&toc\\_hide=1&sTV1=2&TV1Exp=Y&current\\_efct\\_date=11/07/2001](http://trv.corp.enron.com/linkFromExcel.asp?report_cd=36&report_name=West+VaR&category_cd=2&category_name=WEST&toc_hide=1&sTV1=2&TV1Exp=Y&current_efct_date=11/07/2001)>, published as of 11/07/2001 is now available for viewing on the website.');

INSERT INTO email([from],[to],subject,body) VALUES('mjones7@txu.com', 'cstone1@txu.com, ggreen2@txu.com, timpowell@txu.com,', 'Enron / HPL Actuals for July 10, 2000', 'Teco Tap 10.000 / Enron ; 110.000 / HPL IFERC

LS HPL LSK IC 30.000 / Enron

');

INSERT INTO email([from],[to],subject,body) VALUES('susan.pereira@enron.com', 'kkw816@aol.com', 'soccer practice', 'Kathy-

Is it safe to assume that practice is cancelled for tonight??

Susan Pereira');

INSERT INTO email([from],[to],subject,body) VALUES('mark.whitt@enron.com', 'barry.tycholiz@enron.com', 'Huber Internal Memo', 'Please look at this. I didn"t know how deep to go with the desk. Do you think this works.

');

INSERT INTO email([from],[to],subject,body) VALUES('m..forney@enron.com', 'george.phillips@enron.com', ', 'George,

Give me a call and we will further discuss opportunities on the 13st floor.

Thanks,

JMForney

3-7160');

INSERT INTO email([from],[to],subject,body) VALUES('brad.mckay@enron.com', 'angusmcka@aol.com', 'Re: (no subject)', 'not yet');

INSERT INTO email([from],[to],subject,body) VALUES('adam.bayer@enron.com', 'jonathan.mckay@enron.com', 'FW: Curve Fetch File', 'Here is the curve fetch file sent to me. It has plenty of points in it. If you give me a list of which ones you need we may be able to construct a secondary worksheet to vlookup the values.

adam

35227

-----Original Message-----

From: Royed, Jeff

Sent: Tuesday, September 25, 2001 11:37 AM

To: Bayer, Adam

Subject: Curve Fetch File

Let me know if it works. It may be required to have a certain version of Oracle for it to work properly.



Jeff Royed

Enron

Energy Operations

Phone: 713-853-5295');

INSERT INTO email([from],[to],subject,body) VALUES('matt.smith@enron.com', 'yan.wang@enron.com', 'Report Formats', 'Yan,

The merged reports look great. I believe the only orientation changes are to "unmerge" the following six reports:

31 Keystone Receipts

15 Questar Pipeline

40 Rockies Production

22 West\_2

23 West\_3

25 CIG\_WIC

The orientation of the individual reports should be correct. Thanks.

Mat

PS. Just a reminder to add the "\*" by the title of calculated points.');

INSERT INTO email([from],[to],subject,body) VALUES('michelle.lokay@enron.com', 'jimboman@bigfoot.com', 'Egyptian Festival', '----- Forwarded by Michelle Lokay/ET&S/Enron on 09/07/2000 10:08 AM -----

"Karkour, Randa" <Randa.Karkour@COMPAQ.com> on 09/07/2000 09:01:04 AM

To: ""Agheb (E-mail)" <Agheb@aol.com>, "Leila Mankarious (E-mail)"

<Leila\_Mankarious@mhhs.org>, ""Marymankarious (E-mail)"

<marymankarious@aol.com>, "Michelle lokay (E-mail)" <mlokay@enron.com>, "Ramy Mankarious (E-mail)" <Mankarious@aol.com>

cc:

Subject: Egyptian Festival

<<Egyptian Festival.url>>

<http://www.egyptianfestival.com/>

- Egyptian Festival.url

');

INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com', 'sherry.dawson@enron.com', 'Urgent!!! --- New EAST books', 'This has to be done.....

Thanks

----- Forwarded by Errol McLaughlin/Corp/Enron on 12/20/2000

08:39 AM -----

From: William Kelly @ ECT

12/20/2000 08:31 AM

To: Kam Keiser/HOU/ECT@ECT, Darron C Giron/HOU/ECT@ECT, David Baumbach/HOU/ECT@ECT, Errol McLaughlin/Corp/Enron@ENRON  
cc: Kimat Singla/HOU/ECT@ECT, Kulvinder Fowler/NA/Enron@ENRON, Kyle R Lilly/HOU/ECT@ECT, Jeff Royed/Corp/Enron@ENRON, Alejandra Chavez/NA/Enron@ENRON, Crystal Hyde/HOU/ECT@ECT

Subject: New EAST books

We have new book names in TAGG for our intramonth portfolios and it is extremely important that any deal booked to the East is communicated quickly to someone on my team. I know it will take some time for the new names to sink in and I do not want us to miss any positions or P&L.

Thanks for your help on this.

New:

Scott Neal : East Northeast

Dick Jenkins: East Marketeast

WK

);

INSERT INTO email([from],[to],subject,body) VALUES('david.forster@enron.com', 'eol.wide@enron.com', 'Change to Stack Manager', 'Effective immediately, there is a change to the Stack Manager which will affect any Inactive Child.

An inactive Child with links to Parent products will not have their calculated prices updated until the Child product is Activated.

When the Child Product is activated, the price will be recalculated and updated BEFORE it is displayed on the web.

This means that if you are inputting a basis price on a Child product, you will not see the final, calculated price until you Activate the product, at which time the customer will also see it.

If you have any questions, please contact the Help Desk on:

Americas: 713 853 4357

Europe: + 44 (0) 20 7783 7783

Asia/Australia: +61 2 9229 2300

Dave');

INSERT INTO email([from],[to],subject,body) VALUES('vince.kaminski@enron.com', 'jhh1@email.msn.com', 'Re: Light reading - see pieces beginning on page 7', 'John,

I saw it. Very interesting.

Vince

"John H Herbert" <jhh1@email.msn.com> on 07/28/2000 08:38:08 AM

To: "Vince J Kaminski" <Vince\_J\_Kaminski@enron.com>

cc:

Subject: Light reading - see pieces beginning on page 7

Cheers and have a nice weekend,

JHHerbert

- gd000728.pdf

');

INSERT INTO email([from],[to],subject,body) VALUES('matthew.lenhart@enron.com',

'mmmarcantel@equiva.com', 'RE:', 'i will try to line up a pig for you ');

INSERT INTO email([from],[to],subject,body) VALUES('jae.black@enron.com', 'claudette.harvey@enron.com, chaun.roberts@enron.com, judy.martinez@enron.com,', 'Disaster Recovery Equipment', 'As a reminder...there are several pieces of equipment that are set up on the 30th Floor, as well as on our floor, for the Disaster Recovery Team. PLEASE DO NOT TAKE, BORROW OR USE this equipment. Should you need to use another computer system, other than yours, or make conference calls please work with your Assistant to help find or set up equipment for you to use.

Thanks for your understanding in this matter.

T.Jae Black

East Power Trading

Assistant to Kevin Presto

off. 713-853-5800

fax 713-646-8272

cell 713-539-4760');

INSERT INTO email([from],[to],subject,body) VALUES('eric.bass@enron.com', 'dale.neuner@enron.com', '5 X 24', 'Dale,

Have you heard anything more on the 5 X 24s? We would like to get this product out ASAP.

Thanks,

Eric');

INSERT INTO email([from],[to],subject,body) VALUES('messenger@smartreminders.com', 'm.tholt@enron.com', '10% Coupon - PrintPal Printer Cartridges - 100% Guaranteed', '[IMAGE]  
[IMAGE][IMAGE][IMAGE]

Dear SmartReminders Member,

[IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE]

We respect your privacy and are a Certified Participant of the BBBOnLine Privacy Program. To be removed from future offers,click here.

SmartReminders.com is a permission based service. To unsubscribe click here . ');

INSERT INTO email([from],[to],subject,body) VALUES('benjamin.rogers@enron.com', 'mark.bernstein@enron.com', ', 'The guy you are talking about left CIN under a "cloud of suspicion" sort of speak. He was the one who got into several bad deals and PPA's in California for CIN, thus he left on a bad note. Let me know if you need more detail than that, I felt this was the type of info you were looking for. Thanks!

Ben');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concreworkplace.com', 'michelle.cash@enron.com', 'Expense Report Receipts Not Received', 'Employee Name: Michelle Cash  
Report Name: Houston Cellular 8-11-01

Report Date: 12/13/01  
Report ID: 594D37C9ED2111D5B452  
Submitted On: 12/13/01

You are only allowed 2 reports with receipts outstanding. Your expense reports will not be paid until you meet this requirement.);

INSERT INTO email([from],[to],subject,body) VALUES('susan.mara@enron.com', 'ray.alvarez@enron.com, mark.palmer@enron.com, karen.denne@enron.com,', 'CAISO Emergency Motion -- to discontinue market-based rates for', 'FYI. the latest broadside against the generators.

Sue Mara

Enron Corp.

Tel: (415) 782-7802

Fax:(415) 782-7854

----- Forwarded by Susan J Mara/NA/Enron on 06/08/2001 12:24 PM -----

"Milner, Marcie" <MMilner@coral-energy.com> 06/08/2001 11:13 AM To: ""smara@enron.com""  
<smara@enron.com> cc: Subject: CAISO Emergency Motion

Sue, did you see this emergency motion the CAISO filed today? Apparently they are requesting that FERC discontinue market-based rates immediately and grant refunds plus interest on the difference between cost-based rates and market revenues received back to May 2000. They are requesting the commission act within 14 days. Have you heard anything about what they are doing?

Marcie

<http://www.caiso.com/docs/2001/06/08/200106081005526469.pdf>

);

INSERT INTO email([from],[to],subject,body) VALUES('fletcher.sturm@enron.com', 'eloy.escobar@enron.com', 'Re: General Brinks Position Meeting', 'Eloy,

Who is General Brinks?

Fletch);

INSERT INTO email([from],[to],subject,body) VALUES('nailia.dindarova@enron.com', 'richard.shapiro@enron.com', 'Documents for Mark Frevert (on EU developments and lessons from', 'Rick,

Here are the documents that Peter has prepared for Mark Frevert.

Nailia

----- Forwarded by Nailia Dindarova/LON/ECT on 25/06/2001

16:36 -----

Nailia Dindarova

25/06/2001 15:36

To: Michael Brown/Enron@EUEnronXGate

cc: Ross Sankey/Enron@EUEnronXGate, Eric Shaw/ENRON@EUEnronXGate, Peter Styles/LON/ECT@ECT

Subject: Documents for Mark Frevert (on EU developments and lessons from California)

Michael,

These are the documents that Peter promised to give to you for Mark Frevert. He has now handed them to him in person but asked me to transmit them electronically to you, as well as Eric and Ross.

Nailia

');

INSERT INTO email([from],[to],subject,body) VALUES('peggy.a.kostial@accenture.com', 'dave.samuels@enron.com', 'EOL-Accenture Deal Sheet', 'Dave -

Attached are our comments and suggested changes. Please call to review.

On the time line for completion, we have four critical steps to complete:

- Finalize market analysis to refine business case, specifically projected revenue stream
- Complete counterparty surveying, including targeting 3 CPs for letters of intent
- Review Enron asset base for potential reuse/ licensing
- Contract negotiations

Joe will come back to us with an updated time line, but it is my expectation that we are still on the same schedule (we just begun week three) with possibly a week or so slippage.....contract negotiations will probably be the critical path.

We will send our cut at the actual time line here shortly. Thanks,

Peggy

(See attached file: accenture-dealpoints v2.doc)

- accenture-dealpoints v2.doc ');

INSERT INTO email([from],[to],subject,body) VALUES('thomas.martin@enron.com', 'thomas.martin@enron.com',

'Re: Guadalupe Power Partners LP', '----- Forwarded by Thomas A Martin/HOU/ECT on 03/20/2001 03:49 PM -----

Thomas A Martin  
10/11/2000 03:55 PM  
To: Patrick Wade/HOU/ECT@ECT  
cc:  
Subject: Re: Guadalupe Power Partners LP

The deal is physically served at Oasis Waha or Oasis Katy and is priced at either HSC, Waha or Katytailgate GD at buyers option three days prior to NYMEX close.

);  
INSERT INTO email([from],[to],subject,body) VALUES('judy.townsend@enron.com', 'dan.junek@enron.com, chris.germany@enron.com', 'Columbia Distribution's Capacity Available for Release - Sum', '----- Forwarded by Judy Townsend/HOU/ECT on 03/09/2001 11:04 AM -----

agoddard@nsource.com on 03/08/2001 09:16:57 AM  
To: " - \*Koch, Kent" <kkoch@nsource.com>, " - \*Millar, Debra" <dmillar@nsource.com>, " - \*Burke, Lynn" <lburke@nsource.com>  
cc: " - \*Heckathorn, Tom" <theckathorn@nsource.com>  
Subject: Columbia Distribution's Capacity Available for Release - Sum

Attached is Columbia Distribution's notice of capacity available for release for the summer of 2001 (Apr. 2001 through Oct. 2001).

Please note that the deadline for bids is 3:00pm EST on March 20, 2001.

If you have any questions, feel free to contact any of the representatives listed at the bottom of the attachment.

Aaron Goddard

- 2001Summer.doc

);  
INSERT INTO email([from],[to],subject,body) VALUES('rhonda.denton@enron.com', 'tim.belden@enron.com, dana.davis@enron.com, genia.fitzgerald@enron.com,', 'Split Rock Energy LLC', 'We have received the executed

EEl contract from this CP dated 12/12/2000.

Copies will be distributed to Legal and Credit.');

INSERT INTO email([from],[to],subject,body) VALUES('kerrymcelroy@dwt.com', 'jack.speer@alcoa.com, crow@millernash.com, michaelearly@earthlink.net,', 'Oral Argument Request', ' - Oral Argument Request.doc');  
INSERT INTO email([from],[to],subject,body) VALUES('mike.carson@enron.com', 'rlmichaelis@hormel.com', ', 'Did you come in town this wk end..... My new number at our house is :  
713-668-3712..... my cell # is 281-381-7332

the kid');

INSERT INTO email([from],[to],subject,body) VALUES('cooper.richey@enron.com', 'trycooper@hotmail.com', 'FW: Contact Info', '

-----Original Message-----

From: Punja, Karim

Sent: Thursday, December 13, 2001 2:35 PM

To: Richey, Cooper

Subject: Contact Info

Cooper,

Its been a real pleasure working with you (even though it was for only a small amount of time)

I hope we can stay in touch.

Home# 234-0249

email: kpunja@hotmail.com

Take Care,

Karim.

');

INSERT INTO email([from],[to],subject,body) VALUES('bjm30@earthlink.net', 'mcguinn.k@enron.com, mcguinn.ian@enron.com, mcguinn.stephen@enron.com,', 'email address change', 'Hello all.

I haven't talked to many of you via email recently but I do want to give you my new address for your email file:

bjm30@earthlink.net

I hope all is well.

Brian McGuinn');

INSERT INTO email([from],[to],subject,body) VALUES('shelley.corman@enron.com', 'steve.hotte@enron.com', 'Flat Panels', 'Can you please advise what is going on with the flat panels that we had planned to distribute to our gas logistics team. It was in the budget and we had the okay, but now I'm hearing there is some hold-up & the units are stored on 44.

Shelley');



INSERT INTO email([from],[to],subject,body) VALUES('sara.davidson@enron.com',  
'john.schwartzenburg@enron.com, scott.dieball@enron.com, recipients@enron.com,', '2001 Enron Law Conference  
(Distribution List 2)', ' Enron Law Conference

San Antonio, Texas May 2-4, 2001 Westin Riverwalk

See attached memo for more details!!

? Registration for the law conference this year will be handled through an  
Online RSVP Form on the Enron Law Conference Website at  
<http://lawconference.corp.enron.com>. The website is still under construction  
and will not be available until Thursday, March 15, 2001.

? We will send you another e-mail to confirm when the Law Conference Website  
is operational.

? Please complete the Online RSVP Form as soon as it is available and submit  
it no later than Friday, March 30th.

);

INSERT INTO email([from],[to],subject,body) VALUES('tori.kuykendall@enron.com',  
'heath.b.taylor@accenture.com', 'Re:', 'hey - thats funny about john - he definitely remembers him - i"ll call pat  
and let him know - we are coming on saturday - i just havent had a chance to  
call you guys back -- looking forward to it -- i probably need the  
directions again though');

INSERT INTO email([from],[to],subject,body) VALUES('darron.giron@enron.com', 'bryce.baxter@enron.com',  
'Re: Feedback for Audrey Cook', 'Bryce,

I"ll get it done today.

DG 3-9573

From: Bryce Baxter 06/12/2000 07:15 PM

To: Darron C Giron/HOU/ECT@ECT

cc:

Subject: Feedback for Audrey Cook

You were identified as a reviewer for Audrey Cook. If possible, could you

complete her feedback by end of business Wednesday? It will really help me in the PRC process to have your input. Thanks.

');

```
INSERT INTO email([from],[to],subject,body) VALUES('casey.evans@enron.com', 'stephanie.sever@enron.com', 'Gas EOL ID', 'Stephanie,
```

In conjunction with the recent movement of several power traders, they are changing the names of their gas books as well. The names of the new gas books and traders are as follows:

PWR-NG-LT-SPP: Mike Carson

PWR-NG-LT-SERC: Jeff King

If you need to know their power desk to map their ID to their gas books, those desks are as follows:

EPMI-LT-SPP: Mike Carson

EPMI-LT-SERC: Jeff King

I will be in training this afternoon, but will be back when class is over. Let me know if you have any questions.

Thanks for your help!

Casey');

```
INSERT INTO email([from],[to],subject,body) VALUES('darrell.schoolcraft@enron.com', 'david.roensch@enron.com, kimberly.watson@enron.com, michelle.lokay@enron.com,', 'Postings', 'Please see the attached.
```

ds

');

```
INSERT INTO email([from],[to],subject,body) VALUES('mcominsky@aol.com', 'cpatman@bracepatt.com, james_derrick@enron.com', 'Jurisprudence Luncheon', 'Carrin & Jim --
```

It was an honor and a pleasure to meet both of you yesterday. I know we will have fun working together on this very special event.

Jeff left the jurisprudence luncheon lists for me before he left on vacation.

I wasn't sure whether he transmitted them to you as well. Would you please advise me if you would like them sent to you? I can email the MS Excel files or I can fax the hard copies to you. Please advise what is most convenient.

I plan to be in town through the holidays and can be reached by phone, email, or cell phone at any time. My cell phone number is 713/705-4829.

Thanks again for your interest in the ADL's work. Martin.

Martin B. Cominsky  
Director, Southwest Region  
Anti-Defamation League  
713/627-3490, ext. 122  
713/627-2011 (fax)  
MCominsky@aol.com');

INSERT INTO email([from],[to],subject,body) VALUES('phillip.love@enron.com', 'todagost@utmb.edu, gbsonnta@utmb.edu', 'New President', 'I had a little bird put a word in my ear. Is there any possibility for Ben Raimer to be Bush's secretary of HHS? Just curious about that infamous UTMB rumor mill. Hope things are well, happy holidays.

PL');

INSERT INTO email([from],[to],subject,body) VALUES('marie.heard@enron.com', 'ehamilton@fna.com', 'ISDA Master Agreement', 'Erin:

Pursuant to your request, attached are the Schedule to the ISDA Master Agreement, together with Paragraph 13 to the ISDA Credit Support Annex. Please let me know if you need anything else. We look forward to hearing your comments.

Marie

Marie Heard  
Senior Legal Specialist  
Enron North America Corp.  
Phone: (713) 853-3907  
Fax: (713) 646-3490  
marie.heard@enron.com

');

INSERT INTO email([from],[to],subject,body) VALUES('andrea.ring@enron.com', 'beverly.beaty@enron.com', 'Re: Tennessee Buy - Louis Dreyfus', 'Beverly - once again thanks so much for your help on this.

');

INSERT INTO email([from],[to],subject,body) VALUES('karolyn.criado@enron.com', 'j.bonin@enron.com, felicia.case@enron.com, b.clapp@enron.com', 'Price List week of Oct. 8-9, 2001', '

Please contact me if you have any questions regarding last weeks prices.

Thank you,  
Karolyn Criado  
3-9441

');

INSERT INTO email([from],[to],subject,body) VALUES('kevin.presto@enron.com',

'edward.baughman@enron.com, billy.braddock@enron.com', 'Associated', 'Please begin working on filling our Associated short position in 02. I would like to take this risk off the books.

In addition, please find out what a buy-out of VEPCO would cost us. With Rogers transitioning to run our retail risk management, I would like to clean up our customer positions.

We also need to continue to explore a JEA buy-out.

Thanks.);

INSERT INTO email([from],[to],subject,body) VALUES('stacy.dickson@enron.com', 'gregg.penman@enron.com', 'RE: Constellation TC 5-7-01', 'Gregg,

I am at home with a sick baby. (Lots of fun!) I will call you about this tomorrow.

Stacy');

INSERT INTO email([from],[to],subject,body) VALUES('joe.quenet@enron.com', 'dfincher@utilicorp.com', '', 'hey big guy.....check this out.....

w ww.gorelieberman-2000.com/');

INSERT INTO email([from],[to],subject,body) VALUES('k..allen@enron.com', 'jacqestc@aol.com', '', 'Jacques,

I sent you a fax of Kevin Kolb's comments on the release. The payoff on the note would be \$36,248 (\$36090(principal) + \$158 (accrued interest)).

This is assuming we wrap this up on Tuesday.

Please email to confirm that their changes are ok so I can set up a meeting on Tuesday to reach closure.

Phillip');

INSERT INTO email([from],[to],subject,body) VALUES('kourtney.nelson@enron.com', 'mike.swerzbin@enron.com', 'Adjusted L/R Balance', 'Mike,

I placed the adjusted L/R Balance on the Enronwest site. It is under the "Staff/Kourtney Nelson". There are two links:

- 1) "Adj L\_R" is the same data/format from the weekly strategy meeting.
- 2) "New Gen 2001\_2002" link has all of the supply side info that is used to calculate the L/R balance -Please note the Data Flag column, a value of "3" indicates the project was cancelled, on hold, etc and is not included in the calc.

Both of these sheets are interactive Excel spreadsheets and thus you can play around with the data as you please. Also, James Bruce is working to get his gen report on the web. That will help with your access to information on new gen.

Please let me know if you have any questions or feedback,

Kourtney

Kourtney Nelson

Fundamental Analysis

Enron North America

(503) 464-8280

kourtney.nelson@enron.com');

INSERT INTO email([from],[to],subject,body) VALUES('d.thomas@enron.com', 'naveed.ahmed@enron.com',  
'FW: Current Enron TCC Portfolio', '

-----Original Message-----

From: Grace, Rebecca M.

Sent: Monday, December 17, 2001 9:44 AM

To: Thomas, Paul D.

Cc: Cashion, Jim; Allen, Thresa A.; May, Tom

Subject: RE: Current Enron TCC Portfolio

Paul,

I reviewed NY's list. I agree with all of their contracts numbers and mw amounts.

Call if you have any more questions.

Rebecca

-----Original Message-----

From: Thomas, Paul D.

Sent: Monday, December 17, 2001 9:08 AM

To: Grace, Rebecca M.

Subject: FW: Current Enron TCC Portfolio

<< File: enrontccs.xls >>

Rebecca,

Let me know if you see any differences.

Paul

X 3-0403

-----Original Message-----

From: Thomas, Paul D.

Sent: Monday, December 17, 2001 9:04 AM

To: Ahmed, Naveed

Subject: FW: Current Enron TCC Portfolio

-----Original Message-----

From: Thomas, Paul D.  
Sent: Thursday, December 13, 2001 10:01 AM  
To: Baughman, Edward D.  
Subject: Current Enron TCC Portfolio

);  
INSERT INTO email([from],[to],subject,body) VALUES('stephanie.panus@enron.com',  
'william.bradford@enron.com, debbie.brackett@enron.com,', 'Coastal Merchant Energy/El Paso Merchant Energy',  
'Coastal Merchant Energy, L.P. merged with and into El Paso Merchant Energy,  
L.P., effective February 1, 2001, with the surviving entity being El Paso  
Merchant Energy, L.P. We currently have ISDA Master Agreements with both  
counterparties. Please see the attached memo regarding the existing Masters  
and let us know which agreement should be terminated.

Thanks,  
Stephanie

);  
INSERT INTO email([from],[to],subject,body) VALUES('kam.keiser@enron.com', 'c..kenne@enron.com', 'RE:  
What about this too???' , '

-----Original Message-----

From: Kenne, Dawn C.  
Sent: Wednesday, February 06, 2002 11:50 AM  
To: Keiser, Kam  
Subject: What about this too???

<< File: Netco Trader Matrix.xls >>

);  
INSERT INTO email([from],[to],subject,body) VALUES('chris.meyer@enron.com', 'joe.parks@enron.com',  
'Centana', 'Talked to Chip. We do need Cash Committe approval given the netting feature of your deal, which  
means Batch Funding Request. Please update per my previous e-mail and forward.

Thanks

chris  
x31666');  
INSERT INTO email([from],[to],subject,body) VALUES('debra.perlingiere@enron.com',  
'jworman@academyofhealth.com', ', ', 'Have a great weekend! Happy Fathers Day!

Debra Perlingiere  
Enron North America Corp.  
1400 Smith Street, EB 3885  
Houston, Texas 77002

dperlin@enron.com

Phone 713-853-7658

Fax 713-646-3490);

INSERT INTO email([from],[to],subject,body) VALUES('outlook.team@enron.com', '', 'Demo by Martha Janousek of Dashboard & Pipeline Profile / Julia &', 'CALENDAR ENTRY: APPOINTMENT

Description:

Demo by Martha Janousek of Dashboard & Pipeline Profile / Julia & Dir Rpts. - 4102

Date: 1/5/2001

Time: 9:00 AM - 10:00 AM (Central Standard Time)

Chairperson: Outlook Migration Team

Detailed Description:');

INSERT INTO email([from],[to],subject,body) VALUES('diana.seifert@enron.com', 'mark.taylor@enron.com', 'Guest access Chile', 'Hello Mark,

Justin Boyd told me that your can help me with questions regarding Chile.

We got a request for guest access through MG.

The company is called Escondida and is a subsidiary of BHP Australia.

Please advise if I can set up a guest account or not.

F.Y.I.: MG is planning to put a "in w/h Chile" contract for Copper on-line as soon as Enron has done the due diligence for this country.

Thanks !

Best regards

Diana Seifert

EOL PCG');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concuere workplace.com', 'mark.whitt@enron.com', '<<Concur Expense Document>> - 121001', 'The Approval status has changed on the following report:

Status last changed by: Barry L. Tycholiz

Expense Report Name: 121001

Report Total: \$198.98

Amount Due Employee: \$198.98

Amount Approved: \$198.98

Amount Paid: \$0.00

Approval Status: Approved

Payment Status: Pending

To review this expense report, click on the following link for Concur Expense.

<http://expense.ms.enron.com>);

INSERT INTO email([from],[to],subject,body) VALUES('kevin.hyatt@enron.com', ', 'Technical Support', 'Outside the U.S., please refer to the list below:

Australia:  
1800 678-515  
support@palm-au.com

Canada:  
1905 305-6530  
support@palm.com

New Zealand:  
0800 446-398  
support@palm-nz.com

U.K.:  
0171 867 0108  
eurosupport@palm.3com.com

Please refer to the Worldwide Customer Support card for a complete technical support contact list.');

INSERT INTO email([from],[to],subject,body) VALUES('geoff.storey@enron.com', 'dutch.quigley@enron.com', 'RE:', 'duke contact?')

-----Original Message-----

From: Quigley, Dutch  
Sent: Wednesday, October 31, 2001 10:14 AM  
To: Storey, Geoff  
Subject: RE:

bp corp Albert LaMore 281-366-4962

running the reports now

-----Original Message-----

From: Storey, Geoff  
Sent: Wednesday, October 31, 2001 10:10 AM  
To: Quigley, Dutch  
Subject: RE:

give me a contact over there too  
BP

-----Original Message-----

From: Quigley, Dutch  
Sent: Wednesday, October 31, 2001 9:42 AM  
To: Storey, Geoff



Subject:

Coral Jeff Whitnah 713-767-5374

Relaint Steve McGinn 713-207-4000');

INSERT INTO email([from],[to],subject,body) VALUES('pete.davis@enron.com', 'pete.davis@enron.com', 'Start Date: 4/22/01; HourAhead hour: 3; <CODESITE>', 'Start Date: 4/22/01; HourAhead hour: 3; No ancillary schedules awarded.

Variances detected.

Variances detected in Load schedule.

LOG MESSAGES:

PARSING FILE -->> O:\Portland\WestDesk\California Scheduling\ISO Final Schedules\2001042203.txt

---- Load Schedule ----

\$\$\$ Variance found in table tblLoads.

Details: (Hour: 3 / Preferred: 1.92 / Final: 1.89)

TRANS\_TYPE: FINAL

LOAD\_ID: PGE4

MKT\_TYPE: 2

TRANS\_DATE: 4/22/01

SC\_ID: EPMI

');

INSERT INTO email([from],[to],subject,body) VALUES('john.postlethwaite@enron.com', 'john.zufferli@enron.com', 'Reference', 'John, hope things are going well up there for you. The big day is almost here for you and Jessica. I was wondering if I could use your name as a job reference if need be. I am just trying to get everything in order just in case something happens.

John');

INSERT INTO email([from],[to],subject,body) VALUES('jeffrey.shankman@enron.com', 'Ischiffm@jonesday.com', 'Re:', 'I saw you called on the cell this a.m. Sorry I missed you. (I was in the shower). I have had a shitty week--I suspect my silence (not only to you, but others) after our phone call is a result of the week. I'm seeing Glen at 11:15....talk to you');

INSERT INTO email([from],[to],subject,body) VALUES('litebytz@enron.com', ', 'Lite Bytz RSVP', ' This week's Lite Bytz presentation will feature the following TOOLZ speaker:

Richard McDougall

Solaris 8

Thursday, June 7, 2001

If you have not already signed up, please RSVP via email to [litebytz@enron.com](mailto:litebytz@enron.com) by the end of the day Tuesday, June 5, 2001.

\*Remember: this is now a Brown Bag Event--so bring your lunch and we will provide cookies and drinks.

Click below for more details.

```
http://home.enron.com:84/messaging/litebytzttoolzprint.jpg');
 COMMIT;
}
} {}
```

```

Everything above just builds an interesting test database. The actual
tests come after this comment.
#####
```

```
do_test fts2c-1.2 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'mark'
 }
} {6 17 25 38 40 42 73 74}
do_test fts2c-1.3 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'susan'
 }
} {24 40}
do_test fts2c-1.4 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'mark susan'
 }
} {40}
do_test fts2c-1.5 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'susan mark'
 }
} {40}
do_test fts2c-1.6 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH "'mark susan'"
 }
} {}
do_test fts2c-1.7 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH 'mark -susan'
 }
} {6 17 25 38 42 73 74}
do_test fts2c-1.8 {
 execsql {
 SELECT rowid FROM email WHERE email MATCH '-mark susan'
 }
} {24}
do_test fts2c-1.9 {
```

```

execsql {
 SELECT rowid FROM email WHERE email MATCH 'mark OR susan'
}
} {6 17 24 25 38 40 42 73 74}

Some simple tests of the automatic "offsets(email)" column. In the sample
data set above, only one message, number 20, contains the words
"gas" and "reminder" in both body and subject.
#
do_test fts2c-2.1 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE email MATCH 'gas reminder'
 }
} {20 {2 0 42 3 2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}
do_test fts2c-2.2 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE email MATCH 'subject:gas reminder'
 }
} {20 {2 0 42 3 2 1 54 8 3 1 54 8}}
do_test fts2c-2.3 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE email MATCH 'body:gas reminder'
 }
} {20 {2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}
do_test fts2c-2.4 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE subject MATCH 'gas reminder'
 }
} {20 {2 0 42 3 2 1 54 8}}
do_test fts2c-2.5 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE body MATCH 'gas reminder'
 }
} {20 {3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}

Document 32 contains 5 instances of the word "child". But only
3 of them are paired with "product". Make sure only those instances
that match the phrase appear in the offsets(email) list.
#
do_test fts2c-3.1 {
 execsql {
 SELECT rowid, offsets(email) FROM email
 WHERE body MATCH 'child product' AND +rowid=32
 }
}

```

```

}
} {32 {3 0 94 5 3 0 114 5 3 0 207 5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7 3 1 493 7}}
do_test fts2c-3.2 {
execsql {
SELECT rowid, offsets(email) FROM email
WHERE body MATCH "'child product'"
}
} {32 {3 0 207 5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7}}

Snippet generator tests
#
do_test fts2c-4.1 {
execsql {
SELECT snippet(email) FROM email
WHERE email MATCH 'subject:gas reminder'
}
} {{Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder}}
do_test fts2c-4.2 {
execsql {
SELECT snippet(email) FROM email
WHERE email MATCH 'christmas candlelight'
}
} {{... place.? What do you think about going here Christmas
eve?? They have an 11:00 a.m. service and a candlelight service at 5:00 p.m.,
among others. ...}}

do_test fts2c-4.3 {
execsql {
SELECT snippet(email) FROM email
WHERE email MATCH 'deal sheet potential reuse'
}
} {{EOL-Accenture Deal Sheet ... intent
Review Enron asset base for potential reuse/ licensing
Contract negotiations ...}}
do_test fts2c-4.4 {
execsql {
SELECT snippet(email,'<<<','>>>',') FROM email
WHERE email MATCH 'deal sheet potential reuse'
}
} {{EOL-Accenture <<<Deal>>> <<<Sheet>>> intent
Review Enron asset base for <<<potential>>> <<<reuse>>>/ licensing
Contract negotiations }}
do_test fts2c-4.5 {
execsql {
SELECT snippet(email,'<<<','>>>',') FROM email
WHERE email MATCH 'first things'
}
} {{Re: <<<First>>> Polish Deal! Congrats! <<<Things>>> seem to be building rapidly now on the }}

```

```
do_test fts2c-4.6 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'chris is here'
 }
} {{chris.germany@enron.com ... Sounds good to me. I bet this is next to the Warick??
Hotel. ... place.? What do you think about going here Christmas
eve?? They have an 11:00 a.m. ...}}
```

```
do_test fts2c-4.7 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH "'pursuant to'"
 }
} {{Erin:
```

<b>Pursuant</b> <b>to</b> your request, attached are the Schedule to <b>...</b>}}

```
do_test fts2c-4.8 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'ancillary load davis'
 }
} {{pete.davis@enron.com ... Start Date: 4/22/01; HourAhead hour: 3; No ancillary
schedules awarded.
Variances detected.
Variances detected in Load schedule.
```

LOG MESSAGES:

PARSING <b>...</b>}}

# Combinations of AND and OR operators:  
#

```
do_test fts2c-5.1 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'questar enron OR com'
 }
} {{matt.smith@enron.com ... six reports:
```

31 Keystone Receipts  
15 <b>Questar</b> Pipeline  
40 Rockies Production  
22 West\_2 <b>...</b>}}

```
do_test fts2c-5.2 {
 execsql {
 SELECT snippet(email) FROM email
 WHERE email MATCH 'enron OR com questar'
 }
}
```

} { { matt.smith@<b>enron</b>.<b>com</b> <b>...</b> six reports:

- 31 Keystone Receipts
- 15 <b>Questar</b> Pipeline
- 40 Rockies Production
- 22 West\_2 <b>...</b> }

finish\_test

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/test/fts2c.test  
No license file was found, but licenses were detected in source scan.

SQLite core and like the SQLite core are in the public domain. The  
The <b><a href="th3.html">TH3</a></b> test harness is a set of proprietary tests, written in

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/testing.html  
No license file was found, but licenses were detected in source scan.

<p>SQLite itself is in the <a href="copyright.html">public domain</a> and  
can be used for any purpose. But TH3 is proprietary and requires a license.

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/th3.html  
No license file was found, but licenses were detected in source scan.

<a href="copyright.html">public domain</a>.</p>

Found in path(s):

\* /opt/cola/permits/1146568937\_1616563472.04/0/sqlite-3.7.17-8.el7\_7.1-1.src.rpm-cosi-expand-archive-lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/index.html  
No license file was found, but licenses were detected in source scan.

{string currentfile exch readstring pop}executeonly def

Found in path(s):

\* /  
No license file was found, but licenses were detected in source scan.

# 2012 May 21  
#  
# The author disclaims copyright to this source code. In place of  
# a legal notice, here is a blessing:  
#

```

May you do good and not evil.
May you find forgiveness for yourself and forgive others.
May you share freely, never taking more than you give.
#
NB: Portions of this file are extracted from open-source projects
covered by permissive licenses. Use of this file for testing is clearly
allowed. However, do not incorporate the text of this one file into
end-products without checking the licenses on the open-source projects
from which this code was extracted. This warning applies to this one
file only - not the bulk of the SQLite source code and tests.
#
#*****
#
This file contains large and complex schemas obtained from open-source
software projects. The schemas are parsed just to make sure that nothing
breaks in the parser logic.
#
These tests merely verify that the parse occurs without error.
No attempt is made to verify correct operation of the resulting schema
and statements.
#

set testdir [file dirname $argv0]
source $testdir/tester.tcl

Schema and query extracted from Skrooge.org.
#
do_test fuzz-oss1-skrooge {
 db eval {
CREATE TABLE parameters (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,t_uuid_parent
TEXT NOT NULL DEFAULT "",t_name TEXT NOT NULL,t_value TEXT NOT NULL DEFAULT "",b_blob
BLOB,d_lastmodifdate DATE NOT NULL DEFAULT CURRENT_TIMESTAMP,i_tmp INTEGER NOT NULL
DEFAULT 0);
CREATE TABLE doctransaction (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,t_name TEXT
NOT NULL,t_mode VARCHAR(1) DEFAULT 'U' CHECK (t_mode IN ('U', 'R')),d_date DATE NOT
NULL,t_savestep VARCHAR(1) DEFAULT 'N' CHECK (t_savestep IN ('Y', 'N')),i_parent INTEGER,
t_refreshviews VARCHAR(1) DEFAULT 'Y' CHECK (t_refreshviews IN ('Y', 'N')));
CREATE TABLE doctransactionitem (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,
rd_doctransaction_id INTEGER NOT NULL,i_object_id INTEGER NOT NULL,t_object_table TEXT NOT
NULL,t_action VARCHAR(1) DEFAULT 'T' CHECK (t_action IN ('T', 'U', 'D')),t_sqlorder TEXT NOT NULL
DEFAULT "");
CREATE TABLE doctransactionmsg (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,
rd_doctransaction_id INTEGER NOT NULL,t_message TEXT NOT NULL DEFAULT "",t_popup VARCHAR(1)
DEFAULT 'Y' CHECK (t_popup IN ('Y', 'N')));
CREATE TABLE unit(id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,t_name TEXT NOT
NULL,t_symbol TEXT NOT NULL DEFAULT "",t_country TEXT NOT NULL DEFAULT "",t_type VARCHAR(1)
NOT NULL DEFAULT 'C' CHECK (t_type IN ('1', '2', 'C', 'S', 'I', 'O')),t_internet_code TEXT NOT NULL
DEFAULT "",i_nbdecimal INT NOT NULL DEFAULT 2,rd_unit_id INTEGER NOT NULL DEFAULT 0, t_source

```

```

TEXT NOT NULL DEFAULT '');
CREATE TABLE unitvalue(id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,rd_unit_id
INTEGER NOT NULL,d_date DATE NOT NULL,f_quantity FLOAT NOT NULL CHECK (f_quantity>=0));
CREATE TABLE bank (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,t_name TEXT NOT
NULL DEFAULT "",t_bank_number TEXT NOT NULL DEFAULT "",t_icon TEXT NOT NULL DEFAULT "");
CREATE TABLE interest(id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,rd_account_id
INTEGER NOT NULL,d_date DATE NOT NULL,f_rate FLOAT NOT NULL CHECK
(f_rate>=0),t_income_value_date_mode VARCHAR(1) NOT NULL DEFAULT 'F' CHECK
(t_income_value_date_mode IN ('F', '0', '1', '2', '3', '4', '5')),t_expenditure_value_date_mode VARCHAR(1) NOT
NULL DEFAULT 'F' CHECK (t_expenditure_value_date_mode IN ('F', '0', '1', '2', '3', '4', '5')),t_base VARCHAR(3)
NOT NULL DEFAULT '24' CHECK (t_base IN ('24', '360', '365')));
CREATE TABLE operation(id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,i_group_id
INTEGER NOT NULL DEFAULT 0,i_number INTEGER DEFAULT 0 CHECK (i_number>=0),d_date DATE
NOT NULL DEFAULT '0000-00-00',rd_account_id INTEGER NOT NULL,t_mode TEXT NOT NULL
DEFAULT "",r_payee_id INTEGER NOT NULL DEFAULT 0,t_comment TEXT NOT NULL DEFAULT
"",rc_unit_id INTEGER NOT NULL,t_status VARCHAR(1) NOT NULL DEFAULT 'N' CHECK (t_status IN ('N',
'P', 'Y')),t_bookmarked VARCHAR(1) NOT NULL DEFAULT 'N' CHECK (t_bookmarked IN ('Y', 'N')),t_imported
VARCHAR(1) NOT NULL DEFAULT 'N' CHECK (t_imported IN ('Y', 'N', 'P', 'T')),t_template VARCHAR(1)
NOT NULL DEFAULT 'N' CHECK (t_template IN ('Y', 'N')),t_import_id TEXT NOT NULL DEFAULT "",i_tmp
INTEGER NOT NULL DEFAULT 0,r_recurentoperation_id INTEGER NOT NULL DEFAULT 0);
CREATE TABLE operationbalance(id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,f_balance
FLOAT NOT NULL DEFAULT 0,r_operation_id INTEGER NOT NULL);
CREATE TABLE refund (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,t_name TEXT NOT
NULL DEFAULT "",t_comment TEXT NOT NULL DEFAULT "",t_close VARCHAR(1) DEFAULT 'N' CHECK
(t_close IN ('Y', 'N')));
CREATE TABLE payee (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,t_name TEXT NOT
NULL DEFAULT "",t_address TEXT NOT NULL DEFAULT "", t_bookmarked VARCHAR(1) NOT NULL
DEFAULT 'N' CHECK (t_bookmarked IN ('Y', 'N')));
CREATE TABLE suboperation(id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,t_comment
TEXT NOT NULL DEFAULT "",rd_operation_id INTEGER NOT NULL,r_category_id INTEGER NOT NULL
DEFAULT 0,f_value FLOAT NOT NULL DEFAULT 0.0,i_tmp INTEGER NOT NULL DEFAULT 0,r_refund_id
INTEGER NOT NULL DEFAULT 0, t_formula TEXT NOT NULL DEFAULT "");
CREATE TABLE rule (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,t_description TEXT
NOT NULL DEFAULT "",t_definition TEXT NOT NULL DEFAULT "",t_action_description TEXT NOT NULL
DEFAULT "",t_action_definition TEXT NOT NULL DEFAULT "",t_action_type VARCHAR(1) DEFAULT 'S'
CHECK (t_action_type IN ('S', 'U', 'A')),t_bookmarked VARCHAR(1) NOT NULL DEFAULT 'N' CHECK
(t_bookmarked IN ('Y', 'N')),f_sortorder FLOAT);
CREATE TABLE budget (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,rc_category_id
INTEGER NOT NULL DEFAULT 0,t_including_subcategories TEXT NOT NULL DEFAULT 'N' CHECK
(t_including_subcategories IN ('Y', 'N')),f_budgeted FLOAT NOT NULL DEFAULT 0.0,f_budgeted_modified
FLOAT NOT NULL DEFAULT 0.0,f_transferred FLOAT NOT NULL DEFAULT 0.0,i_year INTEGER NOT
NULL DEFAULT 2010,i_month INTEGER NOT NULL DEFAULT 0 CHECK (i_month>=0 AND
i_month<=12));
CREATE TABLE budgetcategory(id INTEGER NOT NULL DEFAULT 0,id_category INTEGER NOT NULL
DEFAULT 0);
CREATE TABLE budgetrule (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,rc_category_id
INTEGER NOT NULL DEFAULT 0,t_category_condition TEXT NOT NULL DEFAULT 'Y' CHECK
(t_category_condition IN ('Y', 'N')),t_year_condition TEXT NOT NULL DEFAULT 'Y' CHECK (t_year_condition

```



```

IN ('Y', 'N')),i_year INTEGER NOT NULL DEFAULT 2010,i_month INTEGER NOT NULL DEFAULT 0
CHECK (i_month>=0 AND i_month<=12),t_month_condition TEXT NOT NULL DEFAULT 'Y' CHECK
(t_month_condition IN ('Y', 'N')),i_condition INTEGER NOT NULL DEFAULT 0 CHECK (i_condition IN (-
1,0,1)),f_quantity FLOAT NOT NULL DEFAULT 0.0,t_absolute TEXT NOT NULL DEFAULT 'Y' CHECK
(t_absolute IN ('Y', 'N')),rc_category_id_target INTEGER NOT NULL DEFAULT 0,t_category_target TEXT NOT
NULL DEFAULT 'Y' CHECK (t_category_target IN ('Y', 'N')),t_rule TEXT NOT NULL DEFAULT 'N' CHECK
(t_rule IN ('N', 'C', 'Y')));
CREATE TABLE "recurrentoperation" (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,d_date
DATE NOT NULL DEFAULT '0000-00-00',rd_operation_id INTEGER NOT NULL,i_period_increment
INTEGER NOT NULL DEFAULT 1 CHECK (i_period_increment>=0),t_period_unit TEXT NOT NULL
DEFAULT 'M' CHECK (t_period_unit IN ('D', 'W', 'M', 'Y')),t_auto_write VARCHAR(1) DEFAULT 'Y' CHECK
(t_auto_write IN ('Y', 'N')),i_auto_write_days INTEGER NOT NULL DEFAULT 5 CHECK
(i_auto_write_days>=0),t_warn VARCHAR(1) DEFAULT 'Y' CHECK (t_warn IN ('Y', 'N')),i_warn_days
INTEGER NOT NULL DEFAULT 5 CHECK (i_warn_days>=0),t_times VARCHAR(1) DEFAULT 'N' CHECK
(t_times IN ('Y', 'N')),i_nb_times INTEGER NOT NULL DEFAULT 1 CHECK (i_nb_times>=0));
CREATE TABLE "category" (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,t_name TEXT
NOT NULL DEFAULT " CHECK (t_name NOT LIKE '% > %'),t_fullname TEXT,rd_category_id
INT,t_bookmarked VARCHAR(1) NOT NULL DEFAULT 'N' CHECK (t_bookmarked IN ('Y', 'N')));
CREATE TABLE "account"(id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,t_name TEXT NOT
NULL,t_number TEXT NOT NULL DEFAULT "",t_agency_number TEXT NOT NULL DEFAULT
"",t_agency_address TEXT NOT NULL DEFAULT "",t_comment TEXT NOT NULL DEFAULT "",t_close
VARCHAR(1) DEFAULT 'N' CHECK (t_close IN ('Y', 'N')),t_type VARCHAR(1) NOT NULL DEFAULT 'C'
CHECK (t_type IN ('C', 'D', 'A', 'T', 'L', 'W', 'O')),t_bookmarked VARCHAR(1) NOT NULL DEFAULT 'N' CHECK
(t_bookmarked IN ('Y', 'N')),rd_bank_id INTEGER NOT NULL);
CREATE TABLE "node" (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,t_name TEXT NOT
NULL DEFAULT " CHECK (t_name NOT LIKE '% > %'),t_fullname TEXT,t_icon TEXT DEFAULT
"",f_sortorder FLOAT,t_autostart VARCHAR(1) DEFAULT 'N' CHECK (t_autostart IN ('Y', 'N')),t_data
TEXT,rd_node_id INT CONSTRAINT fk_id REFERENCES node(id) ON DELETE CASCADE);
CREATE TABLE vm_category_display_tmp(
id INT,
t_name TEXT,
t_fullname TEXT,
rd_category_id INT,
t_bookmarked TEXT,
i_NBOPERATIONS,
f_REALCURRENTAMOUNT
);
CREATE TABLE vm_budget_tmp(
id INT,
rc_category_id INT,
t_including_subcategories TEXT,
f_budgeted REAL,
f_budgeted_modified REAL,
f_transferred REAL,
i_year INT,
i_month INT,
t_CATEGORY,
t_PERIOD,

```

```

f_CURRENTAMOUNT,
t_RULES
);
CREATE INDEX idx_doctransaction_parent ON doctransaction (i_parent);
CREATE INDEX idx_doctransactionitem_i_object_id ON doctransactionitem (i_object_id);
CREATE INDEX idx_doctransactionitem_t_object_table ON doctransactionitem (t_object_table);
CREATE INDEX idx_doctransactionitem_t_action ON doctransactionitem (t_action);
CREATE INDEX idx_doctransactionitem_rd_doctransaction_id ON doctransactionitem (rd_doctransaction_id);
CREATE INDEX idx_doctransactionitem_optimization ON doctransactionitem (rd_doctransaction_id, i_object_id,
t_object_table, t_action, id);
CREATE INDEX idx_unit_unit_id ON unitvalue(rd_unit_id);
CREATE INDEX idx_account_bank_id ON account(rd_bank_id);
CREATE INDEX idx_account_type ON account(t_type);
CREATE INDEX idx_category_category_id ON category(rd_category_id);
CREATE INDEX idx_category_t_fullname ON category(t_fullname);
CREATE INDEX idx_operation_account_id ON operation (rd_account_id);
CREATE INDEX idx_operation_tmp1_found_transfert ON operation (rc_unit_id, d_date);
CREATE INDEX idx_operation_grouped_operation_id ON operation (i_group_id);
CREATE INDEX idx_operation_i_number ON operation (i_number);
CREATE INDEX idx_operation_i_tmp ON operation (i_tmp);
CREATE INDEX idx_operation_rd_account_id ON operation (rd_account_id);
CREATE INDEX idx_operation_rc_unit_id ON operation (rc_unit_id);
CREATE INDEX idx_operation_t_status ON operation (t_status);
CREATE INDEX idx_operation_t_import_id ON operation (t_import_id);
CREATE INDEX idx_operation_t_template ON operation (t_template);
CREATE INDEX idx_operation_d_date ON operation (d_date);
CREATE INDEX idx_operationbalance_operation_id ON operationbalance (r_operation_id);
CREATE INDEX idx_suboperation_operation_id ON suboperation (rd_operation_id);
CREATE INDEX idx_suboperation_i_tmp ON suboperation (i_tmp);
CREATE INDEX idx_suboperation_category_id ON suboperation (r_category_id);
CREATE INDEX idx_suboperation_refund_id_id ON suboperation (r_refund_id);
CREATE INDEX idx_recurrentoperation_rd_operation_id ON recurrentoperation (rd_operation_id);
CREATE INDEX idx_refund_close ON refund(t_close);
CREATE INDEX idx_interest_account_id ON interest (rd_account_id);
CREATE INDEX idx_rule_action_type ON rule(t_action_type);
CREATE INDEX idx_budget_category_id ON budget(rc_category_id);
CREATE INDEX idx_budgetcategory_id ON budgetcategory (id);
CREATE INDEX idx_budgetcategory_id_category ON budgetcategory (id_category);
CREATE UNIQUE INDEX uidx_parameters_uuid_parent_name ON parameters (t_uuid_parent, t_name);
CREATE UNIQUE INDEX uidx_node_parent_id_name ON node(t_name,rd_node_id);
CREATE UNIQUE INDEX uidx_node_fullname ON node(t_fullname);
CREATE UNIQUE INDEX uidx_unit_name ON unit(t_name);
CREATE UNIQUE INDEX uidx_unit_symbol ON unit(t_symbol);
CREATE UNIQUE INDEX uidx_unitvalue ON unitvalue(d_date,rd_unit_id);
CREATE UNIQUE INDEX uidx_bank_name ON bank(t_name);
CREATE UNIQUE INDEX uidx_account_name ON account(t_name);
CREATE UNIQUE INDEX uidx_category_parent_id_name ON category(t_name,rd_category_id);
CREATE UNIQUE INDEX uidx_category_fullname ON category(t_fullname);

```

```

CREATE UNIQUE INDEX uidx_refund_name ON refund(t_name);
CREATE UNIQUE INDEX uidx_payee_name ON payee(t_name);
CREATE UNIQUE INDEX uidx_interest ON interest(d_date,rd_account_id);
CREATE UNIQUE INDEX uidx_budget ON budget(i_year,i_month, rc_category_id);
CREATE VIEW v_node AS SELECT * from node;
CREATE VIEW v_node_displayname AS SELECT *, t_fullname AS t_displayname from node;
CREATE VIEW v_parameters_displayname AS SELECT *, t_name AS t_displayname from parameters;
CREATE TRIGGER fkdc_parameters_parameters_uuid BEFORE DELETE ON parameters FOR EACH ROW
BEGIN DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||parameters'; END;
CREATE TRIGGER fkdc_node_parameters_uuid BEFORE DELETE ON node FOR EACH ROW BEGIN
DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||node'; END;
CREATE TRIGGER cpt_node_fullname1 AFTER INSERT ON node BEGIN UPDATE node SET
t_fullname=CASE WHEN new.rd_node_id IS NULL OR new.rd_node_id=" OR new.rd_node_id=0 THEN
new.t_name ELSE (SELECT c.t_fullname from node c where c.id=new.rd_node_id)||' > '||new.t_name END
WHERE id=new.id;END;
CREATE TRIGGER cpt_node_fullname2 AFTER UPDATE OF t_name, rd_node_id ON node BEGIN UPDATE
node SET t_fullname=CASE WHEN new.rd_node_id IS NULL OR new.rd_node_id=" OR new.rd_node_id=0
THEN new.t_name ELSE (SELECT c.t_fullname from node c where c.id=new.rd_node_id)||' > '||new.t_name END
WHERE id=new.id;UPDATE node SET t_name=t_name WHERE rd_node_id=new.id;END;
CREATE TRIGGER fki_account_bank_rd_bank_id_id BEFORE INSERT ON account FOR EACH ROW BEGIN
SELECT RAISE(ABORT, 'Impossible d'ajouter un objet (bank est utilis par account)
Nom de la contrainte: fki_account_bank_rd_bank_id_id') WHERE NEW.rd_bank_id!=0 AND
NEW.rd_bank_id!=" AND (SELECT id FROM bank WHERE id = NEW.rd_bank_id) IS NULL; END;
CREATE TRIGGER fku_account_bank_rd_bank_id_id BEFORE UPDATE ON account FOR EACH ROW
BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (bank est utilis par account)
Nom de la contrainte: fku_account_bank_rd_bank_id_id') WHERE NEW.rd_bank_id!=0 AND
NEW.rd_bank_id!=" AND (SELECT id FROM bank WHERE id = NEW.rd_bank_id) IS NULL; END;
CREATE TRIGGER fkdc_bank_account_id_rd_bank_id BEFORE DELETE ON bank FOR EACH ROW BEGIN
DELETE FROM account WHERE account.rd_bank_id = OLD.id; END;
CREATE TRIGGER fki_budget_category_rc_category_id_id BEFORE INSERT ON budget FOR EACH ROW
BEGIN SELECT RAISE(ABORT, 'Impossible d'ajouter un objet (category est utilis par budget)
Nom de la contrainte: fki_budget_category_rc_category_id_id') WHERE NEW.rc_category_id!=0 AND
NEW.rc_category_id!=" AND (SELECT id FROM category WHERE id = NEW.rc_category_id) IS NULL; END;
CREATE TRIGGER fku_budget_category_rc_category_id_id BEFORE UPDATE ON budget FOR EACH ROW
BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (category est utilis par budget)
Nom de la contrainte: fku_budget_category_rc_category_id_id') WHERE NEW.rc_category_id!=0 AND
NEW.rc_category_id!=" AND (SELECT id FROM category WHERE id = NEW.rc_category_id) IS NULL; END;
CREATE TRIGGER fkd_budget_category_rc_category_id_id BEFORE DELETE ON category FOR EACH ROW
BEGIN SELECT RAISE(ABORT, 'Impossible de dtruire un objet (category est utilis par budget)
Nom de la contrainte: fkd_budget_category_rc_category_id_id') WHERE (SELECT rc_category_id FROM
budget WHERE rc_category_id = OLD.id) IS NOT NULL; END;
CREATE TRIGGER fki_budgetrule_category_rc_category_id_id BEFORE INSERT ON budgetrule FOR EACH
ROW BEGIN SELECT RAISE(ABORT, 'Impossible d'ajouter un objet (category est utilis par budgetrule)
Nom de la contrainte: fki_budgetrule_category_rc_category_id_id') WHERE NEW.rc_category_id!=0 AND
NEW.rc_category_id!=" AND (SELECT id FROM category WHERE id = NEW.rc_category_id) IS NULL; END;
CREATE TRIGGER fku_budgetrule_category_rc_category_id_id BEFORE UPDATE ON budgetrule FOR EACH
ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (category est utilis par budgetrule)
Nom de la contrainte: fku_budgetrule_category_rc_category_id_id') WHERE NEW.rc_category_id!=0 AND

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```

NEW.rc_category_id!=" AND (SELECT id FROM category WHERE id = NEW.rc_category_id) IS NULL; END;
CREATE TRIGGER fkd_budgetrule_category_rc_category_id_id BEFORE DELETE ON category FOR EACH
ROW BEGIN SELECT RAISE(ABORT, 'Impossible de dtruire un objet (category est utilis par budgetrule)
Nom de la contrainte: fkd_budgetrule_category_rc_category_id_id') WHERE (SELECT rc_category_id FROM
budgetrule WHERE rc_category_id = OLD.id) IS NOT NULL; END;
CREATE TRIGGER fki_budgetrule_category_rc_category_id_target_id BEFORE INSERT ON budgetrule FOR
EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (category est utilis par budgetrule)
Nom de la contrainte: fki_budgetrule_category_rc_category_id_target_id') WHERE
NEW.rc_category_id_target!=0 AND NEW.rc_category_id_target!=" AND (SELECT id FROM category WHERE
id = NEW.rc_category_id_target) IS NULL; END;
CREATE TRIGGER fku_budgetrule_category_rc_category_id_target_id BEFORE UPDATE ON budgetrule FOR
EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (category est utilis par
budgetrule)
Nom de la contrainte: fku_budgetrule_category_rc_category_id_target_id') WHERE
NEW.rc_category_id_target!=0 AND NEW.rc_category_id_target!=" AND (SELECT id FROM category WHERE
id = NEW.rc_category_id_target) IS NULL; END;
CREATE TRIGGER fkd_budgetrule_category_rc_category_id_target_id BEFORE DELETE ON category FOR
EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible de dtruire un objet (category est utilis par
budgetrule)
Nom de la contrainte: fkd_budgetrule_category_rc_category_id_target_id') WHERE (SELECT
rc_category_id_target FROM budgetrule WHERE rc_category_id_target = OLD.id) IS NOT NULL; END;
CREATE TRIGGER fki_category_category_rd_category_id_id BEFORE INSERT ON category FOR EACH ROW
BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (category est utilis par category)
Nom de la contrainte: fki_category_category_rd_category_id_id') WHERE NEW.rd_category_id!=0 AND
NEW.rd_category_id!=" AND (SELECT id FROM category WHERE id = NEW.rd_category_id) IS NULL; END;
CREATE TRIGGER fku_category_category_rd_category_id_id BEFORE UPDATE ON category FOR EACH
ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (category est utilis par category)
Nom de la contrainte: fku_category_category_rd_category_id_id') WHERE NEW.rd_category_id!=0 AND
NEW.rd_category_id!=" AND (SELECT id FROM category WHERE id = NEW.rd_category_id) IS NULL; END;
CREATE TRIGGER fkdc_category_category_id_rd_category_id BEFORE DELETE ON category FOR EACH
ROW BEGIN DELETE FROM category WHERE category.rd_category_id = OLD.id; END;
CREATE TRIGGER fki_doctransactionitem_doctransaction_rd_doctransaction_id_id BEFORE INSERT ON
doctransactionitem FOR EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet
(doctransaction est utilis par doctransactionitem)
Nom de la contrainte: fki_doctransactionitem_doctransaction_rd_doctransaction_id_id') WHERE
NEW.rd_doctransaction_id!=0 AND NEW.rd_doctransaction_id!=" AND (SELECT id FROM doctransaction
WHERE id = NEW.rd_doctransaction_id) IS NULL; END;
CREATE TRIGGER fku_doctransactionitem_doctransaction_rd_doctransaction_id_id BEFORE UPDATE ON
doctransactionitem FOR EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet
(doctransaction est utilis par doctransactionitem)
Nom de la contrainte: fku_doctransactionitem_doctransaction_rd_doctransaction_id_id') WHERE
NEW.rd_doctransaction_id!=0 AND NEW.rd_doctransaction_id!=" AND (SELECT id FROM doctransaction
WHERE id = NEW.rd_doctransaction_id) IS NULL; END;
CREATE TRIGGER fkdc_doctransaction_doctransactionitem_id_rd_doctransaction_id BEFORE DELETE ON
doctransaction FOR EACH ROW BEGIN DELETE FROM doctransactionitem WHERE
doctransactionitem.rd_doctransaction_id = OLD.id; END;
CREATE TRIGGER fki_doctransactionmsg_doctransaction_rd_doctransaction_id_id BEFORE INSERT ON
doctransactionmsg FOR EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet

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(doctransaction est utilis par doctransactionmsg)
Nom de la contrainte: fki_doctransactionmsg_doctransaction_rd_doctransaction_id_id') WHERE
NEW.rd_doctransaction_id!=0 AND NEW.rd_doctransaction_id!=" AND (SELECT id FROM doctransaction
WHERE id = NEW.rd_doctransaction_id) IS NULL; END;
CREATE TRIGGER fku_doctransactionmsg_doctransaction_rd_doctransaction_id_id BEFORE UPDATE ON
doctransactionmsg FOR EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet
(doctransaction est utilis par doctransactionmsg)
Nom de la contrainte: fku_doctransactionmsg_doctransaction_rd_doctransaction_id_id') WHERE
NEW.rd_doctransaction_id!=0 AND NEW.rd_doctransaction_id!=" AND (SELECT id FROM doctransaction
WHERE id = NEW.rd_doctransaction_id) IS NULL; END;
CREATE TRIGGER fkdc_doctransaction_doctransactionmsg_id_rd_doctransaction_id BEFORE DELETE ON
doctransaction FOR EACH ROW BEGIN DELETE FROM doctransactionmsg WHERE
doctransactionmsg.rd_doctransaction_id = OLD.id; END;
CREATE TRIGGER fki_interest_account_rd_account_id_id BEFORE INSERT ON interest FOR EACH ROW
BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (account est utilis par interest)
Nom de la contrainte: fki_interest_account_rd_account_id_id') WHERE NEW.rd_account_id!=0 AND
NEW.rd_account_id!=" AND (SELECT id FROM account WHERE id = NEW.rd_account_id) IS NULL; END;
CREATE TRIGGER fku_interest_account_rd_account_id_id BEFORE UPDATE ON interest FOR EACH ROW
BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (account est utilis par interest)
Nom de la contrainte: fku_interest_account_rd_account_id_id') WHERE NEW.rd_account_id!=0 AND
NEW.rd_account_id!=" AND (SELECT id FROM account WHERE id = NEW.rd_account_id) IS NULL; END;
CREATE TRIGGER fkdc_account_interest_id_rd_account_id BEFORE DELETE ON account FOR EACH ROW
BEGIN DELETE FROM interest WHERE interest.rd_account_id = OLD.id; END;
CREATE TRIGGER fki_node_node_rd_node_id_id BEFORE INSERT ON node FOR EACH ROW BEGIN
SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (node est utilis par node)
Nom de la contrainte: fki_node_node_rd_node_id_id') WHERE NEW.rd_node_id!=0 AND NEW.rd_node_id!="
AND (SELECT id FROM node WHERE id = NEW.rd_node_id) IS NULL; END;
CREATE TRIGGER fku_node_node_rd_node_id_id BEFORE UPDATE ON node FOR EACH ROW BEGIN
SELECT RAISE(ABORT, 'Impossible de modifier un objet (node est utilis par node)
Nom de la contrainte: fku_node_node_rd_node_id_id') WHERE NEW.rd_node_id!=0 AND
NEW.rd_node_id!=" AND (SELECT id FROM node WHERE id = NEW.rd_node_id) IS NULL; END;
CREATE TRIGGER fkdc_node_node_id_rd_node_id BEFORE DELETE ON node FOR EACH ROW BEGIN
DELETE FROM node WHERE node.rd_node_id = OLD.id; END;
CREATE TRIGGER fki_operation_account_rd_account_id_id BEFORE INSERT ON operation FOR EACH ROW
BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (account est utilis par operation)
Nom de la contrainte: fki_operation_account_rd_account_id_id') WHERE NEW.rd_account_id!=0 AND
NEW.rd_account_id!=" AND (SELECT id FROM account WHERE id = NEW.rd_account_id) IS NULL; END;
CREATE TRIGGER fku_operation_account_rd_account_id_id BEFORE UPDATE ON operation FOR EACH
ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (account est utilis par operation)
Nom de la contrainte: fku_operation_account_rd_account_id_id') WHERE NEW.rd_account_id!=0 AND
NEW.rd_account_id!=" AND (SELECT id FROM account WHERE id = NEW.rd_account_id) IS NULL; END;
CREATE TRIGGER fkdc_account_operation_id_rd_account_id BEFORE DELETE ON account FOR EACH ROW
BEGIN DELETE FROM operation WHERE operation.rd_account_id = OLD.id; END;
CREATE TRIGGER fki_operation_payee_r_payee_id_id BEFORE INSERT ON operation FOR EACH ROW
BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (payee est utilis par operation)
Nom de la contrainte: fki_operation_payee_r_payee_id_id') WHERE NEW.r_payee_id!=0 AND
NEW.r_payee_id!=" AND (SELECT id FROM payee WHERE id = NEW.r_payee_id) IS NULL; END;
CREATE TRIGGER fku_operation_payee_r_payee_id_id BEFORE UPDATE ON operation FOR EACH ROW

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BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (payee est utilis par operation)
Nom de la contrainte: fku_operation_payee_r_payee_id_id') WHERE NEW.r_payee_id!=0 AND
NEW.r_payee_id!=" AND (SELECT id FROM payee WHERE id = NEW.r_payee_id) IS NULL; END;
CREATE TRIGGER fkd_operation_payee_r_payee_id_id BEFORE DELETE ON payee FOR EACH ROW
BEGIN UPDATE operation SET r_payee_id=0 WHERE r_payee_id=OLD.id; END;
CREATE TRIGGER fki_operation_unit_rc_unit_id_id BEFORE INSERT ON operation FOR EACH ROW BEGIN
SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (unit est utilis par operation)
Nom de la contrainte: fki_operation_unit_rc_unit_id_id') WHERE NEW.rc_unit_id!=0 AND NEW.rc_unit_id!="
AND (SELECT id FROM unit WHERE id = NEW.rc_unit_id) IS NULL; END;
CREATE TRIGGER fku_operation_unit_rc_unit_id_id BEFORE UPDATE ON operation FOR EACH ROW
BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (unit est utilis par operation)
Nom de la contrainte: fku_operation_unit_rc_unit_id_id') WHERE NEW.rc_unit_id!=0 AND
NEW.rc_unit_id!=" AND (SELECT id FROM unit WHERE id = NEW.rc_unit_id) IS NULL; END;
CREATE TRIGGER fkd_operation_unit_rc_unit_id_id BEFORE DELETE ON unit FOR EACH ROW BEGIN
SELECT RAISE(ABORT, 'Impossible de dtruire un objet (unit est utilis par operation)
Nom de la contrainte: fkd_operation_unit_rc_unit_id_id') WHERE (SELECT rc_unit_id FROM operation
WHERE rc_unit_id = OLD.id) IS NOT NULL; END;
CREATE TRIGGER fki_operation_recurrentoperation_r_recurrentoperation_id_id BEFORE INSERT ON
operation FOR EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (recurrentoperation
est utilis par operation)
Nom de la contrainte: fki_operation_recurrentoperation_r_recurrentoperation_id_id') WHERE
NEW.r_recurrentoperation_id!=0 AND NEW.r_recurrentoperation_id!=" AND (SELECT id FROM
recurrentoperation WHERE id = NEW.r_recurrentoperation_id) IS NULL; END;
CREATE TRIGGER fku_operation_recurrentoperation_r_recurrentoperation_id_id BEFORE UPDATE ON
operation FOR EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet
(recurrentoperation est utilis par operation)
Nom de la contrainte: fku_operation_recurrentoperation_r_recurrentoperation_id_id') WHERE
NEW.r_recurrentoperation_id!=0 AND NEW.r_recurrentoperation_id!=" AND (SELECT id FROM
recurrentoperation WHERE id = NEW.r_recurrentoperation_id) IS NULL; END;
CREATE TRIGGER fkd_operation_recurrentoperation_r_recurrentoperation_id_id BEFORE DELETE ON
recurrentoperation FOR EACH ROW BEGIN UPDATE operation SET r_recurrentoperation_id=0 WHERE
r_recurrentoperation_id=OLD.id; END;
CREATE TRIGGER fki_operationbalance_operation_r_operation_id_id BEFORE INSERT ON operationbalance
FOR EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (operation est utilis par
operationbalance)
Nom de la contrainte: fki_operationbalance_operation_r_operation_id_id') WHERE NEW.r_operation_id!=0 AND
NEW.r_operation_id!=" AND (SELECT id FROM operation WHERE id = NEW.r_operation_id) IS NULL; END;
CREATE TRIGGER fku_operationbalance_operation_r_operation_id_id BEFORE UPDATE ON operationbalance
FOR EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (operation est utilis par
operationbalance)
Nom de la contrainte: fku_operationbalance_operation_r_operation_id_id') WHERE NEW.r_operation_id!=0
AND NEW.r_operation_id!=" AND (SELECT id FROM operation WHERE id = NEW.r_operation_id) IS NULL;
END;
CREATE TRIGGER fkd_operationbalance_operation_r_operation_id_id BEFORE DELETE ON operation FOR
EACH ROW BEGIN UPDATE operationbalance SET r_operation_id=0 WHERE r_operation_id=OLD.id; END;
CREATE TRIGGER fki_recurrentoperation_operation_rd_operation_id_id BEFORE INSERT ON
recurrentoperation FOR EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (operation
est utilis par recurrentoperation)

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Nom de la contrainte: fki_recurrentoperation_operation_rd_operation_id_id') WHERE NEW.rd_operation_id!=0
AND NEW.rd_operation_id!=" AND (SELECT id FROM operation WHERE id = NEW.rd_operation_id) IS
NULL; END;
CREATE TRIGGER fku_recurrentoperation_operation_rd_operation_id_id BEFORE UPDATE ON
recurrentoperation FOR EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet
(operation est utilis par recurrentoperation)
Nom de la contrainte: fku_recurrentoperation_operation_rd_operation_id_id') WHERE
NEW.rd_operation_id!=0 AND NEW.rd_operation_id!=" AND (SELECT id FROM operation WHERE id =
NEW.rd_operation_id) IS NULL; END;
CREATE TRIGGER fkdc_operation_recurrentoperation_id_rd_operation_id BEFORE DELETE ON operation
FOR EACH ROW BEGIN DELETE FROM recurrentoperation WHERE recurrentoperation.rd_operation_id =
OLD.id; END;
CREATE TRIGGER fki_suboperation_operation_rd_operation_id_id BEFORE INSERT ON suboperation FOR
EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (operation est utilis par
suboperation)
Nom de la contrainte: fki_suboperation_operation_rd_operation_id_id') WHERE NEW.rd_operation_id!=0 AND
NEW.rd_operation_id!=" AND (SELECT id FROM operation WHERE id = NEW.rd_operation_id) IS NULL;
END;
CREATE TRIGGER fku_suboperation_operation_rd_operation_id_id BEFORE UPDATE ON suboperation FOR
EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (operation est utilis par
suboperation)
Nom de la contrainte: fku_suboperation_operation_rd_operation_id_id') WHERE NEW.rd_operation_id!=0
AND NEW.rd_operation_id!=" AND (SELECT id FROM operation WHERE id = NEW.rd_operation_id) IS
NULL; END;
CREATE TRIGGER fkdc_operation_suboperation_id_rd_operation_id BEFORE DELETE ON operation FOR
EACH ROW BEGIN DELETE FROM suboperation WHERE suboperation.rd_operation_id = OLD.id; END;
CREATE TRIGGER fki_suboperation_category_r_category_id_id BEFORE INSERT ON suboperation FOR
EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (category est utilis par
suboperation)
Nom de la contrainte: fki_suboperation_category_r_category_id_id') WHERE NEW.r_category_id!=0 AND
NEW.r_category_id!=" AND (SELECT id FROM category WHERE id = NEW.r_category_id) IS NULL; END;
CREATE TRIGGER fku_suboperation_category_r_category_id_id BEFORE UPDATE ON suboperation FOR
EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (category est utilis par
suboperation)
Nom de la contrainte: fku_suboperation_category_r_category_id_id') WHERE NEW.r_category_id!=0 AND
NEW.r_category_id!=" AND (SELECT id FROM category WHERE id = NEW.r_category_id) IS NULL; END;
CREATE TRIGGER fkd_suboperation_category_r_category_id_id BEFORE DELETE ON category FOR EACH
ROW BEGIN UPDATE suboperation SET r_category_id=0 WHERE r_category_id=OLD.id; END;
CREATE TRIGGER fki_suboperation_refund_r_refund_id_id BEFORE INSERT ON suboperation FOR EACH
ROW BEGIN SELECT RAISE(ABORT, 'Impossible d"ajouter un objet (refund est utilis par suboperation)
Nom de la contrainte: fki_suboperation_refund_r_refund_id_id') WHERE NEW.r_refund_id!=0 AND
NEW.r_refund_id!=" AND (SELECT id FROM refund WHERE id = NEW.r_refund_id) IS NULL; END;
CREATE TRIGGER fku_suboperation_refund_r_refund_id_id BEFORE UPDATE ON suboperation FOR EACH
ROW BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (refund est utilis par suboperation)
Nom de la contrainte: fku_suboperation_refund_r_refund_id_id') WHERE NEW.r_refund_id!=0 AND
NEW.r_refund_id!=" AND (SELECT id FROM refund WHERE id = NEW.r_refund_id) IS NULL; END;
CREATE TRIGGER fkd_suboperation_refund_r_refund_id_id BEFORE DELETE ON refund FOR EACH ROW
BEGIN UPDATE suboperation SET r_refund_id=0 WHERE r_refund_id=OLD.id; END;

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CREATE TRIGGER fki_unit_unit_rd_unit_id_id BEFORE INSERT ON unit FOR EACH ROW BEGIN SELECT
RAISE(ABORT, 'Impossible d'ajouter un objet (unit est utilis par unit)
Nom de la contrainte: fki_unit_unit_rd_unit_id_id') WHERE NEW.rd_unit_id!=0 AND NEW.rd_unit_id!=" AND
(SELECT id FROM unit WHERE id = NEW.rd_unit_id) IS NULL; END;
CREATE TRIGGER fku_unit_unit_rd_unit_id_id BEFORE UPDATE ON unit FOR EACH ROW BEGIN
SELECT RAISE(ABORT, 'Impossible de modifier un objet (unit est utilis par unit)
Nom de la contrainte: fku_unit_unit_rd_unit_id_id') WHERE NEW.rd_unit_id!=0 AND NEW.rd_unit_id!="
AND (SELECT id FROM unit WHERE id = NEW.rd_unit_id) IS NULL; END;
CREATE TRIGGER fkdc_unit_unit_id_rd_unit_id BEFORE DELETE ON unit FOR EACH ROW BEGIN
DELETE FROM unit WHERE unit.rd_unit_id = OLD.id; END;
CREATE TRIGGER fki_unitvalue_unit_rd_unit_id_id BEFORE INSERT ON unitvalue FOR EACH ROW BEGIN
SELECT RAISE(ABORT, 'Impossible d'ajouter un objet (unit est utilis par unitvalue)
Nom de la contrainte: fki_unitvalue_unit_rd_unit_id_id') WHERE NEW.rd_unit_id!=0 AND NEW.rd_unit_id!="
AND (SELECT id FROM unit WHERE id = NEW.rd_unit_id) IS NULL; END;
CREATE TRIGGER fku_unitvalue_unit_rd_unit_id_id BEFORE UPDATE ON unitvalue FOR EACH ROW
BEGIN SELECT RAISE(ABORT, 'Impossible de modifier un objet (unit est utilis par unitvalue)
Nom de la contrainte: fku_unitvalue_unit_rd_unit_id_id') WHERE NEW.rd_unit_id!=0 AND
NEW.rd_unit_id!=" AND (SELECT id FROM unit WHERE id = NEW.rd_unit_id) IS NULL; END;
CREATE TRIGGER fkdc_unit_unitvalue_id_rd_unit_id BEFORE DELETE ON unit FOR EACH ROW BEGIN
DELETE FROM unitvalue WHERE unitvalue.rd_unit_id = OLD.id; END;
CREATE TRIGGER fkd_vm_budget_tmp_category_rc_category_id_id BEFORE DELETE ON category FOR
EACH ROW BEGIN SELECT RAISE(ABORT, 'Impossible de dtuire un objet (category est utilis par
vm_budget_tmp)
Nom de la contrainte: fkd_vm_budget_tmp_category_rc_category_id_id') WHERE (SELECT rc_category_id
FROM vm_budget_tmp WHERE rc_category_id = OLD.id) IS NOT NULL; END;
CREATE TRIGGER fkdc_category_vm_category_display_tmp_id_rd_category_id BEFORE DELETE ON
category FOR EACH ROW BEGIN DELETE FROM vm_category_display_tmp WHERE
vm_category_display_tmp.rd_category_id = OLD.id; END;
CREATE VIEW v_unit_displayname AS SELECT *, t_name||' (||t_symbol||)' AS t_displayname FROM unit;
CREATE VIEW v_unit_tmp1 AS SELECT *,(SELECT count(*) FROM unitvalue s WHERE s.rd_unit_id=unit.id)
AS i_NBVALUES, (CASE WHEN unit.rd_unit_id=0 THEN " ELSE (SELECT (CASE WHEN s.t_symbol!="
THEN s.t_symbol ELSE s.t_name END) FROM unit s WHERE s.id=unit.rd_unit_id) END) AS t_UNIT,(CASE
unit.t_type WHEN '1' THEN 'Monnaie principale' WHEN '2' THEN 'Monnaie secondaire' WHEN 'C' THEN
'Monnaie' WHEN 'S' THEN 'Action' WHEN 'I' THEN 'Indice' ELSE 'Objet' END) AS t_TYPENLS, (SELECT
MIN(s.d_date) FROM unitvalue s WHERE s.rd_unit_id=unit.id) AS d_MINDATE, (SELECT MAX(s.d_date)
FROM unitvalue s WHERE s.rd_unit_id=unit.id) AS d_MAXDATE from unit;
CREATE VIEW v_unit_tmp2 AS SELECT *,CASE WHEN v_unit_tmp1.t_type='1' THEN 1 ELSE
IFNULL((SELECT s.f_quantity FROM unitvalue s WHERE s.rd_unit_id=v_unit_tmp1.id AND
s.d_date=v_unit_tmp1.d_MAXDATE),1) END AS f_LASTVALUE from v_unit_tmp1;
CREATE VIEW v_unit AS SELECT *,v_unit_tmp2.f_LASTVALUE*IFNULL((SELECT s2.f_LASTVALUE
FROM v_unit_tmp2 s2 WHERE s2.id=v_unit_tmp2.rd_unit_id) , 1) AS f_CURRENTAMOUNT from
v_unit_tmp2;
CREATE VIEW v_unitvalue_displayname AS SELECT *, (SELECT t_displayname FROM v_unit_displayname
WHERE unitvalue.rd_unit_id=v_unit_displayname.id)||' ||STRFTIME('%d/%m/%Y',d_date) AS t_displayname
FROM unitvalue;
CREATE VIEW v_unitvalue AS SELECT * FROM unitvalue;
CREATE VIEW v_suboperation AS SELECT * FROM suboperation;
CREATE VIEW v_operation_numbers AS SELECT DISTINCT i_number, rd_account_id FROM operation;

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CREATE VIEW v_operation_next_numbers AS SELECT T1.i_number+1 AS i_number FROM
v_operation_numbers AS T1 LEFT OUTER JOIN v_operation_numbers T2 ON
T2.rd_account_id=T1.rd_account_id AND T2.i_number=T1.i_number+1 WHERE T1.i_number!=0 AND
(T2.i_number IS NULL) ORDER BY T1.i_number;
CREATE VIEW v_operation_tmp1 AS SELECT *,(SELECT t_name FROM payee s WHERE
s.id=operation.r_payee_id) AS t_PAYEE,(SELECT TOTAL(s.f_value) FROM suboperation s WHERE
s.rd_operation_id=operation.ID) AS f_QUANTITY,(SELECT count(*) FROM suboperation s WHERE
s.rd_operation_id=operation.ID) AS i_NBSUBCATEGORY FROM operation;
CREATE VIEW v_operation AS SELECT *,(SELECT s.id FROM suboperation s WHERE
s.rd_operation_id=v_operation_tmp1.id AND ABS(s.f_value)=(SELECT MAX(ABS(s2.f_value)) FROM
suboperation s2 WHERE s2.rd_operation_id=v_operation_tmp1.id)) AS i_MOSTIMPSUBOP,((SELECT
s.f_CURRENTAMOUNT FROM v_unit s WHERE
s.id=v_operation_tmp1.rc_unit_id)*v_operation_tmp1.f_QUANTITY) AS f_CURRENTAMOUNT, (CASE WHEN
v_operation_tmp1.i_group_id<>0 AND EXISTS (SELECT 1 FROM account a WHERE
v_operation_tmp1.rd_account_id=a.id AND a.t_type<>'L') AND EXISTS (SELECT 1 FROM v_operation_tmp1
op2, account a WHERE op2.i_group_id=v_operation_tmp1.i_group_id AND op2.rd_account_id=a.id AND
a.t_type<>'L' AND op2.rc_unit_id=v_operation_tmp1.rc_unit_id AND op2.f_QUANTITY=-
v_operation_tmp1.f_QUANTITY) THEN 'Y' ELSE 'N' END) AS t_TRANSFER FROM v_operation_tmp1;
CREATE VIEW v_operation_displayname AS SELECT *, STRFTIME('%d/%m/%Y',d_date)||
' ||IFNULL(t_PAYEE,')||' ||v_operation.f_CURRENTAMOUNT||' ||(SELECT (CASE WHEN s.t_symbol!=) THEN
s.t_symbol ELSE s.t_name END) FROM unit s WHERE s.id=v_operation.rc_unit_id) AS t_displayname FROM
v_operation;
CREATE VIEW v_operation_delete AS SELECT *, (CASE WHEN t_status='Y' THEN 'Vous n"tes pas autoris
dtruire cette operation car en tat rapproch' END) t_delete_message FROM operation;
CREATE VIEW v_account AS SELECT *,(SELECT MAX(s.d_date) FROM interest s WHERE
s.rd_account_id=account.id) AS d_MAXDATE, (SELECT TOTAL(s.f_CURRENTAMOUNT) FROM v_operation
s WHERE s.rd_account_id=account.id AND s.t_template='N') AS f_CURRENTAMOUNT FROM account;
CREATE VIEW v_account_delete AS SELECT *, (CASE WHEN EXISTS(SELECT 1 FROM operation WHERE
rd_account_id=account.id AND d_date<>'0000-00-00' AND t_template='N' AND t_status='Y') THEN 'Vous n"tes
pas autoris dtruire ce compte car il contient des operations rapproches' END) t_delete_message FROM account;
CREATE VIEW v_bank_displayname AS SELECT *, t_name AS t_displayname FROM bank;
CREATE VIEW v_account_displayname AS SELECT *, (SELECT t_displayname FROM v_bank_displayname
WHERE account.rd_bank_id=v_bank_displayname.id)||'-||t_name AS t_displayname FROM account;
CREATE VIEW v_bank AS SELECT *,(SELECT TOTAL(s.f_CURRENTAMOUNT) FROM v_account s
WHERE s.rd_bank_id=bank.id) AS f_CURRENTAMOUNT FROM bank;
CREATE VIEW v_category_displayname AS SELECT *, t_fullname AS t_displayname FROM category;
CREATE VIEW v_category AS SELECT * FROM category;
CREATE VIEW v_recurrentoperation AS SELECT *,i_period_increment||' ||(CASE t_period_unit WHEN 'Y'
THEN 'anne(s)' WHEN 'M' THEN 'mois' WHEN 'W' THEN 'semaine(s)' ELSE 'jour(s)' END) AS t_PERIODNLS
FROM recurrentoperation;
CREATE VIEW v_recurrentoperation_displayname AS SELECT *, STRFTIME('%d/%m/%Y',d_date)||
' ||SUBSTR((SELECT t_displayname FROM v_operation_displayname WHERE
v_operation_displayname.id=v_recurrentoperation.rd_operation_id), 11) AS t_displayname FROM
v_recurrentoperation;
CREATE VIEW v_unitvalue_display AS SELECT *,IFNULL((SELECT (CASE WHEN s.t_symbol!=) THEN
s.t_symbol ELSE s.t_name END) FROM unit s WHERE s.id=(SELECT s2.rd_unit_id FROM unit s2 WHERE
s2.id=unitvalue.rd_unit_id)),) AS t_UNIT,STRFTIME('%Y-%m',unitvalue.d_date) AS
d_DATEMONTH,STRFTIME('%Y',unitvalue.d_date) AS d_DATEYEAR FROM unitvalue;

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CREATE VIEW v_suboperation_display AS SELECT *,IFNULL((SELECT s.t_fullname FROM category s
WHERE s.id=v_suboperation.r_category_id,)) AS t_CATEGORY, IFNULL((SELECT s.t_name FROM refund s
WHERE s.id=v_suboperation.r_refund_id,)) AS t_REFUND, (CASE WHEN v_suboperation.f_value>=0 THEN
v_suboperation.f_value ELSE 0 END) AS f_VALUE_INCOME, (CASE WHEN v_suboperation.f_value<=0 THEN
v_suboperation.f_value ELSE 0 END) AS f_VALUE_EXPENSE FROM v_suboperation;
CREATE VIEW v_suboperation_displayname AS SELECT *, t_CATEGORY||' : ||f_value AS t_displayname
FROM v_suboperation_display;
CREATE VIEW v_operation_display_all AS SELECT *,(SELECT s.t_name FROM account s WHERE
s.id=v_operation.rd_account_id) AS t_ACCOUNT,(SELECT (CASE WHEN s.t_symbol!="" THEN s.t_symbol
ELSE s.t_name END) FROM unit s WHERE s.id=v_operation.rc_unit_id) AS t_UNIT,(SELECT s.t_CATEGORY
FROM v_suboperation_display s WHERE s.id=v_operation.i_MOSTIMPSUBOP) AS t_CATEGORY,(SELECT
s.t_REFUND FROM v_suboperation_display s WHERE s.id=v_operation.i_MOSTIMPSUBOP) AS
t_REFUND,(CASE WHEN v_operation.f_QUANTITY<0 THEN '-' WHEN v_operation.f_QUANTITY=0 THEN ''
ELSE '+' END) AS t_TYPEEXPENSE, (CASE WHEN v_operation.f_QUANTITY<=0 THEN 'dpense' ELSE
'Revenu' END) AS t_TYPEEXPENSENLS, STRFTIME('%Y-W%W',v_operation.d_date) AS
d_DATEWEEK,STRFTIME('%Y-%m',v_operation.d_date) AS
d_DATEMONTH,STRFTIME('%Y',v_operation.d_date)||'-Q'|(CASE WHEN
STRFTIME('%m',v_operation.d_date)<='03' THEN '1' WHEN STRFTIME('%m',v_operation.d_date)<='06' THEN
'2' WHEN STRFTIME('%m',v_operation.d_date)<='09' THEN '3' ELSE '4' END) AS d_DATEQUARTER,
STRFTIME('%Y',v_operation.d_date)||'-S'|(CASE WHEN STRFTIME('%m',v_operation.d_date)<='06' THEN '1'
ELSE '2' END) AS d_DATESEMESTER, STRFTIME('%Y',v_operation.d_date) AS d_DATEYEAR, (SELECT
count(*) FROM v_recurrentoperation s WHERE s.rd_operation_id=v_operation.id) AS i_NBRECURRENT,
(CASE WHEN v_operation.f_QUANTITY>=0 THEN v_operation.f_QUANTITY ELSE 0 END) AS
f_QUANTITY_INCOME, (CASE WHEN v_operation.f_QUANTITY<=0 THEN v_operation.f_QUANTITY
ELSE 0 END) AS f_QUANTITY_EXPENSE, (SELECT o2.f_balance FROM operationbalance o2 WHERE
o2.r_operation_id=v_operation.id) AS f_BALANCE, (CASE WHEN v_operation.f_QUANTITY>=0 THEN
v_operation.f_CURRENTAMOUNT ELSE 0 END) AS f_CURRENTAMOUNT_INCOME, (CASE WHEN
v_operation.f_QUANTITY<=0 THEN v_operation.f_CURRENTAMOUNT ELSE 0 END) AS
f_CURRENTAMOUNT_EXPENSE FROM v_operation;
CREATE VIEW v_operation_template_display AS SELECT * FROM v_operation_display_all WHERE
t_template='Y';
CREATE VIEW v_operation_display AS SELECT * FROM v_operation_display_all WHERE d_date!='0000-00-
00' AND t_template='N';
CREATE VIEW v_unit_display AS SELECT *,(SELECT TOTAL(o.f_QUANTITY) FROM v_operation_display o
WHERE o.rc_unit_id=v_unit.id) AS f_QUANTITYOWNED FROM v_unit;
CREATE VIEW v_account_display AS SELECT (CASE t_type WHEN 'C' THEN 'Courant' WHEN 'D' THEN
'Carte de crdit' WHEN 'A' THEN 'Actif' WHEN 'I' THEN 'Investissement' WHEN 'W' THEN 'Portefeuille' WHEN
'L' THEN 'Prt' WHEN 'O' THEN 'Autre' END) AS t_TYPENLS,bank.t_name AS t_BANK,bank.t_bank_number
AS t_BANK_NUMBER,bank.t_icon AS t_ICON,v_account.*, (v_account.f_CURRENTAMOUNT/(SELECT
u.f_CURRENTAMOUNT FROM v_unit u, operation s WHERE u.id=s.rc_unit_id AND
s.rd_account_id=v_account.id AND s.d_date='0000-00-00')) AS f_QUANTITY, (SELECT (CASE WHEN
u.t_symbol!="" THEN u.t_symbol ELSE u.t_name END) FROM unit u, operation s WHERE u.id=s.rc_unit_id AND
s.rd_account_id=v_account.id AND s.d_date='0000-00-00') AS t_UNIT, (SELECT
TOTAL(s.f_CURRENTAMOUNT) FROM v_operation s WHERE s.rd_account_id=v_account.id AND
s.t_status!='N' AND s.t_template='N') AS f_CHECKED, (SELECT TOTAL(s.f_CURRENTAMOUNT) FROM
v_operation s WHERE s.rd_account_id=v_account.id AND s.t_status='N' AND s.t_template='N') AS
f_COMING_SOON, (SELECT TOTAL(s.f_CURRENTAMOUNT) FROM v_operation s WHERE
s.rd_account_id=v_account.id AND s.d_date<=date('now') AND s.t_template='N') AS f_TODAYAMOUNT,

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(SELECT count(*) FROM v_operation_display s WHERE s.rd_account_id=v_account.id) AS i_NBOPERATIONS,
IFNULL((SELECT s.f_rate FROM interest s WHERE s.rd_account_id=v_account.id AND
s.d_date=v_account.d_MAXDATE),0) AS f_RATE FROM v_account, bank WHERE
bank.id=v_account.rd_bank_id;
CREATE VIEW v_operation_consolidated AS SELECT (SELECT s.t_TYPENLS FROM v_account_display s
WHERE s.id=op.rd_account_id) AS t_ACCOUNTTYPE,(SELECT u.t_TYPENLS FROM v_unit u WHERE
u.id=op.rc_unit_id) AS t_UNITTYPE,sop.id AS i_SUBOPID, sop.r_refund_id AS r_refund_id, (CASE WHEN
sop.t_comment="" THEN op.t_comment ELSE sop.t_comment END) AS t_REALCOMMENT, sop.t_CATEGORY
AS t_REALCATEGORY, sop.t_REFUND AS t_REALREFUND, sop.r_category_id AS i_IDCATEGORY, (CASE
WHEN sop.f_value<0 THEN '-' WHEN sop.f_value=0 THEN '' ELSE '+' END) AS t_TYPEEXPENSE, (CASE
WHEN sop.f_value<0 THEN 'Dpense' WHEN sop.f_value=0 THEN '' ELSE 'Revenu' END) AS
t_TYPEEXPENSENLS, sop.f_value AS f_REALQUANTITY, sop.f_VALUE_INCOME AS
f_REALQUANTITY_INCOME, sop.f_VALUE_EXPENSE AS f_REALQUANTITY_EXPENSE, ((SELECT
u.f_CURRENTAMOUNT FROM v_unit u WHERE u.id=op.rc_unit_id)*sop.f_value) AS
f_REALCURRENTAMOUNT, ((SELECT u.f_CURRENTAMOUNT FROM v_unit u WHERE
u.id=op.rc_unit_id)*sop.f_VALUE_INCOME) AS f_REALCURRENTAMOUNT_INCOME, ((SELECT
u.f_CURRENTAMOUNT FROM v_unit u WHERE u.id=op.rc_unit_id)*sop.f_VALUE_EXPENSE) AS
f_REALCURRENTAMOUNT_EXPENSE, op.* FROM v_operation_display_all AS op, v_suboperation_display
AS sop WHERE op.t_template='N' AND sop.rd_operation_id=op.ID;
CREATE VIEW v_operation_prop AS SELECT p.id AS i_PROPPID, p.t_name AS i_PROPPNAME, p.t_value AS
i_PROPVALUE, op.* FROM v_operation_consolidated AS op LEFT OUTER JOIN parameters AS p ON
p.t_uuid_parent=op.id||'-operation';
CREATE VIEW v_refund_delete AS SELECT *, (CASE WHEN EXISTS(SELECT 1 FROM
v_operation_consolidated WHERE r_refund_id=refund.id AND t_status='Y') THEN 'Vous n"tes pas autoris dtruire
ce suiveur car utilis par des oprations rapproches' END) t_delete_message FROM refund;
CREATE VIEW v_refund AS SELECT *, (SELECT TOTAL(o.f_REALCURRENTAMOUNT) FROM
v_operation_consolidated o WHERE o.r_refund_id=refund.id) AS f_CURRENTAMOUNT FROM refund;
CREATE VIEW v_refund_display AS SELECT *,(SELECT MIN(o.d_date) FROM v_operation_consolidated o
WHERE o.r_refund_id=v_refund.id) AS d_FIRSTDATE, (SELECT MAX(o.d_date) FROM
v_operation_consolidated o WHERE o.r_refund_id=v_refund.id) AS d_LASTDATE FROM v_refund;
CREATE VIEW v_refund_displayname AS SELECT *, t_name AS t_displayname FROM refund;
CREATE VIEW v_payee_delete AS SELECT *, (CASE WHEN EXISTS(SELECT 1 FROM operation WHERE
r_payee_id=payee.id AND t_status='Y') THEN 'Vous n"tes pas autoris dtruire ce tiers car utilis par des oprations
rapproches' END) t_delete_message FROM payee;
CREATE VIEW v_payee AS SELECT *, (SELECT TOTAL(o.f_CURRENTAMOUNT) FROM v_operation o
WHERE o.r_payee_id=payee.id AND o.t_template='N') AS f_CURRENTAMOUNT FROM payee;
CREATE VIEW v_payee_display AS SELECT * FROM v_payee;
CREATE VIEW v_payee_displayname AS SELECT *, t_name AS t_displayname FROM payee;
CREATE VIEW v_category_delete AS SELECT *, (CASE WHEN EXISTS(SELECT 1 FROM
v_operation_consolidated WHERE (t_REALCATEGORY=category.t_fullname OR t_REALCATEGORY like
category.t_fullname||'%') AND t_status='Y') THEN 'Vous n"tes pas autoris dtruire cette catgorie car utilise par des
oprations rapproches' END) t_delete_message FROM category;
CREATE VIEW v_category_display_tmp AS SELECT *,(SELECT count(distinct(so.rd_operation_id)) FROM
operation o, suboperation so WHERE so.rd_operation_id=o.id AND so.r_category_id=v_category.ID AND
o.t_template='N') AS i_NBOPERATIONS, (SELECT TOTAL(o.f_REALCURRENTAMOUNT) FROM
v_operation_consolidated o WHERE o.i_IDCATEGORY=v_category.ID) AS f_REALCURRENTAMOUNT
FROM v_category;
CREATE VIEW v_category_display AS SELECT *,f_REALCURRENTAMOUNT+(SELECT

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TOTAL(c.f_REALCURRENTAMOUNT) FROM vm_category_display_tmp c WHERE c.t_fullname LIKE
vm_category_display_tmp.t_fullname||' > %') AS f_SUMCURRENTAMOUNT, i_NBOPERATIONS+(SELECT
CAST(TOTAL(c.i_NBOPERATIONS) AS INTEGER) FROM vm_category_display_tmp c WHERE c.t_fullname
like vm_category_display_tmp.t_fullname||' > %') AS i_SUMNBOPERATIONS, (CASE WHEN t_bookmarked='Y'
THEN 'Y' WHEN EXISTS(SELECT 1 FROM category c WHERE c.t_bookmarked='Y' AND c.t_fullname like
vm_category_display_tmp.t_fullname||' > %') THEN 'C' ELSE 'N' END) AS t_HASBOOKMARKEDCHILD,
(CASE WHEN vm_category_display_tmp.f_REALCURRENTAMOUNT<0 THEN '-' WHEN
vm_category_display_tmp.f_REALCURRENTAMOUNT=0 THEN '' ELSE '+' END) AS
t_TYPEEXPENSE,(CASE WHEN vm_category_display_tmp.f_REALCURRENTAMOUNT<0 THEN 'Dpense'
WHEN vm_category_display_tmp.f_REALCURRENTAMOUNT=0 THEN '' ELSE 'Revenu' END) AS
t_TYPEEXPENSENLS FROM vm_category_display_tmp;
CREATE VIEW v_recurrentoperation_display AS SELECT rop.*, op.t_ACCOUNT, op.i_number, op.t_mode,
op.i_group_id, op.t_TRANSFER, op.t_PAYEE, op.t_comment, op.t_CATEGORY, op.t_status,
op.f_CURRENTAMOUNT FROM v_recurrentoperation rop, v_operation_display_all AS op WHERE
rop.rd_operation_id=op.ID;
CREATE VIEW v_rule AS SELECT *,(SELECT COUNT(1) FROM rule r WHERE
r.f_sortorder<=rule.f_sortorder) AS i_ORDER FROM rule;
CREATE VIEW v_rule_displayname AS SELECT *, t_definition AS t_displayname FROM rule;
CREATE VIEW v_interest AS SELECT *,(SELECT s.t_name FROM account s WHERE
s.id=interest.rd_account_id) AS t_ACCOUNT FROM interest;
CREATE VIEW v_interest_displayname AS SELECT *, STRFTIME('%d/%m/%Y',d_date)||' ||f_rate||%' AS
t_displayname FROM interest;
CREATE VIEW v_budgetrule AS SELECT *, IFNULL((SELECT s.t_fullname FROM category s WHERE
s.id=budgetrule.rc_category_id,") AS t_CATEGORYCONDITION, IFNULL((SELECT s.t_fullname FROM
category s WHERE s.id=budgetrule.rc_category_id_target,") AS t_CATEGORY, (CASE WHEN
budgetrule.i_condition=-1 THEN 'Ngatif' WHEN budgetrule.i_condition=1 THEN 'Positif' WHEN
budgetrule.i_condition=0 THEN 'Tous' END) AS t_WHENNLS, f_quantity||(CASE WHEN
budgetrule.t_absolute='N' THEN '%' ELSE (SELECT t_symbol FROM unit WHERE t_type='1') END) AS
t_WHATNLS,(CASE WHEN budgetrule.t_rule='N' THEN 'Suivant' WHEN budgetrule.t_rule='C' THEN 'Courant'
WHEN budgetrule.t_rule='Y' THEN 'Anne' END) AS t_RULENLS FROM budgetrule;
CREATE VIEW v_budgetrule_display AS SELECT * FROM v_budgetrule;
CREATE VIEW v_budgetrule_displayname AS SELECT *, t_WHENNLS||' ||t_WHATNLS||' ||t_RULENLS||'
||t_CATEGORY AS t_displayname FROM v_budgetrule;
CREATE VIEW v_budget_tmp AS SELECT *, IFNULL((SELECT s.t_fullname FROM category s WHERE
s.id=budget.rc_category_id,") AS t_CATEGORY, (i_year||(CASE WHEN i_month=0 THEN '' WHEN i_month<10
THEN '-0'||i_month ELSE '-'||i_month END)) AS t_PERIOD, (SELECT TOTAL(o.f_REALCURRENTAMOUNT)
FROM v_operation_consolidated o WHERE STRFTIME('%Y', o.d_date)=i_year AND (i_month=0 OR
STRFTIME('%m', o.d_date)=i_month) AND o.i_IDCATEGORY IN (SELECT b2.id_category FROM
budgetcategory b2 WHERE b2.id=budget.id)) AS f_CURRENTAMOUNT, (SELECT
GROUP_CONCAT(v_budgetrule_displayname.t_displayname,') FROM v_budgetrule_displayname WHERE
(v_budgetrule_displayname.t_year_condition='N' OR budget.i_year=v_budgetrule_displayname.i_year) AND
(v_budgetrule_displayname.t_month_condition='N' OR budget.i_month=v_budgetrule_displayname.i_month) AND
(v_budgetrule_displayname.t_category_condition='N' OR
budget.rc_category_id=v_budgetrule_displayname.rc_category_id) ORDER BY
v_budgetrule_displayname.t_absolute DESC, v_budgetrule_displayname.id) AS t_RULES FROM budget;
CREATE VIEW v_budget AS SELECT *, (f_CURRENTAMOUNT-f_budgeted_modified) AS
f_DELTAFORETRANSFER, (f_CURRENTAMOUNT-f_budgeted_modified-f_transferred) AS f_DELTA
FROM v_budget_tmp;

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CREATE VIEW v_budget_display AS SELECT *, (f_CURRENTAMOUNT-f_budgeted_modified) AS
f_DELTAFORETRANSFER, (f_CURRENTAMOUNT-f_budgeted_modified-f_transferred) AS f_DELTA
FROM vm_budget_tmp;
CREATE VIEW v_budget_displayname AS SELECT *, t_CATEGORY||' '||t_PERIOD||' '||f_budgeted_modified AS
t_displayname FROM v_budget;
CREATE TRIGGER fkdc_bank_parameters_uuid BEFORE DELETE ON bank FOR EACH ROW BEGIN
DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'bank'; END;
CREATE TRIGGER fkdc_account_parameters_uuid BEFORE DELETE ON account FOR EACH ROW BEGIN
DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'account'; END;
CREATE TRIGGER fkdc_unit_parameters_uuid BEFORE DELETE ON unit FOR EACH ROW BEGIN
DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'unit'; END;
CREATE TRIGGER fkdc_unitvalue_parameters_uuid BEFORE DELETE ON unitvalue FOR EACH ROW BEGIN
DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'unitvalue'; END;
CREATE TRIGGER fkdc_category_parameters_uuid BEFORE DELETE ON category FOR EACH ROW BEGIN
DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'category'; END;
CREATE TRIGGER fkdc_operation_parameters_uuid BEFORE DELETE ON operation FOR EACH ROW
BEGIN DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'operation'; END;
CREATE TRIGGER fkdc_interest_parameters_uuid BEFORE DELETE ON interest FOR EACH ROW BEGIN
DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'interest'; END;
CREATE TRIGGER fkdc_suboperation_parameters_uuid BEFORE DELETE ON suboperation FOR EACH ROW
BEGIN DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'suboperation'; END;
CREATE TRIGGER fkdc_refund_parameters_uuid BEFORE DELETE ON refund FOR EACH ROW BEGIN
DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'refund'; END;
CREATE TRIGGER fkdc_payee_parameters_uuid BEFORE DELETE ON payee FOR EACH ROW BEGIN
DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'payee'; END;
CREATE TRIGGER fkdc_recurrentoperation_parameters_uuid BEFORE DELETE ON recurrentoperation FOR
EACH ROW BEGIN DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'
||'recurrentoperation'; END;
CREATE TRIGGER fkdc_rule_parameters_uuid BEFORE DELETE ON rule FOR EACH ROW BEGIN
DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'rule'; END;
CREATE TRIGGER fkdc_budget_parameters_uuid BEFORE DELETE ON budget FOR EACH ROW BEGIN
DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'budget'; END;
CREATE TRIGGER fkdc_budgetrule_parameters_uuid BEFORE DELETE ON budgetrule FOR EACH ROW
BEGIN DELETE FROM parameters WHERE parameters.t_uuid_parent=OLD.id||'-'||'budgetrule'; END;
CREATE TRIGGER cpt_category_fullname1 AFTER INSERT ON category BEGIN UPDATE category SET
t_fullname=CASE WHEN rd_category_id IS NULL OR rd_category_id=" " OR rd_category_id=0 THEN
new.t_name ELSE (SELECT c.t_fullname FROM category c WHERE c.id=new.rd_category_id)||' > '||new.t_name
END WHERE id=new.id;END;
CREATE TRIGGER cpt_category_fullname2 AFTER UPDATE OF t_name, rd_category_id ON category BEGIN
UPDATE category SET t_fullname=CASE WHEN rd_category_id IS NULL OR rd_category_id=" " OR
rd_category_id=0 THEN new.t_name ELSE (SELECT c.t_fullname FROM category c WHERE
c.id=new.rd_category_id)||' > '||new.t_name END WHERE id=new.id;UPDATE category SET t_name=t_name
WHERE rd_category_id=new.id;END;
CREATE TRIGGER fkdc_category_delete BEFORE DELETE ON category FOR EACH ROW BEGIN
UPDATE suboperation SET r_category_id=OLD.rd_category_id WHERE r_category_id=OLD.id; END;
explain
SELECT TOTAL(f_CURRENTAMOUNT), d_DATEMONTH
from v_operation_display

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WHERE d_DATEMONTH IN ('2012-05', '2012-04')
group by d_DATEMONTH, t_TYPEEXPENSE;
}
} {/. * Goto .*/}

The next test requires FTS4
ifcapable !fts3 {
finish_test
return
}

Taken from the gnome-shell project
#
db close
forcedelete test.db
sqlite3 db test.db
do_test fuzz-oss1-gnomeshell {
db eval {
CREATE TABLE Resource (ID INTEGER NOT NULL PRIMARY KEY, Uri TEXT NOT
NULL, UNIQUE (Uri));
CREATE VIRTUAL TABLE fts USING fts4;
CREATE TABLE "mfo:Action" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mfo:Enclosure" (ID INTEGER NOT NULL PRIMARY KEY,
"mfo:remoteLink" INTEGER, "mfo:remoteLink:graph" INTEGER,
"mfo:groupDefault" INTEGER, "mfo:groupDefault:graph" INTEGER,
"mfo:localLink" INTEGER, "mfo:localLink:graph" INTEGER, "mfo:optional"
INTEGER, "mfo:optional:graph" INTEGER);
CREATE TABLE "mfo:FeedChannel" (ID INTEGER NOT NULL PRIMARY KEY,
"mfo:updatedAt" INTEGER, "mfo:updatedAt:graph" INTEGER,
"mfo:updatedAt:localDate" INTEGER, "mfo:updatedAt:localTime"
INTEGER, "mfo:unreadCount" INTEGER, "mfo:unreadCount:graph" INTEGER,
"mfo:totalCount" INTEGER, "mfo:totalCount:graph" INTEGER, "mfo:action"
INTEGER, "mfo:action:graph" INTEGER, "mfo:type" INTEGER,
"mfo:type:graph" INTEGER);
CREATE TABLE "mfo:FeedElement" (ID INTEGER NOT NULL PRIMARY KEY,
"mfo:image" TEXT COLLATE NOCASE, "mfo:image:graph" INTEGER,
"mfo:feedSettings" INTEGER, "mfo:feedSettings:graph" INTEGER);
CREATE TABLE "mfo:FeedMessage" (ID INTEGER NOT NULL PRIMARY KEY,
"mfo:downloadedTime" INTEGER, "mfo:downloadedTime:graph" INTEGER,
"mfo:downloadedTime:localDate" INTEGER, "mfo:downloadedTime:localTime"
INTEGER);
CREATE TABLE "mfo:FeedMessage_mfo:enclosureList" (ID INTEGER NOT NULL,
"mfo:enclosureList" INTEGER NOT NULL, "mfo:enclosureList:graph"
INTEGER);
CREATE TABLE "mfo:FeedSettings" (ID INTEGER NOT NULL PRIMARY KEY,
"mfo:updateInterval" INTEGER, "mfo:updateInterval:graph" INTEGER,
"mfo:expiryInterval" INTEGER, "mfo:expiryInterval:graph" INTEGER,
"mfo:downloadPath" TEXT COLLATE NOCASE, "mfo:downloadPath:graph"

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INTEGER, "mfo:downloadFlag" INTEGER, "mfo:downloadFlag:graph" INTEGER,
"mfo:maxSize" INTEGER, "mfo:maxSize:graph" INTEGER);
CREATE TABLE "mfo:FeedType" (ID INTEGER NOT NULL PRIMARY KEY,
"mfo:name" TEXT COLLATE NOCASE, "mfo:name:graph" INTEGER);
CREATE TABLE "mlo:GeoBoundingBox" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mlo:GeoBoundingBox_mlo:bbNorthWest" (ID INTEGER NOT
NULL, "mlo:bbNorthWest" INTEGER NOT NULL, "mlo:bbNorthWest:graph"
INTEGER);
CREATE TABLE "mlo:GeoBoundingBox_mlo:bbSouthEast" (ID INTEGER NOT
NULL, "mlo:bbSouthEast" INTEGER NOT NULL, "mlo:bbSouthEast:graph"
INTEGER);
CREATE TABLE "mlo:GeoLocation" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mlo:GeoLocation_mlo:asBoundingBox" (ID INTEGER NOT NULL,
"mlo:asBoundingBox" INTEGER NOT NULL, "mlo:asBoundingBox:graph"
INTEGER);
CREATE TABLE "mlo:GeoLocation_mlo:asGeoPoint" (ID INTEGER NOT NULL,
"mlo:asGeoPoint" INTEGER NOT NULL, "mlo:asGeoPoint:graph" INTEGER);
CREATE TABLE "mlo:GeoLocation_mlo:asPostalAddress" (ID INTEGER NOT
NULL, "mlo:asPostalAddress" INTEGER NOT NULL,
"mlo:asPostalAddress:graph" INTEGER);
CREATE TABLE "mlo:GeoPoint" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mlo:GeoPoint_mlo:address" (ID INTEGER NOT NULL,
"mlo:address" TEXT NOT NULL, "mlo:address:graph" INTEGER);
CREATE TABLE "mlo:GeoPoint_mlo:altitude" (ID INTEGER NOT NULL,
"mlo:altitude" REAL NOT NULL, "mlo:altitude:graph" INTEGER);
CREATE TABLE "mlo:GeoPoint_mlo:city" (ID INTEGER NOT NULL, "mlo:city"
TEXT NOT NULL, "mlo:city:graph" INTEGER);
CREATE TABLE "mlo:GeoPoint_mlo:country" (ID INTEGER NOT NULL,
"mlo:country" TEXT NOT NULL, "mlo:country:graph" INTEGER);
CREATE TABLE "mlo:GeoPoint_mlo:latitude" (ID INTEGER NOT NULL,
"mlo:latitude" REAL NOT NULL, "mlo:latitude:graph" INTEGER);
CREATE TABLE "mlo:GeoPoint_mlo:longitude" (ID INTEGER NOT NULL,
"mlo:longitude" REAL NOT NULL, "mlo:longitude:graph" INTEGER);
CREATE TABLE "mlo:GeoPoint_mlo:state" (ID INTEGER NOT NULL,
"mlo:state" TEXT NOT NULL, "mlo:state:graph" INTEGER);
CREATE TABLE "mlo:GeoPoint_mlo:timestamp" (ID INTEGER NOT NULL,
"mlo:timestamp" INTEGER NOT NULL, "mlo:timestamp:graph" INTEGER,
"mlo:timestamp:localDate" INTEGER NOT NULL, "mlo:timestamp:localTime"
INTEGER NOT NULL);
CREATE TABLE "mlo:GeoSphere" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mlo:GeoSphere_mlo:radius" (ID INTEGER NOT NULL,
"mlo:radius" REAL NOT NULL, "mlo:radius:graph" INTEGER);
CREATE TABLE "mlo:Landmark" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mlo:LandmarkCategory" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mlo:LandmarkCategory_mlo:isRemovable" (ID INTEGER NOT
NULL, "mlo:isRemovable" INTEGER NOT NULL, "mlo:isRemovable:graph"
INTEGER);
CREATE TABLE "mlo:Landmark_mlo:belongsToCategory" (ID INTEGER NOT

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NULL, "mlo:belongsToCategory" INTEGER NOT NULL,
"mlo:belongsToCategory:graph" INTEGER);
CREATE TABLE "mlo:Landmark_mlo:poiLocation" (ID INTEGER NOT NULL,
"mlo:poiLocation" INTEGER NOT NULL, "mlo:poiLocation:graph" INTEGER);
CREATE TABLE "mlo:LocationBoundingBox" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mlo:LocationBoundingBox_mlo:boxEastLimit" (ID INTEGER
NOT NULL, "mlo:boxEastLimit" INTEGER NOT NULL,
"mlo:boxEastLimit:graph" INTEGER);
CREATE TABLE "mlo:LocationBoundingBox_mlo:boxNorthLimit" (ID INTEGER
NOT NULL, "mlo:boxNorthLimit" INTEGER NOT NULL,
"mlo:boxNorthLimit:graph" INTEGER);
CREATE TABLE "mlo:LocationBoundingBox_mlo:boxSouthWestCorner" (ID
INTEGER NOT NULL, "mlo:boxSouthWestCorner" INTEGER NOT NULL,
"mlo:boxSouthWestCorner:graph" INTEGER);
CREATE TABLE "mlo:LocationBoundingBox_mlo:boxVerticalLimit" (ID
INTEGER NOT NULL, "mlo:boxVerticalLimit" INTEGER NOT NULL,
"mlo:boxVerticalLimit:graph" INTEGER);
CREATE TABLE "mlo:PointOfInterest" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mlo:Route" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mlo:Route_mlo:endTime" (ID INTEGER NOT NULL,
"mlo:endTime" INTEGER NOT NULL, "mlo:endTime:graph" INTEGER,
"mlo:endTime:localDate" INTEGER NOT NULL, "mlo:endTime:localTime"
INTEGER NOT NULL);
CREATE TABLE "mlo:Route_mlo:routeDetails" (ID INTEGER NOT NULL,
"mlo:routeDetails" TEXT NOT NULL, "mlo:routeDetails:graph" INTEGER);
CREATE TABLE "mlo:Route_mlo:startTime" (ID INTEGER NOT NULL,
"mlo:startTime" INTEGER NOT NULL, "mlo:startTime:graph" INTEGER,
"mlo:startTime:localDate" INTEGER NOT NULL, "mlo:startTime:localTime"
INTEGER NOT NULL);
CREATE TABLE "mto:DownloadTransfer" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mto:State" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mto:SyncTransfer" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mto:Transfer" (ID INTEGER NOT NULL PRIMARY KEY,
"mto:transferState" INTEGER, "mto:transferState:graph" INTEGER,
"mto:method" INTEGER, "mto:method:graph" INTEGER, "mto:created"
INTEGER, "mto:created:graph" INTEGER, "mto:created:localDate" INTEGER,
"mto:created:localTime" INTEGER, "mto:account" TEXT COLLATE NOCASE,
"mto:account:graph" INTEGER, "mto:starter" INTEGER,
"mto:starter:graph" INTEGER, "mto:agent" INTEGER, "mto:agent:graph"
INTEGER);
CREATE TABLE "mto:TransferElement" (ID INTEGER NOT NULL PRIMARY KEY,
"mto:source" INTEGER, "mto:source:graph" INTEGER, "mto:destination"
INTEGER, "mto:destination:graph" INTEGER, "mto:startedTime" INTEGER,
"mto:startedTime:graph" INTEGER, "mto:startedTime:localDate" INTEGER,
"mto:startedTime:localTime" INTEGER, "mto:completedTime" INTEGER,
"mto:completedTime:graph" INTEGER, "mto:completedTime:localDate"
INTEGER, "mto:completedTime:localTime" INTEGER, "mto:state" INTEGER,
"mto:state:graph" INTEGER);

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CREATE TABLE "mto:TransferMethod" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mto:Transfer_mto:transferList" (ID INTEGER NOT NULL,
"mto:transferList" INTEGER NOT NULL, "mto:transferList:graph"
INTEGER);
CREATE TABLE "mto:Transfer_mto:transferPrivacyLevel" (ID INTEGER NOT
NULL, "mto:transferPrivacyLevel" TEXT NOT NULL,
"mto:transferPrivacyLevel:graph" INTEGER);
CREATE TABLE "mto:UploadTransfer" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "mto:UploadTransfer_mto:transferCategory" (ID INTEGER NOT
NULL, "mto:transferCategory" TEXT NOT NULL,
"mto:transferCategory:graph" INTEGER);
CREATE TABLE "mtp:ScanType" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nao:Property" (ID INTEGER NOT NULL PRIMARY KEY,
"nao:propertyName" TEXT COLLATE NOCASE, "nao:propertyName:graph"
INTEGER, "nao:propertyValue" TEXT COLLATE NOCASE,
"nao:propertyValue:graph" INTEGER);
CREATE TABLE "nao:Tag" (ID INTEGER NOT NULL PRIMARY KEY,
"nao:prefLabel" TEXT COLLATE NOCASE, "nao:prefLabel:graph" INTEGER,
"nao:description" TEXT COLLATE NOCASE, "nao:description:graph"
INTEGER);
CREATE TABLE "nao:Tag_tracker:isDefaultTag" (ID INTEGER NOT NULL,
"tracker:isDefaultTag" INTEGER NOT NULL, "tracker:isDefaultTag:graph"
INTEGER);
CREATE TABLE "nao:Tag_tracker:tagRelatedTo" (ID INTEGER NOT NULL,
"tracker:tagRelatedTo" INTEGER NOT NULL, "tracker:tagRelatedTo:graph"
INTEGER);
CREATE TABLE "ncal:AccessClassification" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:Alarm" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:repeat" INTEGER, "ncal:repeat:graph" INTEGER);
CREATE TABLE "ncal:AlarmAction" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:Alarm_ncal:action" (ID INTEGER NOT NULL,
"ncal:action" INTEGER NOT NULL, "ncal:action:graph" INTEGER);
CREATE TABLE "ncal:Attachment" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:attachmentUri" INTEGER, "ncal:attachmentUri:graph" INTEGER,
"ncal:fmttype" TEXT COLLATE NOCASE, "ncal:fmttype:graph" INTEGER,
"ncal:encoding" INTEGER, "ncal:encoding:graph" INTEGER,
"ncal:attachmentContent" TEXT COLLATE NOCASE,
"ncal:attachmentContent:graph" INTEGER);
CREATE TABLE "ncal:AttachmentEncoding" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:Attendee" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:delegatedTo" INTEGER, "ncal:delegatedTo:graph" INTEGER,
"ncal:delegatedFrom" INTEGER, "ncal:delegatedFrom:graph" INTEGER,
"ncal:cutype" INTEGER, "ncal:cutype:graph" INTEGER, "ncal:member"
INTEGER, "ncal:member:graph" INTEGER, "ncal:role" INTEGER,
"ncal:role:graph" INTEGER, "ncal:rsvp" INTEGER, "ncal:rsvp:graph"
INTEGER, "ncal:partstat" INTEGER, "ncal:partstat:graph" INTEGER);
CREATE TABLE "ncal:AttendeeOrOrganizer" (ID INTEGER NOT NULL PRIMARY
KEY, "ncal:dir" INTEGER, "ncal:dir:graph" INTEGER,

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"ncal:involvedContact" INTEGER, "ncal:involvedContact:graph" INTEGER,
"ncal:sentBy" INTEGER, "ncal:sentBy:graph" INTEGER);
CREATE TABLE "ncal:AttendeeRole" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:BydayRulePart" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:BydayRulePart_ncal:bydayModifier" (ID INTEGER NOT
NULL, "ncal:bydayModifier" INTEGER NOT NULL,
"ncal:bydayModifier:graph" INTEGER);
CREATE TABLE "ncal:BydayRulePart_ncal:bydayWeekday" (ID INTEGER NOT
NULL, "ncal:bydayWeekday" INTEGER NOT NULL, "ncal:bydayWeekday:graph"
INTEGER);
CREATE TABLE "ncal:Calendar" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:method" TEXT COLLATE NOCASE, "ncal:method:graph" INTEGER,
"ncal:calscale" INTEGER, "ncal:calscale:graph" INTEGER, "ncal:prodid"
TEXT COLLATE NOCASE, "ncal:prodid:graph" INTEGER, "ncal:version" TEXT
COLLATE NOCASE, "ncal:version:graph" INTEGER);
CREATE TABLE "ncal:CalendarDataObject" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:CalendarScale" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:CalendarUserType" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:Calendar_ncal:component" (ID INTEGER NOT NULL,
"ncal:component" INTEGER NOT NULL, "ncal:component:graph" INTEGER);
CREATE TABLE "ncal:Event" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:eventStatus" INTEGER, "ncal:eventStatus:graph" INTEGER,
"ncal:transp" INTEGER, "ncal:transp:graph" INTEGER);
CREATE TABLE "ncal:EventStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:Freebusy" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:FreebusyPeriod" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:fbtype" INTEGER, "ncal:fbtype:graph" INTEGER);
CREATE TABLE "ncal:FreebusyType" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:Freebusy_ncal:freebusy" (ID INTEGER NOT NULL,
"ncal:freebusy" INTEGER NOT NULL, "ncal:freebusy:graph" INTEGER);
CREATE TABLE "ncal:Journal" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:journalStatus" INTEGER, "ncal:journalStatus:graph" INTEGER);
CREATE TABLE "ncal:JournalStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:NcalDateTime" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:ncalTimezone" INTEGER, "ncal:ncalTimezone:graph" INTEGER,
"ncal:date" INTEGER, "ncal:date:graph" INTEGER, "ncal:date:localDate"
INTEGER, "ncal:date:localTime" INTEGER, "ncal:dateTime" INTEGER,
"ncal:dateTime:graph" INTEGER, "ncal:dateTime:localDate" INTEGER,
"ncal:dateTime:localTime" INTEGER);
CREATE TABLE "ncal:NcalPeriod" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:periodBegin" INTEGER, "ncal:periodBegin:graph" INTEGER,
"ncal:periodBegin:localDate" INTEGER, "ncal:periodBegin:localTime"
INTEGER, "ncal:periodDuration" INTEGER, "ncal:periodDuration:graph"
INTEGER, "ncal:periodEnd" INTEGER, "ncal:periodEnd:graph" INTEGER,
"ncal:periodEnd:localDate" INTEGER, "ncal:periodEnd:localTime"
INTEGER);
CREATE TABLE "ncal:NcalTimeEntity" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:Organizer" (ID INTEGER NOT NULL PRIMARY KEY);

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CREATE TABLE "ncal:ParticipationStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:RecurrenceFrequency" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:RecurrenceIdentifier" (ID INTEGER NOT NULL PRIMARY
KEY, "ncal:range" INTEGER, "ncal:range:graph" INTEGER,
"ncal:recurrenceIdDateTime" INTEGER, "ncal:recurrenceIdDateTime:graph"
INTEGER);
CREATE TABLE "ncal:RecurrenceIdentifierRange" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:RecurrenceRule" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:until" INTEGER, "ncal:until:graph" INTEGER,
"ncal:until:localDate" INTEGER, "ncal:until:localTime" INTEGER,
"ncal:wkst" INTEGER, "ncal:wkst:graph" INTEGER, "ncal:interval"
INTEGER, "ncal:interval:graph" INTEGER, "ncal:count" INTEGER,
"ncal:count:graph" INTEGER, "ncal:freq" INTEGER, "ncal:freq:graph"
INTEGER);
CREATE TABLE "ncal:RecurrenceRule_ncal:byday" (ID INTEGER NOT NULL,
"ncal:byday" INTEGER NOT NULL, "ncal:byday:graph" INTEGER);
CREATE TABLE "ncal:RecurrenceRule_ncal:byhour" (ID INTEGER NOT NULL,
"ncal:byhour" INTEGER NOT NULL, "ncal:byhour:graph" INTEGER);
CREATE TABLE "ncal:RecurrenceRule_ncal:byminute" (ID INTEGER NOT NULL,
"ncal:byminute" INTEGER NOT NULL, "ncal:byminute:graph" INTEGER);
CREATE TABLE "ncal:RecurrenceRule_ncal:bymonth" (ID INTEGER NOT NULL,
"ncal:bymonth" INTEGER NOT NULL, "ncal:bymonth:graph" INTEGER);
CREATE TABLE "ncal:RecurrenceRule_ncal:bymonthday" (ID INTEGER NOT
NULL, "ncal:bymonthday" INTEGER NOT NULL, "ncal:bymonthday:graph"
INTEGER);
CREATE TABLE "ncal:RecurrenceRule_ncal:bysecond" (ID INTEGER NOT NULL,
"ncal:bysecond" INTEGER NOT NULL, "ncal:bysecond:graph" INTEGER);
CREATE TABLE "ncal:RecurrenceRule_ncal:bysetpos" (ID INTEGER NOT NULL,
"ncal:bysetpos" INTEGER NOT NULL, "ncal:bysetpos:graph" INTEGER);
CREATE TABLE "ncal:RecurrenceRule_ncal:byweekno" (ID INTEGER NOT NULL,
"ncal:byweekno" INTEGER NOT NULL, "ncal:byweekno:graph" INTEGER);
CREATE TABLE "ncal:RecurrenceRule_ncal:byyearday" (ID INTEGER NOT
NULL, "ncal:byyearday" INTEGER NOT NULL, "ncal:byyearday:graph"
INTEGER);
CREATE TABLE "ncal:RequestStatus" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:statusDescription" TEXT COLLATE NOCASE,
"ncal:statusDescription:graph" INTEGER, "ncal:returnStatus" TEXT
COLLATE NOCASE, "ncal:returnStatus:graph" INTEGER,
"ncal:requestStatusData" TEXT COLLATE NOCASE,
"ncal:requestStatusData:graph" INTEGER);
CREATE TABLE "ncal:TimeTransparency" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:Timezone" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:tzurl" INTEGER, "ncal:tzurl:graph" INTEGER, "ncal:standard"
INTEGER, "ncal:standard:graph" INTEGER, "ncal:daylight" INTEGER,
"ncal:daylight:graph" INTEGER, "ncal:tzid" TEXT COLLATE NOCASE,
"ncal:tzid:graph" INTEGER);
CREATE TABLE "ncal:TimezoneObservance" (ID INTEGER NOT NULL PRIMARY
KEY, "ncal:tzoffsetfrom" TEXT COLLATE NOCASE,

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"ncal:tzoffsetfrom:graph" INTEGER, "ncal:tzoffsetto" TEXT COLLATE
NOCASE, "ncal:tzoffsetto:graph" INTEGER, "ncal:tzname" TEXT COLLATE
NOCASE, "ncal:tzname:graph" INTEGER);
CREATE TABLE "ncal:Todo" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:percentComplete" INTEGER, "ncal:percentComplete:graph" INTEGER,
"ncal:completed" INTEGER, "ncal:completed:graph" INTEGER,
"ncal:completed:localDate" INTEGER, "ncal:completed:localTime"
INTEGER, "ncal:todoStatus" INTEGER, "ncal:todoStatus:graph" INTEGER,
"ncal:due" INTEGER, "ncal:due:graph" INTEGER);
CREATE TABLE "ncal:TodoStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:Trigger" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:related" INTEGER, "ncal:related:graph" INTEGER,
"ncal:triggerDateTime" INTEGER, "ncal:triggerDateTime:graph" INTEGER,
"ncal:triggerDateTime:localDate" INTEGER,
"ncal:triggerDateTime:localTime" INTEGER, "ncal:triggerDuration"
INTEGER, "ncal:triggerDuration:graph" INTEGER);
CREATE TABLE "ncal:TriggerRelation" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "ncal:UnionParentClass" (ID INTEGER NOT NULL PRIMARY KEY,
"ncal:lastModified" INTEGER, "ncal:lastModified:graph" INTEGER,
"ncal:lastModified:localDate" INTEGER, "ncal:lastModified:localTime"
INTEGER, "ncal:trigger" INTEGER, "ncal:trigger:graph" INTEGER,
"ncal:created" INTEGER, "ncal:created:graph" INTEGER,
"ncal:created:localDate" INTEGER, "ncal:created:localTime" INTEGER,
"ncal:url" INTEGER, "ncal:url:graph" INTEGER, "ncal:comment" TEXT
COLLATE NOCASE, "ncal:comment:graph" INTEGER, "ncal:summaryAltRep"
INTEGER, "ncal:summaryAltRep:graph" INTEGER, "ncal:priority" INTEGER,
"ncal:priority:graph" INTEGER, "ncal:location" TEXT COLLATE NOCASE,
"ncal:location:graph" INTEGER, "ncal:uid" TEXT COLLATE NOCASE,
"ncal:uid:graph" INTEGER, "ncal:requestStatus" INTEGER,
"ncal:requestStatus:graph" INTEGER, "ncal:recurrenceId" INTEGER,
"ncal:recurrenceId:graph" INTEGER, "ncal:dtstamp" INTEGER,
"ncal:dtstamp:graph" INTEGER, "ncal:dtstamp:localDate" INTEGER,
"ncal:dtstamp:localTime" INTEGER, "ncal:class" INTEGER,
"ncal:class:graph" INTEGER, "ncal:organizer" INTEGER,
"ncal:organizer:graph" INTEGER, "ncal:dtend" INTEGER,
"ncal:dtend:graph" INTEGER, "ncal:summary" TEXT COLLATE NOCASE,
"ncal:summary:graph" INTEGER, "ncal:descriptionAltRep" INTEGER,
"ncal:descriptionAltRep:graph" INTEGER, "ncal:commentAltRep" INTEGER,
"ncal:commentAltRep:graph" INTEGER, "ncal:sequence" INTEGER,
"ncal:sequence:graph" INTEGER, "ncal:contact" TEXT COLLATE NOCASE,
"ncal:contact:graph" INTEGER, "ncal:contactAltRep" INTEGER,
"ncal:contactAltRep:graph" INTEGER, "ncal:locationAltRep" INTEGER,
"ncal:locationAltRep:graph" INTEGER, "ncal:geo" INTEGER,
"ncal:geo:graph" INTEGER, "ncal:resourcesAltRep" INTEGER,
"ncal:resourcesAltRep:graph" INTEGER, "ncal:dtstart" INTEGER,
"ncal:dtstart:graph" INTEGER, "ncal:description" TEXT COLLATE NOCASE,
"ncal:description:graph" INTEGER, "ncal:relatedToSibling" TEXT COLLATE
NOCASE, "ncal:relatedToSibling:graph" INTEGER, "ncal:duration"

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INTEGER, "ncal:duration:graph" INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:attach" (ID INTEGER NOT NULL,
"ncal:attach" INTEGER NOT NULL, "ncal:attach:graph" INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:attendee" (ID INTEGER NOT
NULL, "ncal:attendee" INTEGER NOT NULL, "ncal:attendee:graph"
INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:categories" (ID INTEGER NOT
NULL, "ncal:categories" TEXT NOT NULL, "ncal:categories:graph"
INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:exdate" (ID INTEGER NOT NULL,
"ncal:exdate" INTEGER NOT NULL, "ncal:exdate:graph" INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:extrule" (ID INTEGER NOT NULL,
"ncal:extrule" INTEGER NOT NULL, "ncal:extrule:graph" INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:hasAlarm" (ID INTEGER NOT
NULL, "ncal:hasAlarm" INTEGER NOT NULL, "ncal:hasAlarm:graph"
INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:ncalRelation" (ID INTEGER NOT
NULL, "ncal:ncalRelation" TEXT NOT NULL, "ncal:ncalRelation:graph"
INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:rdate" (ID INTEGER NOT NULL,
"ncal:rdate" INTEGER NOT NULL, "ncal:rdate:graph" INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:relatedToChild" (ID INTEGER
NOT NULL, "ncal:relatedToChild" TEXT NOT NULL,
"ncal:relatedToChild:graph" INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:relatedToParent" (ID INTEGER
NOT NULL, "ncal:relatedToParent" TEXT NOT NULL,
"ncal:relatedToParent:graph" INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:resources" (ID INTEGER NOT
NULL, "ncal:resources" TEXT NOT NULL, "ncal:resources:graph" INTEGER);
CREATE TABLE "ncal:UnionParentClass_ncal:rrule" (ID INTEGER NOT NULL,
"ncal:rrule" INTEGER NOT NULL, "ncal:rrule:graph" INTEGER);
CREATE TABLE "ncal:Weekday" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:Affiliation" (ID INTEGER NOT NULL PRIMARY KEY,
"nco:department" TEXT COLLATE NOCASE, "nco:department:graph" INTEGER,
"nco:org" INTEGER, "nco:org:graph" INTEGER, "nco:role" TEXT COLLATE
NOCASE, "nco:role:graph" INTEGER);
CREATE TABLE "nco:Affiliation_nco:title" (ID INTEGER NOT NULL,
"nco:title" TEXT NOT NULL, "nco:title:graph" INTEGER);
CREATE TABLE "nco:AuthorizationStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:BbsNumber" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:CarPhoneNumber" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:CellPhoneNumber" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:Contact" (ID INTEGER NOT NULL PRIMARY KEY,
"nco:fullname" TEXT COLLATE NOCASE, "nco:fullname:graph" INTEGER,
"nco:key" INTEGER, "nco:key:graph" INTEGER, "nco:contactUID" TEXT
COLLATE NOCASE, "nco:contactUID:graph" INTEGER, "nco:contactLocalUID"
TEXT COLLATE NOCASE, "nco:contactLocalUID:graph" INTEGER,
"nco:hasLocation" INTEGER, "nco:hasLocation:graph" INTEGER,

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"nco:nickname" TEXT COLLATE NOCASE, "nco:nickname:graph" INTEGER,
"nco:representative" INTEGER, "nco:representative:graph" INTEGER,
"nco:photo" INTEGER, "nco:photo:graph" INTEGER, "nco:birthDate"
INTEGER, "nco:birthDate:graph" INTEGER, "nco:birthDate:localDate"
INTEGER, "nco:birthDate:localTime" INTEGER, "nco:sound" INTEGER,
"nco:sound:graph" INTEGER);
CREATE TABLE "nco:ContactGroup" (ID INTEGER NOT NULL PRIMARY KEY,
"nco:contactGroupName" TEXT COLLATE NOCASE,
"nco:contactGroupName:graph" INTEGER);
CREATE TABLE "nco:ContactList" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:ContactListDataObject" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:ContactList_nco:containsContact" (ID INTEGER NOT
NULL, "nco:containsContact" INTEGER NOT NULL,
"nco:containsContact:graph" INTEGER);
CREATE TABLE "nco:ContactMedium" (ID INTEGER NOT NULL PRIMARY KEY,
"nco:contactMediumComment" TEXT COLLATE NOCASE,
"nco:contactMediumComment:graph" INTEGER);
CREATE TABLE "nco:Contact_ncal:anniversary" (ID INTEGER NOT NULL,
"ncal:anniversary" INTEGER NOT NULL, "ncal:anniversary:graph"
INTEGER);
CREATE TABLE "nco:Contact_ncal:birthday" (ID INTEGER NOT NULL,
"ncal:birthday" INTEGER NOT NULL, "ncal:birthday:graph" INTEGER);
CREATE TABLE "nco:Contact_nco:belongsToGroup" (ID INTEGER NOT NULL,
"nco:belongsToGroup" INTEGER NOT NULL, "nco:belongsToGroup:graph"
INTEGER);
CREATE TABLE "nco:Contact_nco:note" (ID INTEGER NOT NULL, "nco:note"
TEXT NOT NULL, "nco:note:graph" INTEGER);
CREATE TABLE "nco:Contact_scal:anniversary" (ID INTEGER NOT NULL,
"scal:anniversary" INTEGER NOT NULL, "scal:anniversary:graph"
INTEGER);
CREATE TABLE "nco:Contact_scal:birthday" (ID INTEGER NOT NULL,
"scal:birthday" INTEGER NOT NULL, "scal:birthday:graph" INTEGER);
CREATE TABLE "nco:DomesticDeliveryAddress" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:EmailAddress" (ID INTEGER NOT NULL PRIMARY KEY,
"nco:emailAddress" TEXT COLLATE NOCASE UNIQUE,
"nco:emailAddress:graph" INTEGER);
CREATE TABLE "nco:FaxNumber" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:Gender" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:IMAccount" (ID INTEGER NOT NULL PRIMARY KEY,
"nco:imAccountAddress" INTEGER UNIQUE, "nco:imAccountAddress:graph"
INTEGER, "nco:imAccountType" TEXT COLLATE NOCASE,
"nco:imAccountType:graph" INTEGER, "nco:imDisplayName" TEXT COLLATE
NOCASE, "nco:imDisplayName:graph" INTEGER, "nco:imEnabled" INTEGER,
"nco:imEnabled:graph" INTEGER);
CREATE TABLE "nco:IMAccount_nco:hasIMContact" (ID INTEGER NOT NULL,
"nco:hasIMContact" INTEGER NOT NULL, "nco:hasIMContact:graph"
INTEGER);
CREATE TABLE "nco:IMAddress" (ID INTEGER NOT NULL PRIMARY KEY,

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"nco:imID" TEXT COLLATE NOCASE, "nco:imID:graph" INTEGER,
"nco:imNickname" TEXT COLLATE NOCASE, "nco:imNickname:graph" INTEGER,
"nco:imAvatar" INTEGER, "nco:imAvatar:graph" INTEGER, "nco:imProtocol"
TEXT COLLATE NOCASE, "nco:imProtocol:graph" INTEGER,
"nco:imStatusMessage" TEXT COLLATE NOCASE,
"nco:imStatusMessage:graph" INTEGER, "nco:imPresence" INTEGER,
"nco:imPresence:graph" INTEGER, "nco:presenceLastModified" INTEGER,
"nco:presenceLastModified:graph" INTEGER,
"nco:presenceLastModified:localDate" INTEGER,
"nco:presenceLastModified:localTime" INTEGER,
"nco:imAddressAuthStatusFrom" INTEGER,
"nco:imAddressAuthStatusFrom:graph" INTEGER,
"nco:imAddressAuthStatusTo" INTEGER, "nco:imAddressAuthStatusTo:graph"
INTEGER);
CREATE TABLE "nco:IMAddress_nco:imCapability" (ID INTEGER NOT NULL,
"nco:imCapability" INTEGER NOT NULL, "nco:imCapability:graph"
INTEGER);
CREATE TABLE "nco:IMCapability" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:InternationalDeliveryAddress" (ID INTEGER NOT NULL
PRIMARY KEY);
CREATE TABLE "nco:IsdnNumber" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:MessagingNumber" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:ModemNumber" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:OrganizationContact" (ID INTEGER NOT NULL PRIMARY
KEY, "nco:logo" INTEGER, "nco:logo:graph" INTEGER);
CREATE TABLE "nco:PagerNumber" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:ParcelDeliveryAddress" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:PcsNumber" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:PersonContact" (ID INTEGER NOT NULL PRIMARY KEY,
"nco:nameFamily" TEXT COLLATE NOCASE, "nco:nameFamily:graph" INTEGER,
"nco:nameGiven" TEXT COLLATE NOCASE, "nco:nameGiven:graph" INTEGER,
"nco:nameAdditional" TEXT COLLATE NOCASE, "nco:nameAdditional:graph"
INTEGER, "nco:nameHonorificSuffix" TEXT COLLATE NOCASE,
"nco:nameHonorificSuffix:graph" INTEGER, "nco:nameHonorificPrefix"
TEXT COLLATE NOCASE, "nco:nameHonorificPrefix:graph" INTEGER,
"nco:hobby" TEXT COLLATE NOCASE, "nco:hobby:graph" INTEGER,
"nco:gender" INTEGER, "nco:gender:graph" INTEGER);
CREATE TABLE "nco:PersonContact_nco:hasAffiliation" (ID INTEGER NOT
NULL, "nco:hasAffiliation" INTEGER NOT NULL,
"nco:hasAffiliation:graph" INTEGER);
CREATE TABLE "nco:PhoneNumber" (ID INTEGER NOT NULL PRIMARY KEY,
"nco:phoneNumber" TEXT COLLATE NOCASE, "nco:phoneNumber:graph"
INTEGER);
CREATE TABLE "nco:PostalAddress" (ID INTEGER NOT NULL PRIMARY KEY,
"nco:region" TEXT COLLATE NOCASE, "nco:region:graph" INTEGER,
"nco:country" TEXT COLLATE NOCASE, "nco:country:graph" INTEGER,
"nco:extendedAddress" TEXT COLLATE NOCASE,
"nco:extendedAddress:graph" INTEGER, "nco:addressLocation" INTEGER,

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"nco:addressLocation:graph" INTEGER, "nco:streetAddress" TEXT COLLATE
NOCASE, "nco:streetAddress:graph" INTEGER, "nco:postalcode" TEXT
COLLATE NOCASE, "nco:postalcode:graph" INTEGER, "nco:locality" TEXT
COLLATE NOCASE, "nco:locality:graph" INTEGER, "nco:county" TEXT
COLLATE NOCASE, "nco:county:graph" INTEGER, "nco:district" TEXT
COLLATE NOCASE, "nco:district:graph" INTEGER, "nco:pobox" TEXT
COLLATE NOCASE, "nco:pobox:graph" INTEGER);
CREATE TABLE "nco:PresenceStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:Role" (ID INTEGER NOT NULL PRIMARY KEY, "nco:video"
INTEGER, "nco:video:graph" INTEGER);
CREATE TABLE "nco:Role_nco:blogUrl" (ID INTEGER NOT NULL,
"nco:blogUrl" INTEGER NOT NULL, "nco:blogUrl:graph" INTEGER);
CREATE TABLE "nco:Role_nco:foafUrl" (ID INTEGER NOT NULL,
"nco:foafUrl" INTEGER NOT NULL, "nco:foafUrl:graph" INTEGER);
CREATE TABLE "nco:Role_nco:hasContactMedium" (ID INTEGER NOT NULL,
"nco:hasContactMedium" INTEGER NOT NULL, "nco:hasContactMedium:graph"
INTEGER);
CREATE TABLE "nco:Role_nco:hasEmailAddress" (ID INTEGER NOT NULL,
"nco:hasEmailAddress" INTEGER NOT NULL, "nco:hasEmailAddress:graph"
INTEGER);
CREATE TABLE "nco:Role_nco:hasIMAddress" (ID INTEGER NOT NULL,
"nco:hasIMAddress" INTEGER NOT NULL, "nco:hasIMAddress:graph"
INTEGER);
CREATE TABLE "nco:Role_nco:hasPhoneNumber" (ID INTEGER NOT NULL,
"nco:hasPhoneNumber" INTEGER NOT NULL, "nco:hasPhoneNumber:graph"
INTEGER);
CREATE TABLE "nco:Role_nco:hasPostalAddress" (ID INTEGER NOT NULL,
"nco:hasPostalAddress" INTEGER NOT NULL, "nco:hasPostalAddress:graph"
INTEGER);
CREATE TABLE "nco:Role_nco:url" (ID INTEGER NOT NULL, "nco:url"
INTEGER NOT NULL, "nco:url:graph" INTEGER);
CREATE TABLE "nco:Role_nco:websiteUrl" (ID INTEGER NOT NULL,
"nco:websiteUrl" INTEGER NOT NULL, "nco:websiteUrl:graph" INTEGER);
CREATE TABLE "nco:VideoTelephoneNumber" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nco:VoicePhoneNumber" (ID INTEGER NOT NULL PRIMARY KEY,
"nco:voiceMail" INTEGER, "nco:voiceMail:graph" INTEGER);
CREATE TABLE "nfo:Application" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Archive" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:uncompressedSize" INTEGER, "nfo:uncompressedSize:graph" INTEGER);
CREATE TABLE "nfo:ArchiveItem" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:isPasswordProtected" INTEGER, "nfo:isPasswordProtected:graph"
INTEGER);
CREATE TABLE "nfo:Attachment" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Audio" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:channels" INTEGER, "nfo:channels:graph" INTEGER,
"nfo:sideChannels" INTEGER, "nfo:sideChannels:graph" INTEGER,
"nfo:lfeChannels" INTEGER, "nfo:lfeChannels:graph" INTEGER,
"nfo:sampleCount" INTEGER, "nfo:sampleCount:graph" INTEGER,

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"nfo:bitsPerSample" INTEGER, "nfo:bitsPerSample:graph" INTEGER,
"nfo:frontChannels" INTEGER, "nfo:frontChannels:graph" INTEGER,
"nfo:sampleRate" REAL, "nfo:sampleRate:graph" INTEGER,
"nfo:averageAudioBitrate" REAL, "nfo:averageAudioBitrate:graph"
INTEGER, "nfo:rearChannels" INTEGER, "nfo:rearChannels:graph" INTEGER,
"nfo:gain" INTEGER, "nfo:gain:graph" INTEGER, "nfo:peakGain" INTEGER,
"nfo:peakGain:graph" INTEGER, "nfo:audioOffset" REAL,
"nfo:audioOffset:graph" INTEGER);
CREATE TABLE "nfo:Bookmark" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:bookmarks" INTEGER, "nfo:bookmarks:graph" INTEGER,
"nfo:characterPosition" INTEGER, "nfo:characterPosition:graph"
INTEGER, "nfo:pageNumber" INTEGER, "nfo:pageNumber:graph" INTEGER,
"nfo:streamPosition" INTEGER, "nfo:streamPosition:graph" INTEGER,
"nfo:streamDuration" INTEGER, "nfo:streamDuration:graph" INTEGER);
CREATE TABLE "nfo:BookmarkFolder" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:BookmarkFolder_nfo:containsBookmark" (ID INTEGER NOT
NULL, "nfo:containsBookmark" INTEGER NOT NULL,
"nfo:containsBookmark:graph" INTEGER);
CREATE TABLE "nfo:BookmarkFolder_nfo:containsBookmarkFolder" (ID
INTEGER NOT NULL, "nfo:containsBookmarkFolder" INTEGER NOT NULL,
"nfo:containsBookmarkFolder:graph" INTEGER);
CREATE TABLE "nfo:CompressionType" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Cursor" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:DataContainer" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:DeletedResource" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:originalLocation" TEXT COLLATE NOCASE,
"nfo:originalLocation:graph" INTEGER, "nfo:deletionDate" INTEGER,
"nfo:deletionDate:graph" INTEGER, "nfo:deletionDate:localDate"
INTEGER, "nfo:deletionDate:localTime" INTEGER);
CREATE TABLE "nfo:Document" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:tableOfContents" TEXT COLLATE NOCASE,
"nfo:tableOfContents:graph" INTEGER);
CREATE TABLE "nfo:EmbeddedFileDataObject" (ID INTEGER NOT NULL PRIMARY
KEY, "nfo:encoding" TEXT COLLATE NOCASE, "nfo:encoding:graph"
INTEGER);
CREATE TABLE "nfo:Equipment" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:manufacturer" TEXT COLLATE NOCASE, "nfo:manufacturer:graph"
INTEGER, "nfo:model" TEXT COLLATE NOCASE, "nfo:model:graph" INTEGER,
"nfo:equipmentSoftware" TEXT COLLATE NOCASE,
"nfo:equipmentSoftware:graph" INTEGER);
CREATE TABLE "nfo:Executable" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:FileDataObject" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:fileLastAccessed" INTEGER, "nfo:fileLastAccessed:graph" INTEGER,
"nfo:fileLastAccessed:localDate" INTEGER,
"nfo:fileLastAccessed:localTime" INTEGER, "nfo:fileCreated" INTEGER,
"nfo:fileCreated:graph" INTEGER, "nfo:fileCreated:localDate" INTEGER,
"nfo:fileCreated:localTime" INTEGER, "nfo:fileSize" INTEGER,
"nfo:fileSize:graph" INTEGER, "nfo:permissions" TEXT COLLATE NOCASE,

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"nfo:permissions:graph" INTEGER, "nfo:fileName" TEXT COLLATE NOCASE,
"nfo:fileName:graph" INTEGER, "nfo:hasHash" INTEGER,
"nfo:hasHash:graph" INTEGER, "nfo:fileOwner" INTEGER,
"nfo:fileOwner:graph" INTEGER, "nfo:fileLastModified" INTEGER,
"nfo:fileLastModified:graph" INTEGER, "nfo:fileLastModified:localDate"
INTEGER, "nfo:fileLastModified:localTime" INTEGER);
CREATE TABLE "nfo:FileHash" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:hashValue" TEXT COLLATE NOCASE, "nfo:hashValue:graph" INTEGER,
"nfo:hashAlgorithm" TEXT COLLATE NOCASE, "nfo:hashAlgorithm:graph"
INTEGER);
CREATE TABLE "nfo:Filesystem" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:FilesystemImage" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Folder" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Font" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:fontFamily" TEXT COLLATE NOCASE, "nfo:fontFamily:graph" INTEGER,
"nfo:foundry" INTEGER, "nfo:foundry:graph" INTEGER);
CREATE TABLE "nfo:HardDiskPartition" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:HelpDocument" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:HtmlDocument" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Icon" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Image" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:verticalResolution" INTEGER, "nfo:verticalResolution:graph"
INTEGER, "nfo:horizontalResolution" INTEGER,
"nfo:horizontalResolution:graph" INTEGER, "nfo:orientation" INTEGER,
"nfo:orientation:graph" INTEGER);
CREATE TABLE "nfo:Image_nfo:depicts" (ID INTEGER NOT NULL,
"nfo:depicts" INTEGER NOT NULL, "nfo:depicts:graph" INTEGER);
CREATE TABLE "nfo:Image_nfo:hasRegionOfInterest" (ID INTEGER NOT NULL,
"nfo:hasRegionOfInterest" INTEGER NOT NULL,
"nfo:hasRegionOfInterest:graph" INTEGER);
CREATE TABLE "nfo:Media" (ID INTEGER NOT NULL PRIMARY KEY, "nfo:count"
INTEGER, "nfo:count:graph" INTEGER, "nfo:duration" INTEGER,
"nfo:duration:graph" INTEGER, "nfo:compressionType" INTEGER,
"nfo:compressionType:graph" INTEGER, "nfo:hasMediaStream" INTEGER,
"nfo:hasMediaStream:graph" INTEGER, "nfo:bitDepth" INTEGER,
"nfo:bitDepth:graph" INTEGER, "nfo:codec" TEXT COLLATE NOCASE,
"nfo:codec:graph" INTEGER, "nfo:encodedBy" TEXT COLLATE NOCASE,
"nfo:encodedBy:graph" INTEGER, "nfo:bitrateType" TEXT COLLATE NOCASE,
"nfo:bitrateType:graph" INTEGER, "nfo:averageBitrate" REAL,
"nfo:averageBitrate:graph" INTEGER, "nfo:genre" TEXT COLLATE NOCASE,
"nfo:genre:graph" INTEGER, "nfo:equipment" INTEGER,
"nfo:equipment:graph" INTEGER, "nfo:lastPlayedPosition" INTEGER,
"nfo:lastPlayedPosition:graph" INTEGER, "nmm:genre" TEXT COLLATE
NOCASE, "nmm:genre:graph" INTEGER, "nmm:skipCounter" INTEGER,
"nmm:skipCounter:graph" INTEGER, "nmm:dlnaProfile" TEXT COLLATE
NOCASE, "nmm:dlnaProfile:graph" INTEGER, "nmm:dlnaMime" TEXT COLLATE
NOCASE, "nmm:dlnaMime:graph" INTEGER, "nmm:uPnPShared" INTEGER,
"nmm:uPnPShared:graph" INTEGER, "mtp:credits" TEXT COLLATE NOCASE,

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"mtp:credits:graph" INTEGER, "mtp:creator" TEXT COLLATE NOCASE,
"mtp:creator:graph" INTEGER);
CREATE TABLE "nfo:MediaFileListEntry" (ID INTEGER NOT NULL PRIMARY
KEY, "nfo:listPosition" REAL, "nfo:listPosition:graph" INTEGER,
"nfo:entryUrl" TEXT COLLATE NOCASE, "nfo:entryUrl:graph" INTEGER);
CREATE TABLE "nfo:MediaList" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:entryCounter" INTEGER, "nfo:entryCounter:graph" INTEGER,
"nfo:listDuration" INTEGER, "nfo:listDuration:graph" INTEGER);
CREATE TABLE "nfo:MediaList_nfo:hasMediaFileListEntry" (ID INTEGER NOT
NULL, "nfo:hasMediaFileListEntry" INTEGER NOT NULL,
"nfo:hasMediaFileListEntry:graph" INTEGER);
CREATE TABLE "nfo:MediaList_nfo:mediaListEntry" (ID INTEGER NOT NULL,
"nfo:mediaListEntry" INTEGER NOT NULL, "nfo:mediaListEntry:graph"
INTEGER);
CREATE TABLE "nfo:MediaStream" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Media_mtp:hidden" (ID INTEGER NOT NULL, "mtp:hidden"
INTEGER NOT NULL, "mtp:hidden:graph" INTEGER);
CREATE TABLE "nfo:Media_nmm:alternativeMedia" (ID INTEGER NOT NULL,
"nmm:alternativeMedia" INTEGER NOT NULL, "nmm:alternativeMedia:graph"
INTEGER);
CREATE TABLE "nfo:MindMap" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Note" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:OperatingSystem" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Orientation" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:PaginatedTextDocument" (ID INTEGER NOT NULL PRIMARY
KEY, "nfo:pageCount" INTEGER, "nfo:pageCount:graph" INTEGER);
CREATE TABLE "nfo:PlainTextDocument" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Presentation" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:RasterImage" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:RegionOfInterest" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:regionOfInterestX" REAL, "nfo:regionOfInterestX:graph" INTEGER,
"nfo:regionOfInterestY" REAL, "nfo:regionOfInterestY:graph" INTEGER,
"nfo:regionOfInterestWidth" REAL, "nfo:regionOfInterestWidth:graph"
INTEGER, "nfo:regionOfInterestHeight" REAL,
"nfo:regionOfInterestHeight:graph" INTEGER, "nfo:regionOfInterestType"
INTEGER, "nfo:regionOfInterestType:graph" INTEGER, "nfo:roiRefersTo"
INTEGER, "nfo:roiRefersTo:graph" INTEGER);
CREATE TABLE "nfo:RegionOfInterestContent" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:RemoteDataObject" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:RemotePortAddress" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Software" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:conflicts" INTEGER, "nfo:conflicts:graph" INTEGER,
"nfo:supercedes" INTEGER, "nfo:supercedes:graph" INTEGER,
"nfo:softwareIcon" INTEGER, "nfo:softwareIcon:graph" INTEGER,
"nfo:softwareCmdLine" TEXT COLLATE NOCASE,
"nfo:softwareCmdLine:graph" INTEGER);
CREATE TABLE "nfo:SoftwareApplication" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:SoftwareCategory" (ID INTEGER NOT NULL PRIMARY KEY,

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"nfo:softwareCategoryIcon" INTEGER, "nfo:softwareCategoryIcon:graph"
INTEGER);
CREATE TABLE "nfo:SoftwareItem" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:SoftwareService" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:SourceCode" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:commentCharacterCount" INTEGER, "nfo:commentCharacterCount:graph"
INTEGER, "nfo:programmingLanguage" TEXT COLLATE NOCASE,
"nfo:programmingLanguage:graph" INTEGER, "nfo:definesClass" TEXT
COLLATE NOCASE, "nfo:definesClass:graph" INTEGER,
"nfo:definesFunction" TEXT COLLATE NOCASE,
"nfo:definesFunction:graph" INTEGER, "nfo:definesGlobalVariable" TEXT
COLLATE NOCASE, "nfo:definesGlobalVariable:graph" INTEGER);
CREATE TABLE "nfo:Spreadsheet" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:TextDocument" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:wordCount" INTEGER, "nfo:wordCount:graph" INTEGER,
"nfo:lineCount" INTEGER, "nfo:lineCount:graph" INTEGER,
"nfo:characterCount" INTEGER, "nfo:characterCount:graph" INTEGER);
CREATE TABLE "nfo:Trash" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:VectorImage" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nfo:Video" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:frameRate" REAL, "nfo:frameRate:graph" INTEGER, "nfo:frameCount"
INTEGER, "nfo:frameCount:graph" INTEGER, "nfo:averageVideoBitrate"
REAL, "nfo:averageVideoBitrate:graph" INTEGER);
CREATE TABLE "nfo:Visual" (ID INTEGER NOT NULL PRIMARY KEY,
"nie:contentCreated" INTEGER, "nie:contentCreated:graph" INTEGER,
"nie:contentCreated:localDate" INTEGER, "nie:contentCreated:localTime"
INTEGER, "nfo:aspectRatio" REAL, "nfo:aspectRatio:graph" INTEGER,
"nfo:heading" REAL, "nfo:heading:graph" INTEGER, "nfo:tilt" REAL,
"nfo:tilt:graph" INTEGER, "nfo:interlaceMode" INTEGER,
"nfo:interlaceMode:graph" INTEGER, "nfo:height" INTEGER,
"nfo:height:graph" INTEGER, "nfo:width" INTEGER, "nfo:width:graph"
INTEGER, "nfo:colorDepth" INTEGER, "nfo:colorDepth:graph" INTEGER);
CREATE TABLE "nfo:WebHistory" (ID INTEGER NOT NULL PRIMARY KEY,
"nfo:domain" TEXT COLLATE NOCASE, "nfo:domain:graph" INTEGER,
"nfo:uri" TEXT COLLATE NOCASE, "nfo:uri:graph" INTEGER);
CREATE TABLE "nfo:Website" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nid3:ID3Audio" (ID INTEGER NOT NULL PRIMARY KEY,
"nid3:title" TEXT COLLATE NOCASE, "nid3:title:graph" INTEGER,
"nid3:albumTitle" TEXT COLLATE NOCASE, "nid3:albumTitle:graph"
INTEGER, "nid3:contentType" TEXT COLLATE NOCASE,
"nid3:contentType:graph" INTEGER, "nid3:length" INTEGER,
"nid3:length:graph" INTEGER, "nid3:recordingYear" INTEGER,
"nid3:recordingYear:graph" INTEGER, "nid3:trackNumber" TEXT COLLATE
NOCASE, "nid3:trackNumber:graph" INTEGER, "nid3:partOfSet" TEXT
COLLATE NOCASE, "nid3:partOfSet:graph" INTEGER, "nid3:comments" TEXT
COLLATE NOCASE, "nid3:comments:graph" INTEGER);
CREATE TABLE "nid3:ID3Audio_nid3:leadArtist" (ID INTEGER NOT NULL,
"nid3:leadArtist" INTEGER NOT NULL, "nid3:leadArtist:graph" INTEGER);

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CREATE TABLE "nie:DataObject" (ID INTEGER NOT NULL PRIMARY KEY,
"nie:url" TEXT COLLATE NOCASE UNIQUE, "nie:url:graph" INTEGER,
"nie:byteSize" INTEGER, "nie:byteSize:graph" INTEGER,
"nie:interpretedAs" INTEGER, "nie:interpretedAs:graph" INTEGER,
"nie:lastRefreshed" INTEGER, "nie:lastRefreshed:graph" INTEGER,
"nie:lastRefreshed:localDate" INTEGER, "nie:lastRefreshed:localTime"
INTEGER, "nie:created" INTEGER, "nie:created:graph" INTEGER,
"nie:created:localDate" INTEGER, "nie:created:localTime" INTEGER,
"nfo:belongsToContainer" INTEGER, "nfo:belongsToContainer:graph"
INTEGER, "tracker:available" INTEGER, "tracker:available:graph"
INTEGER);
CREATE TABLE "nie:DataObject_nie:dataSource" (ID INTEGER NOT NULL,
"nie:dataSource" INTEGER NOT NULL, "nie:dataSource:graph" INTEGER);
CREATE TABLE "nie:DataObject_nie:isPartOf" (ID INTEGER NOT NULL,
"nie:isPartOf" INTEGER NOT NULL, "nie:isPartOf:graph" INTEGER);
CREATE TABLE "nie:DataSource" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nie:InformationElement" (ID INTEGER NOT NULL PRIMARY
KEY, "nie:title" TEXT COLLATE NOCASE, "nie:title:graph" INTEGER,
"nie:contentLastModified" INTEGER, "nie:contentLastModified:graph"
INTEGER, "nie:contentLastModified:localDate" INTEGER,
"nie:contentLastModified:localTime" INTEGER, "nie:subject" TEXT
COLLATE NOCASE, "nie:subject:graph" INTEGER, "nie:mimeType" TEXT
COLLATE NOCASE, "nie:mimeType:graph" INTEGER, "nie:language" TEXT
COLLATE NOCASE, "nie:language:graph" INTEGER, "nie:plainTextContent"
TEXT COLLATE NOCASE, "nie:plainTextContent:graph" INTEGER,
"nie:legal" TEXT COLLATE NOCASE, "nie:legal:graph" INTEGER,
"nie:generator" TEXT COLLATE NOCASE, "nie:generator:graph" INTEGER,
"nie:description" TEXT COLLATE NOCASE, "nie:description:graph"
INTEGER, "nie:disclaimer" TEXT COLLATE NOCASE, "nie:disclaimer:graph"
INTEGER, "nie:depends" INTEGER, "nie:depends:graph" INTEGER,
"nie:links" INTEGER, "nie:links:graph" INTEGER, "nie:copyright" TEXT
COLLATE NOCASE, "nie:copyright:graph" INTEGER, "nie:comment" TEXT
COLLATE NOCASE, "nie:comment:graph" INTEGER, "nie:isStoredAs"
INTEGER, "nie:isStoredAs:graph" INTEGER, "nie:version" TEXT COLLATE
NOCASE, "nie:version:graph" INTEGER, "nie:contentCreated" INTEGER,
"nie:contentCreated:graph" INTEGER, "nie:contentCreated:localDate"
INTEGER, "nie:contentCreated:localTime" INTEGER, "nie:contentAccessed"
INTEGER, "nie:contentAccessed:graph" INTEGER,
"nie:contentAccessed:localDate" INTEGER,
"nie:contentAccessed:localTime" INTEGER, "nie:license" TEXT COLLATE
NOCASE, "nie:license:graph" INTEGER, "nie:identifier" TEXT COLLATE
NOCASE, "nie:identifier:graph" INTEGER, "nie:licenseType" TEXT
COLLATE NOCASE, "nie:licenseType:graph" INTEGER, "nie:characterSet"
TEXT COLLATE NOCASE, "nie:characterSet:graph" INTEGER,
"nie:contentSize" INTEGER, "nie:contentSize:graph" INTEGER,
"nie:rootElementOf" INTEGER, "nie:rootElementOf:graph" INTEGER,
"nie:usageCounter" INTEGER, "nie:usageCounter:graph" INTEGER,
"nco:publisher" INTEGER, "nco:publisher:graph" INTEGER,

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"nfo:isContentEncrypted" INTEGER, "nfo:isContentEncrypted:graph"
INTEGER, "slo:location" INTEGER, "slo:location:graph" INTEGER,
"nfo:isBootable" INTEGER, "nfo:isBootable:graph" INTEGER, "osinfo:id"
TEXT COLLATE NOCASE, "osinfo:id:graph" INTEGER, "osinfo:mediaId" TEXT
COLLATE NOCASE, "osinfo:mediaId:graph" INTEGER);
CREATE TABLE "nie:InformationElement_mlo:location" (ID INTEGER NOT
NULL, "mlo:location" INTEGER NOT NULL, "mlo:location:graph" INTEGER);
CREATE TABLE "nie:InformationElement_nao:hasProperty" (ID INTEGER NOT
NULL, "nao:hasProperty" INTEGER NOT NULL, "nao:hasProperty:graph"
INTEGER);
CREATE TABLE "nie:InformationElement_nco:contributor" (ID INTEGER NOT
NULL, "nco:contributor" INTEGER NOT NULL, "nco:contributor:graph"
INTEGER);
CREATE TABLE "nie:InformationElement_nco:creator" (ID INTEGER NOT
NULL, "nco:creator" INTEGER NOT NULL, "nco:creator:graph" INTEGER);
CREATE TABLE "nie:InformationElement_nie:hasLogicalPart" (ID INTEGER
NOT NULL, "nie:hasLogicalPart" INTEGER NOT NULL,
"nie:hasLogicalPart:graph" INTEGER);
CREATE TABLE "nie:InformationElement_nie:hasPart" (ID INTEGER NOT
NULL, "nie:hasPart" INTEGER NOT NULL, "nie:hasPart:graph" INTEGER);
CREATE TABLE "nie:InformationElement_nie:informationElementDate" (ID
INTEGER NOT NULL, "nie:informationElementDate" INTEGER NOT NULL,
"nie:informationElementDate:graph" INTEGER,
"nie:informationElementDate:localDate" INTEGER NOT NULL,
"nie:informationElementDate:localTime" INTEGER NOT NULL);
CREATE TABLE "nie:InformationElement_nie:isLogicalPartOf" (ID INTEGER
NOT NULL, "nie:isLogicalPartOf" INTEGER NOT NULL,
"nie:isLogicalPartOf:graph" INTEGER);
CREATE TABLE "nie:InformationElement_nie:keyword" (ID INTEGER NOT
NULL, "nie:keyword" TEXT NOT NULL, "nie:keyword:graph" INTEGER);
CREATE TABLE "nie:InformationElement_nie:relatedTo" (ID INTEGER NOT
NULL, "nie:relatedTo" INTEGER NOT NULL, "nie:relatedTo:graph"
INTEGER);
CREATE TABLE "nmm:AnalogRadio" (ID INTEGER NOT NULL PRIMARY KEY,
"nmm:modulation" INTEGER, "nmm:modulation:graph" INTEGER,
"nmm:frequency" INTEGER, "nmm:frequency:graph" INTEGER);
CREATE TABLE "nmm:Artist" (ID INTEGER NOT NULL PRIMARY KEY,
"nmm:artistName" TEXT COLLATE NOCASE, "nmm:artistName:graph"
INTEGER);
CREATE TABLE "nmm:DigitalRadio" (ID INTEGER NOT NULL PRIMARY KEY,
"nmm:streamingBitrate" INTEGER, "nmm:streamingBitrate:graph" INTEGER,
"nmm:encoding" TEXT COLLATE NOCASE, "nmm:encoding:graph" INTEGER,
"nmm:protocol" TEXT COLLATE NOCASE, "nmm:protocol:graph" INTEGER);
CREATE TABLE "nmm:Flash" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmm:ImageList" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmm:MeteringMode" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmm:MusicAlbum" (ID INTEGER NOT NULL PRIMARY KEY,
"nie:title" TEXT COLLATE NOCASE, "nie:title:graph" INTEGER,

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"nmm:albumTrackCount" INTEGER, "nmm:albumTrackCount:graph" INTEGER,
"nmm:albumTitle" TEXT COLLATE NOCASE, "nmm:albumTitle:graph" INTEGER,
"nmm:albumDuration" INTEGER, "nmm:albumDuration:graph" INTEGER,
"nmm:albumGain" INTEGER, "nmm:albumGain:graph" INTEGER,
"nmm:albumPeakGain" INTEGER, "nmm:albumPeakGain:graph" INTEGER);
CREATE TABLE "nmm:MusicAlbumDisc" (ID INTEGER NOT NULL PRIMARY KEY,
"nmm:albumDiscAlbum" INTEGER, "nmm:albumDiscAlbum:graph" INTEGER,
"nmm:musicCDIdentifier" TEXT COLLATE NOCASE,
"nmm:musicCDIdentifier:graph" INTEGER, "nmm:setNumber" INTEGER,
"nmm:setNumber:graph" INTEGER);
CREATE TABLE "nmm:MusicAlbum_nmm:albumArtist" (ID INTEGER NOT NULL,
"nmm:albumArtist" INTEGER NOT NULL, "nmm:albumArtist:graph" INTEGER);
CREATE TABLE "nmm:MusicPiece" (ID INTEGER NOT NULL PRIMARY KEY,
"nie:title" TEXT COLLATE NOCASE, "nie:title:graph" INTEGER,
"nmm:musicAlbum" INTEGER, "nmm:musicAlbum:graph" INTEGER,
"nmm:musicAlbumDisc" INTEGER, "nmm:musicAlbumDisc:graph" INTEGER,
"nmm:beatsPerMinute" INTEGER, "nmm:beatsPerMinute:graph" INTEGER,
"nmm:performer" INTEGER, "nmm:performer:graph" INTEGER, "nmm:composer"
INTEGER, "nmm:composer:graph" INTEGER, "nmm:lyricist" INTEGER,
"nmm:lyricist:graph" INTEGER, "nmm:trackNumber" INTEGER,
"nmm:trackNumber:graph" INTEGER,
"nmm:internationalStandardRecordingCode" TEXT COLLATE NOCASE,
"nmm:internationalStandardRecordingCode:graph" INTEGER);
CREATE TABLE "nmm:MusicPiece_nmm:lyrics" (ID INTEGER NOT NULL,
"nmm:lyrics" INTEGER NOT NULL, "nmm:lyrics:graph" INTEGER);
CREATE TABLE "nmm:Photo" (ID INTEGER NOT NULL PRIMARY KEY,
"nmm:exposureTime" REAL, "nmm:exposureTime:graph" INTEGER, "nmm:flash"
INTEGER, "nmm:flash:graph" INTEGER, "nmm:fnumber" REAL,
"nmm:fnumber:graph" INTEGER, "nmm:focalLength" REAL,
"nmm:focalLength:graph" INTEGER, "nmm:isoSpeed" REAL,
"nmm:isoSpeed:graph" INTEGER, "nmm:meteringMode" INTEGER,
"nmm:meteringMode:graph" INTEGER, "nmm:whiteBalance" INTEGER,
"nmm:whiteBalance:graph" INTEGER, "nmm:isCropped" INTEGER,
"nmm:isCropped:graph" INTEGER, "nmm:isColorCorrected" INTEGER,
"nmm:isColorCorrected:graph" INTEGER);
CREATE TABLE "nmm:Playlist" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmm:RadioModulation" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmm:RadioStation" (ID INTEGER NOT NULL PRIMARY KEY,
"nmm:radioIcon" INTEGER, "nmm:radioIcon:graph" INTEGER, "nmm:radioPTY"
INTEGER, "nmm:radioPTY:graph" INTEGER);
CREATE TABLE "nmm:RadioStation_nmm:carrier" (ID INTEGER NOT NULL,
"nmm:carrier" INTEGER NOT NULL, "nmm:carrier:graph" INTEGER);
CREATE TABLE "nmm:SynchronizedText" (ID INTEGER NOT NULL PRIMARY KEY,
"nmm:isForHearingImpaired" INTEGER, "nmm:isForHearingImpaired:graph"
INTEGER);
CREATE TABLE "nmm:Video" (ID INTEGER NOT NULL PRIMARY KEY,
"nmm:videoAlbum" INTEGER, "nmm:videoAlbum:graph" INTEGER,
"nmm:isSeries" INTEGER, "nmm:isSeries:graph" INTEGER, "nmm:season"

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INTEGER, "nmm:season:graph" INTEGER, "nmm:episodeNumber" INTEGER,
"nmm:episodeNumber:graph" INTEGER, "nmm:runTime" INTEGER,
"nmm:runTime:graph" INTEGER, "nmm:synopsis" TEXT COLLATE NOCASE,
"nmm:synopsis:graph" INTEGER, "nmm:MPAARating" TEXT COLLATE NOCASE,
"nmm:MPAARating:graph" INTEGER, "nmm:category" TEXT COLLATE NOCASE,
"nmm:category:graph" INTEGER, "nmm:producedBy" INTEGER,
"nmm:producedBy:graph" INTEGER, "nmm:hasSubtitle" INTEGER,
"nmm:hasSubtitle:graph" INTEGER, "nmm:isContentEncrypted" INTEGER,
"nmm:isContentEncrypted:graph" INTEGER, "mtp:fourCC" TEXT COLLATE
NOCASE, "mtp:fourCC:graph" INTEGER, "mtp:waveformat" TEXT COLLATE
NOCASE, "mtp:waveformat:graph" INTEGER);
CREATE TABLE "nmm:Video_mtp:scantype" (ID INTEGER NOT NULL,
"mtp:scantype" INTEGER NOT NULL, "mtp:scantype:graph" INTEGER);
CREATE TABLE "nmm:Video_nmm:director" (ID INTEGER NOT NULL,
"nmm:director" INTEGER NOT NULL, "nmm:director:graph" INTEGER);
CREATE TABLE "nmm:Video_nmm:leadActor" (ID INTEGER NOT NULL,
"nmm:leadActor" INTEGER NOT NULL, "nmm:leadActor:graph" INTEGER);
CREATE TABLE "nmm:Video_nmm:subtitle" (ID INTEGER NOT NULL,
"nmm:subtitle" INTEGER NOT NULL, "nmm:subtitle:graph" INTEGER);
CREATE TABLE "nmm:WhiteBalance" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmo:Attachment" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmo:Call" (ID INTEGER NOT NULL PRIMARY KEY,
"nmo:sentDate" INTEGER, "nmo:sentDate:graph" INTEGER,
"nmo:sentDate:localDate" INTEGER, "nmo:sentDate:localTime" INTEGER,
"nmo:duration" INTEGER, "nmo:duration:graph" INTEGER);
CREATE TABLE "nmo:CommunicationChannel" (ID INTEGER NOT NULL PRIMARY
KEY, "nmo:lastMessageDate" INTEGER, "nmo:lastMessageDate:graph"
INTEGER, "nmo:lastMessageDate:localDate" INTEGER,
"nmo:lastMessageDate:localTime" INTEGER,
"nmo:lastSuccessfulMessageDate" INTEGER,
"nmo:lastSuccessfulMessageDate:graph" INTEGER,
"nmo:lastSuccessfulMessageDate:localDate" INTEGER,
"nmo:lastSuccessfulMessageDate:localTime" INTEGER);
CREATE TABLE "nmo:CommunicationChannel_nmo:hasParticipant" (ID INTEGER
NOT NULL, "nmo:hasParticipant" INTEGER NOT NULL,
"nmo:hasParticipant:graph" INTEGER);
CREATE TABLE "nmo:Conversation" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmo:DeliveryStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmo:Email" (ID INTEGER NOT NULL PRIMARY KEY,
"nmo:hasContent" INTEGER, "nmo:hasContent:graph" INTEGER,
"nmo:isFlagged" INTEGER, "nmo:isFlagged:graph" INTEGER, "nmo:isRecent"
INTEGER, "nmo:isRecent:graph" INTEGER, "nmo:status" TEXT COLLATE
NOCASE, "nmo:status:graph" INTEGER, "nmo:responseType" TEXT COLLATE
NOCASE, "nmo:responseType:graph" INTEGER);
CREATE TABLE "nmo:Email_nmo:contentMimeType" (ID INTEGER NOT NULL,
"nmo:contentMimeType" TEXT NOT NULL, "nmo:contentMimeType:graph"
INTEGER);
CREATE TABLE "nmo:IMMessage" (ID INTEGER NOT NULL PRIMARY KEY);

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CREATE TABLE "nmo:MMSMessage" (ID INTEGER NOT NULL PRIMARY KEY,
"nmo:mmsHasContent" INTEGER, "nmo:mmsHasContent:graph" INTEGER);
CREATE TABLE "nmo:MailAccount" (ID INTEGER NOT NULL PRIMARY KEY,
"nmo:accountName" TEXT COLLATE NOCASE, "nmo:accountName:graph"
INTEGER, "nmo:accountDisplayName" TEXT COLLATE NOCASE,
"nmo:accountDisplayName:graph" INTEGER, "nmo:fromAddress" INTEGER,
"nmo:fromAddress:graph" INTEGER, "nmo:signature" TEXT COLLATE NOCASE,
"nmo:signature:graph" INTEGER);
CREATE TABLE "nmo:MailFolder" (ID INTEGER NOT NULL PRIMARY KEY,
"nmo:folderName" TEXT COLLATE NOCASE, "nmo:folderName:graph" INTEGER,
"nmo:serverCount" INTEGER, "nmo:serverCount:graph" INTEGER,
"nmo:serverUnreadCount" INTEGER, "nmo:serverUnreadCount:graph"
INTEGER);
CREATE TABLE "nmo:MailboxDataObject" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmo:Message" (ID INTEGER NOT NULL PRIMARY KEY,
"nmo:sentDate" INTEGER, "nmo:sentDate:graph" INTEGER,
"nmo:sentDate:localDate" INTEGER, "nmo:sentDate:localTime" INTEGER,
"nmo:from" INTEGER, "nmo:from:graph" INTEGER, "nmo:isAnswered"
INTEGER, "nmo:isAnswered:graph" INTEGER, "nmo:isDeleted" INTEGER,
"nmo:isDeleted:graph" INTEGER, "nmo:isDraft" INTEGER,
"nmo:isDraft:graph" INTEGER, "nmo:isRead" INTEGER, "nmo:isRead:graph"
INTEGER, "nmo:isSent" INTEGER, "nmo:isSent:graph" INTEGER,
"nmo:isEmergency" INTEGER, "nmo:isEmergency:graph" INTEGER,
"nmo:htmlMessageContent" TEXT COLLATE NOCASE,
"nmo:htmlMessageContent:graph" INTEGER, "nmo:messageId" TEXT COLLATE
NOCASE, "nmo:messageId:graph" INTEGER, "nmo:messageSubject" TEXT
COLLATE NOCASE, "nmo:messageSubject:graph" INTEGER,
"nmo:receivedDate" INTEGER, "nmo:receivedDate:graph" INTEGER,
"nmo:receivedDate:localDate" INTEGER, "nmo:receivedDate:localTime"
INTEGER, "nmo:replyTo" INTEGER, "nmo:replyTo:graph" INTEGER,
"nmo:sender" INTEGER, "nmo:sender:graph" INTEGER, "nmo:conversation"
INTEGER, "nmo:conversation:graph" INTEGER, "nmo:communicationChannel"
INTEGER, "nmo:communicationChannel:graph" INTEGER,
"nmo:deliveryStatus" INTEGER, "nmo:deliveryStatus:graph" INTEGER,
"nmo:reportDelivery" INTEGER, "nmo:reportDelivery:graph" INTEGER,
"nmo:sentWithReportRead" INTEGER, "nmo:sentWithReportRead:graph"
INTEGER, "nmo:reportReadStatus" INTEGER, "nmo:reportReadStatus:graph"
INTEGER, "nmo:mustAnswerReportRead" INTEGER,
"nmo:mustAnswerReportRead:graph" INTEGER, "nmo:mmsId" TEXT COLLATE
NOCASE, "nmo:mmsId:graph" INTEGER);
CREATE TABLE "nmo:MessageHeader" (ID INTEGER NOT NULL PRIMARY KEY,
"nmo:headerName" TEXT COLLATE NOCASE, "nmo:headerName:graph" INTEGER,
"nmo:headerValue" TEXT COLLATE NOCASE, "nmo:headerValue:graph"
INTEGER);
CREATE TABLE "nmo:Message_nmo:bcc" (ID INTEGER NOT NULL, "nmo:bcc"
INTEGER NOT NULL, "nmo:bcc:graph" INTEGER);
CREATE TABLE "nmo:Message_nmo:cc" (ID INTEGER NOT NULL, "nmo:cc"
INTEGER NOT NULL, "nmo:cc:graph" INTEGER);

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CREATE TABLE "nmo:Message_nmo:hasAttachment" (ID INTEGER NOT NULL,
"nmo:hasAttachment" INTEGER NOT NULL, "nmo:hasAttachment:graph"
INTEGER);
CREATE TABLE "nmo:Message_nmo:inReplyTo" (ID INTEGER NOT NULL,
"nmo:inReplyTo" INTEGER NOT NULL, "nmo:inReplyTo:graph" INTEGER);
CREATE TABLE "nmo:Message_nmo:messageHeader" (ID INTEGER NOT NULL,
"nmo:messageHeader" INTEGER NOT NULL, "nmo:messageHeader:graph"
INTEGER);
CREATE TABLE "nmo:Message_nmo:recipient" (ID INTEGER NOT NULL,
"nmo:recipient" INTEGER NOT NULL, "nmo:recipient:graph" INTEGER);
CREATE TABLE "nmo:Message_nmo:references" (ID INTEGER NOT NULL,
"nmo:references" INTEGER NOT NULL, "nmo:references:graph" INTEGER);
CREATE TABLE "nmo:Message_nmo:to" (ID INTEGER NOT NULL, "nmo:to"
INTEGER NOT NULL, "nmo:to:graph" INTEGER);
CREATE TABLE "nmo:MimePart" (ID INTEGER NOT NULL PRIMARY KEY,
"nmo:charSet" TEXT COLLATE NOCASE, "nmo:charSet:graph" INTEGER,
"nmo:contentId" TEXT COLLATE NOCASE, "nmo:contentId:graph" INTEGER,
"nmo:contentTransferEncoding" TEXT COLLATE NOCASE,
"nmo:contentTransferEncoding:graph" INTEGER, "nmo:contentDescription"
TEXT COLLATE NOCASE, "nmo:contentDescription:graph" INTEGER,
"nmo:contentDisposition" TEXT COLLATE NOCASE,
"nmo:contentDisposition:graph" INTEGER);
CREATE TABLE "nmo:MimePart_nmo:mimeHeader" (ID INTEGER NOT NULL,
"nmo:mimeHeader" INTEGER NOT NULL, "nmo:mimeHeader:graph" INTEGER);
CREATE TABLE "nmo:Multipart" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmo:Multipart_nmo:partBoundary" (ID INTEGER NOT NULL,
"nmo:partBoundary" TEXT NOT NULL, "nmo:partBoundary:graph" INTEGER);
CREATE TABLE "nmo:PermanentChannel" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmo:PhoneMessage" (ID INTEGER NOT NULL PRIMARY KEY,
"nmo:fromVCard" INTEGER, "nmo:fromVCard:graph" INTEGER, "nmo:encoding"
TEXT COLLATE NOCASE, "nmo:encoding:graph" INTEGER,
"nmo:phoneMessageId" INTEGER, "nmo:phoneMessageId:graph" INTEGER,
"nmo:validityPeriod" INTEGER, "nmo:validityPeriod:graph" INTEGER);
CREATE TABLE "nmo:PhoneMessageFolder" (ID INTEGER NOT NULL PRIMARY
KEY, "nmo:phoneMessageFolderId" TEXT COLLATE NOCASE,
"nmo:phoneMessageFolderId:graph" INTEGER);
CREATE TABLE "nmo:PhoneMessageFolder_nmo:containsPhoneMessage" (ID
INTEGER NOT NULL, "nmo:containsPhoneMessage" INTEGER NOT NULL,
"nmo:containsPhoneMessage:graph" INTEGER);
CREATE TABLE "nmo:PhoneMessageFolder_nmo:containsPhoneMessageFolder"
(ID INTEGER NOT NULL, "nmo:containsPhoneMessageFolder" INTEGER NOT
NULL, "nmo:containsPhoneMessageFolder:graph" INTEGER);
CREATE TABLE "nmo:PhoneMessage_nmo:toVCard" (ID INTEGER NOT NULL,
"nmo:toVCard" INTEGER NOT NULL, "nmo:toVCard:graph" INTEGER);
CREATE TABLE "nmo:ReportReadStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmo:SMSMessage" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmo:TransientChannel" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "nmo:VOIPCall" (ID INTEGER NOT NULL PRIMARY KEY);

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CREATE TABLE "nrl:InverseFunctionalProperty" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "osinfo:Installer" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "poi:ObjectOfInterest" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "rdf:Property" (ID INTEGER NOT NULL PRIMARY KEY,
"rdfs:domain" INTEGER, "rdfs:domain:graph" INTEGER, "rdfs:range"
INTEGER, "rdfs:range:graph" INTEGER, "tracker:indexed" INTEGER,
"tracker:indexed:graph" INTEGER, "tracker:secondaryIndex" INTEGER,
"tracker:secondaryIndex:graph" INTEGER, "tracker:fulltextIndexed"
INTEGER, "tracker:fulltextIndexed:graph" INTEGER,
"tracker:fulltextNoLimit" INTEGER, "tracker:fulltextNoLimit:graph"
INTEGER, "tracker:transient" INTEGER, "tracker:transient:graph"
INTEGER, "tracker:weight" INTEGER, "tracker:weight:graph" INTEGER,
"tracker:defaultValue" TEXT COLLATE NOCASE,
"tracker:defaultValue:graph" INTEGER, "nrl:maxCardinality" INTEGER,
"nrl:maxCardinality:graph" INTEGER, "tracker:writeback" INTEGER,
"tracker:writeback:graph" INTEGER, "tracker:forceJournal" INTEGER,
"tracker:forceJournal:graph" INTEGER);
CREATE TABLE "rdf:Property_rdfs:subPropertyOf" (ID INTEGER NOT NULL,
"rdfs:subPropertyOf" INTEGER NOT NULL, "rdfs:subPropertyOf:graph"
INTEGER);
CREATE TABLE "rdfs:Class" (ID INTEGER NOT NULL PRIMARY KEY,
"tracker:notify" INTEGER, "tracker:notify:graph" INTEGER);
CREATE TABLE "rdfs:Class_rdfs:subClassOf" (ID INTEGER NOT NULL,
"rdfs:subClassOf" INTEGER NOT NULL, "rdfs:subClassOf:graph" INTEGER);
CREATE TABLE "rdfs:Class_tracker:domainIndex" (ID INTEGER NOT NULL,
"tracker:domainIndex" INTEGER NOT NULL, "tracker:domainIndex:graph"
INTEGER);
CREATE TABLE "rdfs:Literal" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "rdfs:Resource" (ID INTEGER NOT NULL PRIMARY KEY,
Available INTEGER NOT NULL, "rdfs:comment" TEXT COLLATE NOCASE,
"rdfs:comment:graph" INTEGER, "rdfs:label" TEXT COLLATE NOCASE,
"rdfs:label:graph" INTEGER, "tracker:added" INTEGER,
"tracker:added:graph" INTEGER, "tracker:added:localDate" INTEGER,
"tracker:added:localTime" INTEGER, "tracker:modified" INTEGER,
"tracker:modified:graph" INTEGER, "tracker:damaged" INTEGER,
"tracker:damaged:graph" INTEGER, "dc:title" TEXT COLLATE NOCASE,
"dc:title:graph" INTEGER, "dc:creator" TEXT COLLATE NOCASE,
"dc:creator:graph" INTEGER, "dc:subject" TEXT COLLATE NOCASE,
"dc:subject:graph" INTEGER, "dc:description" TEXT COLLATE NOCASE,
"dc:description:graph" INTEGER, "dc:publisher" TEXT COLLATE NOCASE,
"dc:publisher:graph" INTEGER, "dc:type" TEXT COLLATE NOCASE,
"dc:type:graph" INTEGER, "dc:format" TEXT COLLATE NOCASE,
"dc:format:graph" INTEGER, "dc:identifier" TEXT COLLATE NOCASE,
"dc:identifier:graph" INTEGER, "dc:language" TEXT COLLATE NOCASE,
"dc:language:graph" INTEGER, "dc:coverage" TEXT COLLATE NOCASE,
"dc:coverage:graph" INTEGER, "dc:rights" TEXT COLLATE NOCASE,
"dc:rights:graph" INTEGER, "nao:identifier" TEXT COLLATE NOCASE,
"nao:identifier:graph" INTEGER, "nao:numericRating" REAL,

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"nao:numericRating:graph" INTEGER, "nao:lastModified" INTEGER,
"nao:lastModified:graph" INTEGER, "nao:lastModified:localDate"
INTEGER, "nao:lastModified:localTime" INTEGER);
CREATE TABLE "rdfs:Resource_dc:contributor" (ID INTEGER NOT NULL,
"dc:contributor" TEXT NOT NULL, "dc:contributor:graph" INTEGER);
CREATE TABLE "rdfs:Resource_dc:date" (ID INTEGER NOT NULL, "dc:date"
INTEGER NOT NULL, "dc:date:graph" INTEGER, "dc:date:localDate" INTEGER
NOT NULL, "dc:date:localTime" INTEGER NOT NULL);
CREATE TABLE "rdfs:Resource_dc:relation" (ID INTEGER NOT NULL,
"dc:relation" TEXT NOT NULL, "dc:relation:graph" INTEGER);
CREATE TABLE "rdfs:Resource_dc:source" (ID INTEGER NOT NULL,
"dc:source" INTEGER NOT NULL, "dc:source:graph" INTEGER);
CREATE TABLE "rdfs:Resource_nao:deprecated" (ID INTEGER NOT NULL,
"nao:deprecated" INTEGER NOT NULL, "nao:deprecated:graph" INTEGER);
CREATE TABLE "rdfs:Resource_nao:hasTag" (ID INTEGER NOT NULL,
"nao:hasTag" INTEGER NOT NULL, "nao:hasTag:graph" INTEGER);
CREATE TABLE "rdfs:Resource_nao:isRelated" (ID INTEGER NOT NULL,
"nao:isRelated" INTEGER NOT NULL, "nao:isRelated:graph" INTEGER);
CREATE TABLE "rdfs:Resource_rdf:type" (ID INTEGER NOT NULL, "rdf:type"
INTEGER NOT NULL, "rdf:type:graph" INTEGER);
CREATE TABLE "scal:AccessLevel" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "scal:AttendanceStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "scal:Attendee" (ID INTEGER NOT NULL PRIMARY KEY,
"scal:attendanceStatus" INTEGER, "scal:attendanceStatus:graph"
INTEGER, "scal:attendeeRole" INTEGER, "scal:attendeeRole:graph"
INTEGER, "scal:attendeeContact" INTEGER, "scal:attendeeContact:graph"
INTEGER, "scal:rsvp" INTEGER, "scal:rsvp:graph" INTEGER,
"scal:calendarUserType" INTEGER, "scal:calendarUserType:graph"
INTEGER);
CREATE TABLE "scal:AttendeeRole" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "scal:Attendee_scal:delegated-from" (ID INTEGER NOT NULL,
"scal:delegated-from" INTEGER NOT NULL, "scal:delegated-from:graph"
INTEGER);
CREATE TABLE "scal:Attendee_scal:delegated-to" (ID INTEGER NOT NULL,
"scal:delegated-to" INTEGER NOT NULL, "scal:delegated-to:graph"
INTEGER);
CREATE TABLE "scal:Attendee_scal:member" (ID INTEGER NOT NULL,
"scal:member" INTEGER NOT NULL, "scal:member:graph" INTEGER);
CREATE TABLE "scal:Attendee_scal:sent-by" (ID INTEGER NOT NULL,
"scal:sent-by" INTEGER NOT NULL, "scal:sent-by:graph" INTEGER);
CREATE TABLE "scal:Calendar" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "scal:CalendarAlarm" (ID INTEGER NOT NULL PRIMARY KEY,
"scal:alarmOffset" INTEGER, "scal:alarmOffset:graph" INTEGER);
CREATE TABLE "scal:CalendarAlarm_scal:alarmAttendee" (ID INTEGER NOT
NULL, "scal:alarmAttendee" INTEGER NOT NULL,
"scal:alarmAttendee:graph" INTEGER);
CREATE TABLE "scal:CalendarItem" (ID INTEGER NOT NULL PRIMARY KEY,
"scal:textLocation" INTEGER, "scal:textLocation:graph" INTEGER,

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"scal:resources" TEXT COLLATE NOCASE, "scal:resources:graph" INTEGER,
"scal:transparency" INTEGER, "scal:transparency:graph" INTEGER,
"scal:calendarItemAlarm" INTEGER, "scal:calendarItemAlarm:graph"
INTEGER, "scal:start" INTEGER, "scal:start:graph" INTEGER, "scal:end"
INTEGER, "scal:end:graph" INTEGER, "scal:isAllDay" INTEGER,
"scal:isAllDay:graph" INTEGER, "scal:priority" INTEGER,
"scal:priority:graph" INTEGER, "scal:rdate" INTEGER,
"scal:rdate:graph" INTEGER, "scal:exceptionRDate" INTEGER,
"scal:exceptionRDate:graph" INTEGER);
CREATE TABLE "scal:CalendarItem_scal:access" (ID INTEGER NOT NULL,
"scal:access" INTEGER NOT NULL, "scal:access:graph" INTEGER);
CREATE TABLE "scal:CalendarItem_scal:attachment" (ID INTEGER NOT NULL,
"scal:attachment" INTEGER NOT NULL, "scal:attachment:graph" INTEGER);
CREATE TABLE "scal:CalendarItem_scal:attendee" (ID INTEGER NOT NULL,
"scal:attendee" INTEGER NOT NULL, "scal:attendee:graph" INTEGER);
CREATE TABLE "scal:CalendarItem_scal:belongsToCalendar" (ID INTEGER
NOT NULL, "scal:belongsToCalendar" INTEGER NOT NULL,
"scal:belongsToCalendar:graph" INTEGER);
CREATE TABLE "scal:CalendarItem_scal:contact" (ID INTEGER NOT NULL,
"scal:contact" INTEGER NOT NULL, "scal:contact:graph" INTEGER);
CREATE TABLE "scal:CalendarItem_scal:rrule" (ID INTEGER NOT NULL,
"scal:rrule" INTEGER NOT NULL, "scal:rrule:graph" INTEGER);
CREATE TABLE "scal:CalendarUserType" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "scal:Event" (ID INTEGER NOT NULL PRIMARY KEY,
"scal:eventStatus" INTEGER, "scal:eventStatus:graph" INTEGER);
CREATE TABLE "scal:EventStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "scal:Journal" (ID INTEGER NOT NULL PRIMARY KEY,
"scal:journalStatus" INTEGER, "scal:journalStatus:graph" INTEGER);
CREATE TABLE "scal:JournalStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "scal:RSVPValues" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "scal:RecurrenceRule" (ID INTEGER NOT NULL PRIMARY KEY,
"scal:recurrencePattern" TEXT COLLATE NOCASE,
"scal:recurrencePattern:graph" INTEGER, "scal:recurrenceStartDate"
INTEGER, "scal:recurrenceStartDate:graph" INTEGER, "scal:exception"
INTEGER, "scal:exception:graph" INTEGER);
CREATE TABLE "scal:TimePoint" (ID INTEGER NOT NULL PRIMARY KEY,
"scal:dateTime" INTEGER, "scal:dateTime:graph" INTEGER,
"scal:dateTime:localDate" INTEGER, "scal:dateTime:localTime" INTEGER,
"scal:TimeZone" TEXT COLLATE NOCASE, "scal:TimeZone:graph" INTEGER);
CREATE TABLE "scal:Todo" (ID INTEGER NOT NULL PRIMARY KEY,
"scal:todoStatus" INTEGER, "scal:todoStatus:graph" INTEGER, "scal:due"
INTEGER, "scal:due:graph" INTEGER, "scal:completed" INTEGER,
"scal:completed:graph" INTEGER, "scal:percentComplete" INTEGER,
"scal:percentComplete:graph" INTEGER);
CREATE TABLE "scal:TodoStatus" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "scal:TransparencyValues" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "slo:GeoLocation" (ID INTEGER NOT NULL PRIMARY KEY,
"slo:latitude" REAL, "slo:latitude:graph" INTEGER, "slo:longitude"

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REAL, "slo:longitude:graph" INTEGER, "slo:verticalAccuracy" REAL,
"slo:verticalAccuracy:graph" INTEGER, "slo:horizontalAccuracy" REAL,
"slo:horizontalAccuracy:graph" INTEGER, "slo:altitude" REAL,
"slo:altitude:graph" INTEGER, "slo:boundingLatitudeMin" REAL,
"slo:boundingLatitudeMin:graph" INTEGER, "slo:boundingLatitudeMax"
REAL, "slo:boundingLatitudeMax:graph" INTEGER,
"slo:boundingLongitudeMin" REAL, "slo:boundingLongitudeMin:graph"
INTEGER, "slo:boundingLongitudeMax" REAL,
"slo:boundingLongitudeMax:graph" INTEGER, "slo:radius" REAL,
"slo:radius:graph" INTEGER, "slo:timestamp" INTEGER,
"slo:timestamp:graph" INTEGER, "slo:timestamp:localDate" INTEGER,
"slo:timestamp:localTime" INTEGER, "slo:postalAddress" INTEGER,
"slo:postalAddress:graph" INTEGER);
CREATE TABLE "slo:Landmark" (ID INTEGER NOT NULL PRIMARY KEY,
"slo:iconUrl" INTEGER, "slo:iconUrl:graph" INTEGER);
CREATE TABLE "slo:LandmarkCategory" (ID INTEGER NOT NULL PRIMARY KEY,
"slo:isRemovable" INTEGER, "slo:isRemovable:graph" INTEGER,
"slo:categoryIconUrl" INTEGER, "slo:categoryIconUrl:graph" INTEGER);
CREATE TABLE "slo:Landmark_slo:belongsToCategory" (ID INTEGER NOT
NULL, "slo:belongsToCategory" INTEGER NOT NULL,
"slo:belongsToCategory:graph" INTEGER);
CREATE TABLE "slo:Landmark_slo:hasContact" (ID INTEGER NOT NULL,
"slo:hasContact" INTEGER NOT NULL, "slo:hasContact:graph" INTEGER);
CREATE TABLE "slo:Route" (ID INTEGER NOT NULL PRIMARY KEY,
"slo:startTime" INTEGER, "slo:startTime:graph" INTEGER,
"slo:startTime:localDate" INTEGER, "slo:startTime:localTime" INTEGER,
"slo:endTime" INTEGER, "slo:endTime:graph" INTEGER,
"slo:endTime:localDate" INTEGER, "slo:endTime:localTime" INTEGER);
CREATE TABLE "slo:Route_slo:routeDetails" (ID INTEGER NOT NULL,
"slo:routeDetails" TEXT NOT NULL, "slo:routeDetails:graph" INTEGER);
CREATE TABLE "tracker:Namespace" (ID INTEGER NOT NULL PRIMARY KEY,
"tracker:prefix" TEXT COLLATE NOCASE, "tracker:prefix:graph"
INTEGER);
CREATE TABLE "tracker:Ontology" (ID INTEGER NOT NULL PRIMARY KEY);
CREATE TABLE "tracker:Volume" (ID INTEGER NOT NULL PRIMARY KEY,
"tracker:isMounted" INTEGER, "tracker:isMounted:graph" INTEGER,
"tracker:unmountDate" INTEGER, "tracker:unmountDate:graph" INTEGER,
"tracker:unmountDate:localDate" INTEGER,
"tracker:unmountDate:localTime" INTEGER, "tracker:mountPoint" INTEGER,
"tracker:mountPoint:graph" INTEGER, "tracker:isRemovable" INTEGER,
"tracker:isRemovable:graph" INTEGER, "tracker:isOptical" INTEGER,
"tracker:isOptical:graph" INTEGER);
CREATE UNIQUE INDEX "mfo:FeedMessage_mfo:enclosureList_ID_ID" ON
"mfo:FeedMessage_mfo:enclosureList" (ID, "mfo:enclosureList");
CREATE UNIQUE INDEX "mlo:GeoBoundingBox_mlo:bbNorthWest_ID_ID" ON
"mlo:GeoBoundingBox_mlo:bbNorthWest" (ID, "mlo:bbNorthWest");
CREATE UNIQUE INDEX "mlo:GeoBoundingBox_mlo:bbSouthEast_ID_ID" ON
"mlo:GeoBoundingBox_mlo:bbSouthEast" (ID, "mlo:bbSouthEast");

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CREATE INDEX "mlo:GeoLocation_mlo:asBoundingBox_ID" ON
"mlo:GeoLocation_mlo:asBoundingBox" (ID);
CREATE UNIQUE INDEX "mlo:GeoLocation_mlo:asBoundingBox_ID_ID" ON
"mlo:GeoLocation_mlo:asBoundingBox" ("mlo:asBoundingBox", ID);
CREATE INDEX "mlo:GeoLocation_mlo:asGeoPoint_ID" ON
"mlo:GeoLocation_mlo:asGeoPoint" (ID);
CREATE UNIQUE INDEX "mlo:GeoLocation_mlo:asGeoPoint_ID_ID" ON
"mlo:GeoLocation_mlo:asGeoPoint" ("mlo:asGeoPoint", ID);
CREATE INDEX "mlo:GeoLocation_mlo:asPostalAddress_ID" ON
"mlo:GeoLocation_mlo:asPostalAddress" (ID);
CREATE UNIQUE INDEX "mlo:GeoLocation_mlo:asPostalAddress_ID_ID" ON
"mlo:GeoLocation_mlo:asPostalAddress" ("mlo:asPostalAddress", ID);
CREATE UNIQUE INDEX "mlo:GeoPoint_mlo:address_ID_ID" ON
"mlo:GeoPoint_mlo:address" (ID, "mlo:address");
CREATE UNIQUE INDEX "mlo:GeoPoint_mlo:altitude_ID_ID" ON
"mlo:GeoPoint_mlo:altitude" (ID, "mlo:altitude");
CREATE UNIQUE INDEX "mlo:GeoPoint_mlo:city_ID_ID" ON
"mlo:GeoPoint_mlo:city" (ID, "mlo:city");
CREATE UNIQUE INDEX "mlo:GeoPoint_mlo:country_ID_ID" ON
"mlo:GeoPoint_mlo:country" (ID, "mlo:country");
CREATE UNIQUE INDEX "mlo:GeoPoint_mlo:latitude_ID_ID" ON
"mlo:GeoPoint_mlo:latitude" (ID, "mlo:latitude");
CREATE UNIQUE INDEX "mlo:GeoPoint_mlo:longitude_ID_ID" ON
"mlo:GeoPoint_mlo:longitude" (ID, "mlo:longitude");
CREATE UNIQUE INDEX "mlo:GeoPoint_mlo:state_ID_ID" ON
"mlo:GeoPoint_mlo:state" (ID, "mlo:state");
CREATE UNIQUE INDEX "mlo:GeoPoint_mlo:timestamp_ID_ID" ON
"mlo:GeoPoint_mlo:timestamp" (ID, "mlo:timestamp");
CREATE UNIQUE INDEX "mlo:GeoSphere_mlo:radius_ID_ID" ON
"mlo:GeoSphere_mlo:radius" (ID, "mlo:radius");
CREATE UNIQUE INDEX "mlo:LandmarkCategory_mlo:isRemovable_ID_ID" ON
"mlo:LandmarkCategory_mlo:isRemovable" (ID, "mlo:isRemovable");
CREATE UNIQUE INDEX "mlo:Landmark_mlo:belongsToCategory_ID_ID" ON
"mlo:Landmark_mlo:belongsToCategory" (ID, "mlo:belongsToCategory");
CREATE UNIQUE INDEX "mlo:Landmark_mlo:poiLocation_ID_ID" ON
"mlo:Landmark_mlo:poiLocation" (ID, "mlo:poiLocation");
CREATE UNIQUE INDEX "mlo:LocationBoundingBox_mlo:boxEastLimit_ID_ID"
ON "mlo:LocationBoundingBox_mlo:boxEastLimit" (ID,
"mlo:boxEastLimit");
CREATE UNIQUE INDEX "mlo:LocationBoundingBox_mlo:boxNorthLimit_ID_ID"
ON "mlo:LocationBoundingBox_mlo:boxNorthLimit" (ID,
"mlo:boxNorthLimit");
CREATE UNIQUE INDEX
"mlo:LocationBoundingBox_mlo:boxSouthWestCorner_ID_ID" ON
"mlo:LocationBoundingBox_mlo:boxSouthWestCorner" (ID,
"mlo:boxSouthWestCorner");
CREATE UNIQUE INDEX
"mlo:LocationBoundingBox_mlo:boxVerticalLimit_ID_ID" ON

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"mlo:LocationBoundingBox_mlo:boxVerticalLimit" (ID,
"mlo:boxVerticalLimit");
CREATE UNIQUE INDEX "mlo:Route_mlo:endTime_ID_ID" ON
"mlo:Route_mlo:endTime" (ID, "mlo:endTime");
CREATE UNIQUE INDEX "mlo:Route_mlo:routeDetails_ID_ID" ON
"mlo:Route_mlo:routeDetails" (ID, "mlo:routeDetails");
CREATE UNIQUE INDEX "mlo:Route_mlo:startTime_ID_ID" ON
"mlo:Route_mlo:startTime" (ID, "mlo:startTime");
CREATE UNIQUE INDEX "mto:Transfer_mto:transferList_ID_ID" ON
"mto:Transfer_mto:transferList" (ID, "mto:transferList");
CREATE UNIQUE INDEX "mto:Transfer_mto:transferPrivacyLevel_ID_ID" ON
"mto:Transfer_mto:transferPrivacyLevel" (ID,
"mto:transferPrivacyLevel");
CREATE UNIQUE INDEX "mto:UploadTransfer_mto:transferCategory_ID_ID" ON
"mto:UploadTransfer_mto:transferCategory" (ID,
"mto:transferCategory");
CREATE UNIQUE INDEX "nao:Tag_tracker:isDefaultTag_ID_ID" ON
"nao:Tag_tracker:isDefaultTag" (ID, "tracker:isDefaultTag");
CREATE UNIQUE INDEX "nao:Tag_tracker:tagRelatedTo_ID_ID" ON
"nao:Tag_tracker:tagRelatedTo" (ID, "tracker:tagRelatedTo");
CREATE UNIQUE INDEX "ncal:Alarm_ncal:action_ID_ID" ON
"ncal:Alarm_ncal:action" (ID, "ncal:action");
CREATE UNIQUE INDEX "ncal:BydayRulePart_ncal:bydayModifier_ID_ID" ON
"ncal:BydayRulePart_ncal:bydayModifier" (ID, "ncal:bydayModifier");
CREATE UNIQUE INDEX "ncal:BydayRulePart_ncal:bydayWeekday_ID_ID" ON
"ncal:BydayRulePart_ncal:bydayWeekday" (ID, "ncal:bydayWeekday");
CREATE UNIQUE INDEX "ncal:Calendar_ncal:component_ID_ID" ON
"ncal:Calendar_ncal:component" (ID, "ncal:component");
CREATE UNIQUE INDEX "ncal:Freebusy_ncal:freebusy_ID_ID" ON
"ncal:Freebusy_ncal:freebusy" (ID, "ncal:freebusy");
CREATE UNIQUE INDEX "ncal:RecurrenceRule_ncal:byday_ID_ID" ON
"ncal:RecurrenceRule_ncal:byday" (ID, "ncal:byday");
CREATE UNIQUE INDEX "ncal:RecurrenceRule_ncal:byhour_ID_ID" ON
"ncal:RecurrenceRule_ncal:byhour" (ID, "ncal:byhour");
CREATE UNIQUE INDEX "ncal:RecurrenceRule_ncal:byminute_ID_ID" ON
"ncal:RecurrenceRule_ncal:byminute" (ID, "ncal:byminute");
CREATE UNIQUE INDEX "ncal:RecurrenceRule_ncal:bymonth_ID_ID" ON
"ncal:RecurrenceRule_ncal:bymonth" (ID, "ncal:bymonth");
CREATE UNIQUE INDEX "ncal:RecurrenceRule_ncal:bymonthday_ID_ID" ON
"ncal:RecurrenceRule_ncal:bymonthday" (ID, "ncal:bymonthday");
CREATE UNIQUE INDEX "ncal:RecurrenceRule_ncal:bysecond_ID_ID" ON
"ncal:RecurrenceRule_ncal:bysecond" (ID, "ncal:bysecond");
CREATE UNIQUE INDEX "ncal:RecurrenceRule_ncal:bysetpos_ID_ID" ON
"ncal:RecurrenceRule_ncal:bysetpos" (ID, "ncal:bysetpos");
CREATE UNIQUE INDEX "ncal:RecurrenceRule_ncal:byweekno_ID_ID" ON
"ncal:RecurrenceRule_ncal:byweekno" (ID, "ncal:byweekno");
CREATE UNIQUE INDEX "ncal:RecurrenceRule_ncal:byyearday_ID_ID" ON
"ncal:RecurrenceRule_ncal:byyearday" (ID, "ncal:byyearday");

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CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:attach_ID_ID" ON
"ncal:UnionParentClass_ncal:attach" (ID, "ncal:attach");
CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:attendee_ID_ID" ON
"ncal:UnionParentClass_ncal:attendee" (ID, "ncal:attendee");
CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:categories_ID_ID" ON
"ncal:UnionParentClass_ncal:categories" (ID, "ncal:categories");
CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:exdate_ID_ID" ON
"ncal:UnionParentClass_ncal:exdate" (ID, "ncal:exdate");
CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:extrule_ID_ID" ON
"ncal:UnionParentClass_ncal:extrule" (ID, "ncal:extrule");
CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:hasAlarm_ID_ID" ON
"ncal:UnionParentClass_ncal:hasAlarm" (ID, "ncal:hasAlarm");
CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:ncalRelation_ID_ID" ON
"ncal:UnionParentClass_ncal:ncalRelation" (ID, "ncal:ncalRelation");
CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:rdate_ID_ID" ON
"ncal:UnionParentClass_ncal:rdate" (ID, "ncal:rdate");
CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:relatedToChild_ID_ID"
ON "ncal:UnionParentClass_ncal:relatedToChild" (ID,
"ncal:relatedToChild");
CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:relatedToParent_ID_ID"
ON "ncal:UnionParentClass_ncal:relatedToParent" (ID,
"ncal:relatedToParent");
CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:resources_ID_ID" ON
"ncal:UnionParentClass_ncal:resources" (ID, "ncal:resources");
CREATE UNIQUE INDEX "ncal:UnionParentClass_ncal:rrule_ID_ID" ON
"ncal:UnionParentClass_ncal:rrule" (ID, "ncal:rrule");
CREATE UNIQUE INDEX "nco:Affiliation_nco:title_ID_ID" ON
"nco:Affiliation_nco:title" (ID, "nco:title");
CREATE UNIQUE INDEX "nco:ContactList_nco:containsContact_ID_ID" ON
"nco:ContactList_nco:containsContact" (ID, "nco:containsContact");
CREATE UNIQUE INDEX "nco:Contact_ncal:anniversary_ID_ID" ON
"nco:Contact_ncal:anniversary" (ID, "ncal:anniversary");
CREATE UNIQUE INDEX "nco:Contact_ncal:birthday_ID_ID" ON
"nco:Contact_ncal:birthday" (ID, "ncal:birthday");
CREATE UNIQUE INDEX "nco:Contact_nco:belongsToGroup_ID_ID" ON
"nco:Contact_nco:belongsToGroup" (ID, "nco:belongsToGroup");
CREATE UNIQUE INDEX "nco:Contact_nco:note_ID_ID" ON
"nco:Contact_nco:note" (ID, "nco:note");
CREATE UNIQUE INDEX "nco:Contact_scal:anniversary_ID_ID" ON
"nco:Contact_scal:anniversary" (ID, "scal:anniversary");
CREATE UNIQUE INDEX "nco:Contact_scal:birthday_ID_ID" ON
"nco:Contact_scal:birthday" (ID, "scal:birthday");
CREATE UNIQUE INDEX "nco:IMAccount_nco:hasIMContact_ID_ID" ON
"nco:IMAccount_nco:hasIMContact" (ID, "nco:hasIMContact");
CREATE UNIQUE INDEX "nco:IMAddress_nco:imCapability_ID_ID" ON
"nco:IMAddress_nco:imCapability" (ID, "nco:imCapability");
CREATE UNIQUE INDEX "nco:PersonContact_nco:hasAffiliation_ID_ID" ON
"nco:PersonContact_nco:hasAffiliation" (ID, "nco:hasAffiliation");

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CREATE INDEX "nco:PersonContact_nco:nameFamily" ON "nco:PersonContact"
("nco:nameFamily");
CREATE INDEX "nco:PhoneNumber_nco:phoneNumber" ON "nco:PhoneNumber"
("nco:phoneNumber");
CREATE UNIQUE INDEX "nco:Role_nco:blogUrl_ID_ID" ON
"nco:Role_nco:blogUrl" (ID, "nco:blogUrl");
CREATE UNIQUE INDEX "nco:Role_nco:foafUrl_ID_ID" ON
"nco:Role_nco:foafUrl" (ID, "nco:foafUrl");
CREATE UNIQUE INDEX "nco:Role_nco:hasContactMedium_ID_ID" ON
"nco:Role_nco:hasContactMedium" (ID, "nco:hasContactMedium");
CREATE INDEX "nco:Role_nco:hasEmailAddress_ID" ON
"nco:Role_nco:hasEmailAddress" (ID);
CREATE UNIQUE INDEX "nco:Role_nco:hasEmailAddress_ID_ID" ON
"nco:Role_nco:hasEmailAddress" ("nco:hasEmailAddress", ID);
CREATE UNIQUE INDEX "nco:Role_nco:hasIMAddress_ID_ID" ON
"nco:Role_nco:hasIMAddress" (ID, "nco:hasIMAddress");
CREATE UNIQUE INDEX "nco:Role_nco:hasPhoneNumber_ID_ID" ON
"nco:Role_nco:hasPhoneNumber" (ID, "nco:hasPhoneNumber");
CREATE INDEX "nco:Role_nco:hasPostalAddress_ID" ON
"nco:Role_nco:hasPostalAddress" (ID);
CREATE UNIQUE INDEX "nco:Role_nco:hasPostalAddress_ID_ID" ON
"nco:Role_nco:hasPostalAddress" ("nco:hasPostalAddress", ID);
CREATE UNIQUE INDEX "nco:Role_nco:url_ID_ID" ON "nco:Role_nco:url"
(ID, "nco:url");
CREATE UNIQUE INDEX "nco:Role_nco:websiteUrl_ID_ID" ON
"nco:Role_nco:websiteUrl" (ID, "nco:websiteUrl");
CREATE UNIQUE INDEX
"nfo:BookmarkFolder_nfo:containsBookmarkFolder_ID_ID" ON
"nfo:BookmarkFolder_nfo:containsBookmarkFolder" (ID,
"nfo:containsBookmarkFolder");
CREATE UNIQUE INDEX "nfo:BookmarkFolder_nfo:containsBookmark_ID_ID" ON
"nfo:BookmarkFolder_nfo:containsBookmark" (ID,
"nfo:containsBookmark");
CREATE INDEX "nfo:FileDataObject_nfo:fileLastModified" ON
"nfo:FileDataObject" ("nfo:fileLastModified");
CREATE UNIQUE INDEX "nfo:Image_nfo:depicts_ID_ID" ON
"nfo:Image_nfo:depicts" (ID, "nfo:depicts");
CREATE UNIQUE INDEX "nfo:Image_nfo:hasRegionOfInterest_ID_ID" ON
"nfo:Image_nfo:hasRegionOfInterest" (ID, "nfo:hasRegionOfInterest");
CREATE UNIQUE INDEX "nfo:MediaList_nfo:hasMediaFileListEntry_ID_ID" ON
"nfo:MediaList_nfo:hasMediaFileListEntry" (ID,
"nfo:hasMediaFileListEntry");
CREATE UNIQUE INDEX "nfo:MediaList_nfo:mediaListEntry_ID_ID" ON
"nfo:MediaList_nfo:mediaListEntry" (ID, "nfo:mediaListEntry");
CREATE UNIQUE INDEX "nfo:Media_mtp:hidden_ID_ID" ON
"nfo:Media_mtp:hidden" (ID, "mtp:hidden");
CREATE UNIQUE INDEX "nfo:Media_nmm:alternativeMedia_ID_ID" ON
"nfo:Media_nmm:alternativeMedia" (ID, "nmm:alternativeMedia");

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CREATE INDEX "nfo:Visual_nie:contentCreated" ON "nfo:Visual"
("nie:contentCreated");
CREATE UNIQUE INDEX "nid3:ID3Audio_nid3:leadArtist_ID_ID" ON
"nid3:ID3Audio_nid3:leadArtist" (ID, "nid3:leadArtist");
CREATE UNIQUE INDEX "nie:DataObject_nie:dataSource_ID_ID" ON
"nie:DataObject_nie:dataSource" (ID, "nie:dataSource");
CREATE UNIQUE INDEX "nie:DataObject_nie:isPartOf_ID_ID" ON
"nie:DataObject_nie:isPartOf" (ID, "nie:isPartOf");
CREATE INDEX "nie:DataObject_nie:url" ON "nie:DataObject" ("nie:url");
CREATE INDEX "nie:InformationElement_mlo:location_ID" ON
"nie:InformationElement_mlo:location" (ID);
CREATE UNIQUE INDEX "nie:InformationElement_mlo:location_ID_ID" ON
"nie:InformationElement_mlo:location" ("mlo:location", ID);
CREATE UNIQUE INDEX "nie:InformationElement_nao:hasProperty_ID_ID" ON
"nie:InformationElement_nao:hasProperty" (ID, "nao:hasProperty");
CREATE UNIQUE INDEX "nie:InformationElement_nco:contributor_ID_ID" ON
"nie:InformationElement_nco:contributor" (ID, "nco:contributor");
CREATE UNIQUE INDEX "nie:InformationElement_nco:creator_ID_ID" ON
"nie:InformationElement_nco:creator" (ID, "nco:creator");
CREATE UNIQUE INDEX "nie:InformationElement_nie:hasLogicalPart_ID_ID"
ON "nie:InformationElement_nie:hasLogicalPart" (ID,
"nie:hasLogicalPart");
CREATE UNIQUE INDEX "nie:InformationElement_nie:hasPart_ID_ID" ON
"nie:InformationElement_nie:hasPart" (ID, "nie:hasPart");
CREATE UNIQUE INDEX
"nie:InformationElement_nie:informationElementDate_ID_ID" ON
"nie:InformationElement_nie:informationElementDate" (ID,
"nie:informationElementDate");
CREATE UNIQUE INDEX "nie:InformationElement_nie:isLogicalPartOf_ID_ID"
ON "nie:InformationElement_nie:isLogicalPartOf" (ID,
"nie:isLogicalPartOf");
CREATE UNIQUE INDEX "nie:InformationElement_nie:keyword_ID_ID" ON
"nie:InformationElement_nie:keyword" (ID, "nie:keyword");
CREATE UNIQUE INDEX "nie:InformationElement_nie:relatedTo_ID_ID" ON
"nie:InformationElement_nie:relatedTo" (ID, "nie:relatedTo");
CREATE INDEX "nie:InformationElement_slo:location" ON
"nie:InformationElement" ("slo:location");
CREATE INDEX "nmm:Artist_nmm:artistName" ON "nmm:Artist" ("nmm:artistName");
CREATE INDEX "nmm:MusicAlbum_nie:title" ON "nmm:MusicAlbum" ("nie:title");
CREATE UNIQUE INDEX "nmm:MusicAlbum_nmm:albumArtist_ID_ID" ON
"nmm:MusicAlbum_nmm:albumArtist" (ID, "nmm:albumArtist");
CREATE INDEX "nmm:MusicPiece_nie:title" ON "nmm:MusicPiece" ("nie:title");
CREATE UNIQUE INDEX "nmm:MusicPiece_nmm:lyrics_ID_ID" ON
"nmm:MusicPiece_nmm:lyrics" (ID, "nmm:lyrics");
CREATE INDEX "nmm:MusicPiece_nmm:musicAlbum" ON "nmm:MusicPiece"
("nmm:musicAlbum");
CREATE INDEX "nmm:MusicPiece_nmm:performer" ON "nmm:MusicPiece"
("nmm:performer");

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CREATE UNIQUE INDEX "nmm:RadioStation_nmm:carrier_ID_ID" ON
"nmm:RadioStation_nmm:carrier" (ID, "nmm:carrier");
CREATE UNIQUE INDEX "nmm:Video_mtp:scantype_ID_ID" ON
"nmm:Video_mtp:scantype" (ID, "mtp:scantype");
CREATE UNIQUE INDEX "nmm:Video_nmm:director_ID_ID" ON
"nmm:Video_nmm:director" (ID, "nmm:director");
CREATE UNIQUE INDEX "nmm:Video_nmm:leadActor_ID_ID" ON
"nmm:Video_nmm:leadActor" (ID, "nmm:leadActor");
CREATE UNIQUE INDEX "nmm:Video_nmm:subtitle_ID_ID" ON
"nmm:Video_nmm:subtitle" (ID, "nmm:subtitle");
CREATE INDEX "nmo:Call_nmo:sentDate" ON "nmo:Call" ("nmo:sentDate");
CREATE INDEX "nmo:CommunicationChannel_nmo:hasParticipant_ID" ON
"nmo:CommunicationChannel_nmo:hasParticipant" (ID);
CREATE UNIQUE INDEX
"nmo:CommunicationChannel_nmo:hasParticipant_ID_ID" ON
"nmo:CommunicationChannel_nmo:hasParticipant" ("nmo:hasParticipant",
ID);
CREATE INDEX "nmo:CommunicationChannel_nmo:lastMessageDate" ON
"nmo:CommunicationChannel" ("nmo:lastMessageDate");
CREATE UNIQUE INDEX "nmo:Email_nmo:contentMimeType_ID_ID" ON
"nmo:Email_nmo:contentMimeType" (ID, "nmo:contentMimeType");
CREATE UNIQUE INDEX "nmo:Message_nmo:bcc_ID_ID" ON
"nmo:Message_nmo:bcc" (ID, "nmo:bcc");
CREATE UNIQUE INDEX "nmo:Message_nmo:cc_ID_ID" ON "nmo:Message_nmo:cc"
(ID, "nmo:cc");
CREATE INDEX "nmo:Message_nmo:communicationChannel" ON "nmo:Message"
("nmo:communicationChannel", "nmo:receivedDate");
CREATE INDEX "nmo:Message_nmo:conversation" ON "nmo:Message"
("nmo:conversation");
CREATE INDEX "nmo:Message_nmo:from" ON "nmo:Message" ("nmo:from");
CREATE UNIQUE INDEX "nmo:Message_nmo:hasAttachment_ID_ID" ON
"nmo:Message_nmo:hasAttachment" (ID, "nmo:hasAttachment");
CREATE UNIQUE INDEX "nmo:Message_nmo:inReplyTo_ID_ID" ON
"nmo:Message_nmo:inReplyTo" (ID, "nmo:inReplyTo");
CREATE UNIQUE INDEX "nmo:Message_nmo:messageHeader_ID_ID" ON
"nmo:Message_nmo:messageHeader" (ID, "nmo:messageHeader");
CREATE UNIQUE INDEX "nmo:Message_nmo:recipient_ID_ID" ON
"nmo:Message_nmo:recipient" (ID, "nmo:recipient");
CREATE UNIQUE INDEX "nmo:Message_nmo:references_ID_ID" ON
"nmo:Message_nmo:references" (ID, "nmo:references");
CREATE INDEX "nmo:Message_nmo:sender" ON "nmo:Message" ("nmo:sender");
CREATE INDEX "nmo:Message_nmo:sentDate" ON "nmo:Message" ("nmo:sentDate");
CREATE INDEX "nmo:Message_nmo:to_ID" ON "nmo:Message_nmo:to" (ID);
CREATE UNIQUE INDEX "nmo:Message_nmo:to_ID_ID" ON "nmo:Message_nmo:to"
("nmo:to", ID);
CREATE UNIQUE INDEX "nmo:MimePart_nmo:mimeHeader_ID_ID" ON
"nmo:MimePart_nmo:mimeHeader" (ID, "nmo:mimeHeader");
CREATE UNIQUE INDEX "nmo:Multipart_nmo:partBoundary_ID_ID" ON

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"nmo:Multipart_nmo:partBoundary" (ID, "nmo:partBoundary");
CREATE UNIQUE INDEX
"nmo:PhoneMessageFolder_nmo:containsPhoneMessageFolder_ID_ID" ON
"nmo:PhoneMessageFolder_nmo:containsPhoneMessageFolder" (ID,
"nmo:containsPhoneMessageFolder");
CREATE UNIQUE INDEX
"nmo:PhoneMessageFolder_nmo:containsPhoneMessage_ID_ID" ON
"nmo:PhoneMessageFolder_nmo:containsPhoneMessage" (ID,
"nmo:containsPhoneMessage");
CREATE UNIQUE INDEX "nmo:PhoneMessage_nmo:toVCard_ID_ID" ON
"nmo:PhoneMessage_nmo:toVCard" (ID, "nmo:toVCard");
CREATE UNIQUE INDEX "rdf:Property_rdfs:subPropertyOf_ID_ID" ON
"rdf:Property_rdfs:subPropertyOf" (ID, "rdfs:subPropertyOf");
CREATE UNIQUE INDEX "rdfs:Class_rdfs:subClassOf_ID_ID" ON
"rdfs:Class_rdfs:subClassOf" (ID, "rdfs:subClassOf");
CREATE UNIQUE INDEX "rdfs:Class_tracker:domainIndex_ID_ID" ON
"rdfs:Class_tracker:domainIndex" (ID, "tracker:domainIndex");
CREATE UNIQUE INDEX "rdfs:Resource_dc:contributor_ID_ID" ON
"rdfs:Resource_dc:contributor" (ID, "dc:contributor");
CREATE UNIQUE INDEX "rdfs:Resource_dc:date_ID_ID" ON
"rdfs:Resource_dc:date" (ID, "dc:date");
CREATE UNIQUE INDEX "rdfs:Resource_dc:relation_ID_ID" ON
"rdfs:Resource_dc:relation" (ID, "dc:relation");
CREATE UNIQUE INDEX "rdfs:Resource_dc:source_ID_ID" ON
"rdfs:Resource_dc:source" (ID, "dc:source");
CREATE UNIQUE INDEX "rdfs:Resource_nao:deprecated_ID_ID" ON
"rdfs:Resource_nao:deprecated" (ID, "nao:deprecated");
CREATE INDEX "rdfs:Resource_nao:hasTag_ID" ON "rdfs:Resource_nao:hasTag" (ID);
CREATE UNIQUE INDEX "rdfs:Resource_nao:hasTag_ID_ID" ON
"rdfs:Resource_nao:hasTag" ("nao:hasTag", ID);
CREATE UNIQUE INDEX "rdfs:Resource_nao:isRelated_ID_ID" ON
"rdfs:Resource_nao:isRelated" (ID, "nao:isRelated");
CREATE UNIQUE INDEX "rdfs:Resource_rdf:type_ID_ID" ON
"rdfs:Resource_rdf:type" (ID, "rdf:type");
CREATE INDEX "rdfs:Resource_tracker:added" ON "rdfs:Resource" ("tracker:added");
CREATE UNIQUE INDEX "scal:Attendee_scal:delegated-from_ID_ID" ON
"scal:Attendee_scal:delegated-from" (ID, "scal:delegated-from");
CREATE UNIQUE INDEX "scal:Attendee_scal:delegated-to_ID_ID" ON
"scal:Attendee_scal:delegated-to" (ID, "scal:delegated-to");
CREATE UNIQUE INDEX "scal:Attendee_scal:member_ID_ID" ON
"scal:Attendee_scal:member" (ID, "scal:member");
CREATE UNIQUE INDEX "scal:Attendee_scal:sent-by_ID_ID" ON
"scal:Attendee_scal:sent-by" (ID, "scal:sent-by");
CREATE UNIQUE INDEX "scal:CalendarAlarm_scal:alarmAttendee_ID_ID" ON
"scal:CalendarAlarm_scal:alarmAttendee" (ID, "scal:alarmAttendee");
CREATE UNIQUE INDEX "scal:CalendarItem_scal:access_ID_ID" ON
"scal:CalendarItem_scal:access" (ID, "scal:access");
CREATE UNIQUE INDEX "scal:CalendarItem_scal:attachment_ID_ID" ON

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"scal:CalendarItem_scal:attachment" (ID, "scal:attachment");
CREATE UNIQUE INDEX "scal:CalendarItem_scal:attendee_ID_ID" ON
"scal:CalendarItem_scal:attendee" (ID, "scal:attendee");
CREATE UNIQUE INDEX "scal:CalendarItem_scal:belongsToCalendar_ID_ID"
ON "scal:CalendarItem_scal:belongsToCalendar" (ID,
"scal:belongsToCalendar");
CREATE UNIQUE INDEX "scal:CalendarItem_scal:contact_ID_ID" ON
"scal:CalendarItem_scal:contact" (ID, "scal:contact");
CREATE UNIQUE INDEX "scal:CalendarItem_scal:rrule_ID_ID" ON
"scal:CalendarItem_scal:rrule" (ID, "scal:rrule");
CREATE INDEX "slo:GeoLocation_slo:postalAddress" ON "slo:GeoLocation"
("slo:postalAddress");
CREATE UNIQUE INDEX "slo:Landmark_slo:belongsToCategory_ID_ID" ON
"slo:Landmark_slo:belongsToCategory" (ID, "slo:belongsToCategory");
CREATE UNIQUE INDEX "slo:Landmark_slo:hasContact_ID_ID" ON
"slo:Landmark_slo:hasContact" (ID, "slo:hasContact");
CREATE UNIQUE INDEX "slo:Route_slo:routeDetails_ID_ID" ON
"slo:Route_slo:routeDetails" (ID, "slo:routeDetails");

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EXPLAIN SELECT "1_u", (SELECT "nco:fullname" FROM "nco:Contact" WHERE
ID = "1_u") COLLATE NOCASE, (SELECT "nco:nameFamily" FROM
"nco:PersonContact" WHERE ID = "1_u") COLLATE NOCASE, (SELECT
"nco:nameGiven" FROM "nco:PersonContact" WHERE ID = "1_u")
COLLATE NOCASE, (SELECT "nco:nameAdditional" FROM
"nco:PersonContact" WHERE ID = "1_u") COLLATE NOCASE, (SELECT
"nco:nameHonorificPrefix" FROM "nco:PersonContact" WHERE ID =
"1_u") COLLATE NOCASE, (SELECT "nco:nameHonorificSuffix" FROM
"nco:PersonContact" WHERE ID = "1_u") COLLATE NOCASE, (SELECT
"nco:nickname" FROM "nco:Contact" WHERE ID = "1_u") COLLATE
NOCASE, strftime("%s", (SELECT "nco:birthDate" FROM
"nco:Contact" WHERE ID = "1_u")), (SELECT "nie:url" FROM
"nie:DataObject" WHERE ID = (SELECT "nco:photo" FROM
"nco:Contact" WHERE ID = "1_u")) COLLATE NOCASE, (SELECT
GROUP_CONCAT("2_u"||? COLLATE NOCASE||COALESCE((SELECT
"nco:imProtocol" FROM "nco:IMAddress" WHERE ID = "3_u") COLLATE
NOCASE, ? COLLATE NOCASE)||? COLLATE NOCASE||COALESCE((SELECT
"nco:imID" FROM "nco:IMAddress" WHERE ID = "3_u") COLLATE
NOCASE, ? COLLATE NOCASE)||? COLLATE NOCASE||COALESCE((SELECT
"nco:imNickname" FROM "nco:IMAddress" WHERE ID = "3_u") COLLATE
NOCASE, ? COLLATE NOCASE), '\n') FROM (SELECT
"nco:PersonContact_nco:hasAffiliation2"."nco:hasAffiliation" AS
"2_u", "nco:Role_nco:hasIMAddress3"."nco:hasIMAddress" AS
"3_u" FROM "nco:PersonContact_nco:hasAffiliation" AS
"nco:PersonContact_nco:hasAffiliation2",
"nco:Role_nco:hasIMAddress" AS "nco:Role_nco:hasIMAddress3" WHERE
"1_u" = "nco:PersonContact_nco:hasAffiliation2"."ID" AND
"nco:PersonContact_nco:hasAffiliation2"."nco:hasAffiliation" =
"nco:Role_nco:hasIMAddress3"."ID"), (SELECT

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GROUP_CONCAT("2_u"||? COLLATE NOCASE||(SELECT "nco:phoneNumber"
FROM "nco:PhoneNumber" WHERE ID = "4_u") COLLATE NOCASE, '\n')
FROM (SELECT "nco:PersonContact_nco:hasAffiliation4"."nco:hasAffiliation"
AS "2_u", "nco:Role_nco:hasPhoneNumber5"."nco:hasPhoneNumber" AS
"4_u" FROM "nco:PersonContact_nco:hasAffiliation" AS
"nco:PersonContact_nco:hasAffiliation4",
"nco:Role_nco:hasPhoneNumber" AS "nco:Role_nco:hasPhoneNumber5"
WHERE "1_u" = "nco:PersonContact_nco:hasAffiliation4"."ID" AND
"nco:PersonContact_nco:hasAffiliation4"."nco:hasAffiliation" =
"nco:Role_nco:hasPhoneNumber5"."ID")), (SELECT
GROUP_CONCAT("2_u"||? COLLATE NOCASE||(SELECT "nco:emailAddress"
FROM "nco:EmailAddress" WHERE ID = "5_u") COLLATE NOCASE, ',')
FROM (SELECT "nco:PersonContact_nco:hasAffiliation6"."nco:hasAffiliation"
AS "2_u", "nco:Role_nco:hasEmailAddress7"."nco:hasEmailAddress"
AS "5_u" FROM "nco:PersonContact_nco:hasAffiliation" AS
"nco:PersonContact_nco:hasAffiliation6",
"nco:Role_nco:hasEmailAddress" AS "nco:Role_nco:hasEmailAddress7"
WHERE "1_u" = "nco:PersonContact_nco:hasAffiliation6"."ID" AND
"nco:PersonContact_nco:hasAffiliation6"."nco:hasAffiliation" =
"nco:Role_nco:hasEmailAddress7"."ID")), (SELECT
GROUP_CONCAT("2_u"||? COLLATE NOCASE||COALESCE((SELECT
GROUP_CONCAT((SELECT Uri FROM Resource WHERE ID =
"nco:blogUrl"),',') FROM "nco:Role_nco:blogUrl" WHERE ID =
"2_u"), ? COLLATE NOCASE)||? COLLATE NOCASE||COALESCE((SELECT
GROUP_CONCAT((SELECT Uri FROM Resource WHERE ID =
"nco:websiteUrl"),',') FROM "nco:Role_nco:websiteUrl" WHERE ID =
"2_u"), ? COLLATE NOCASE)||? COLLATE NOCASE||COALESCE((SELECT
GROUP_CONCAT((SELECT Uri FROM Resource WHERE ID = "nco:url"),',')
FROM "nco:Role_nco:url" WHERE ID = "2_u"), ? COLLATE NOCASE),
'\n') FROM (SELECT
"nco:PersonContact_nco:hasAffiliation8"."nco:hasAffiliation" AS
"2_u" FROM "nco:PersonContact_nco:hasAffiliation" AS
"nco:PersonContact_nco:hasAffiliation8" WHERE "1_u" =
"nco:PersonContact_nco:hasAffiliation8"."ID")), (SELECT
GROUP_CONCAT("6_u", ',') FROM (SELECT
"rdfs:Resource_nao:hasTag9"."nao:hasTag" AS "6_u" FROM
"rdfs:Resource_nao:hasTag" AS "rdfs:Resource_nao:hasTag9" WHERE
"1_u" = "rdfs:Resource_nao:hasTag9"."ID")), (SELECT Uri FROM
Resource WHERE ID = "1_u"), (SELECT GROUP_CONCAT("2_u"||? COLLATE
NOCASE||COALESCE((SELECT "nco:role" FROM "nco:Affiliation" WHERE
ID = "2_u") COLLATE NOCASE, ? COLLATE NOCASE)||? COLLATE
NOCASE||COALESCE((SELECT "nco:department" FROM "nco:Affiliation"
WHERE ID = "2_u") COLLATE NOCASE, ? COLLATE NOCASE)||? COLLATE
NOCASE||COALESCE((SELECT GROUP_CONCAT("nco:title",',') FROM
"nco:Affiliation_nco:title" WHERE ID = "2_u"), ? COLLATE NOCASE),
'\n') FROM (SELECT
"nco:PersonContact_nco:hasAffiliation10"."nco:hasAffiliation" AS
"2_u" FROM "nco:PersonContact_nco:hasAffiliation" AS

```

```

"nco:PersonContact_nco:hasAffiliation10" WHERE "1_u" =
"nco:PersonContact_nco:hasAffiliation10"."ID"), (SELECT
GROUP_CONCAT("nco:note",',') FROM "nco:Contact_nco:note" WHERE ID
= "1_u"), (SELECT "nco:gender" FROM "nco:PersonContact" WHERE ID
= "1_u"), (SELECT GROUP_CONCAT("2_u"||? COLLATE
NOCASE||COALESCE((SELECT "nco:pobox" FROM "nco:PostalAddress"
WHERE ID = "7_u") COLLATE NOCASE, ? COLLATE NOCASE))||? COLLATE
NOCASE||COALESCE((SELECT "nco:district" FROM "nco:PostalAddress"
WHERE ID = "7_u") COLLATE NOCASE, ? COLLATE NOCASE))||? COLLATE
NOCASE||COALESCE((SELECT "nco:county" FROM "nco:PostalAddress"
WHERE ID = "7_u") COLLATE NOCASE, ? COLLATE NOCASE))||? COLLATE
NOCASE||COALESCE((SELECT "nco:locality" FROM "nco:PostalAddress"
WHERE ID = "7_u") COLLATE NOCASE, ? COLLATE NOCASE))||? COLLATE
NOCASE||COALESCE((SELECT "nco:postalcode" FROM
"nco:PostalAddress" WHERE ID = "7_u") COLLATE NOCASE, ? COLLATE
NOCASE))||? COLLATE NOCASE||COALESCE((SELECT "nco:streetAddress"
FROM "nco:PostalAddress" WHERE ID = "7_u") COLLATE NOCASE, ?
COLLATE NOCASE))||? COLLATE NOCASE||COALESCE((SELECT Uri FROM
Resource WHERE ID = (SELECT "nco:addressLocation" FROM
"nco:PostalAddress" WHERE ID = "7_u")), ? COLLATE NOCASE))||?
COLLATE NOCASE||COALESCE((SELECT "nco:extendedAddress" FROM
"nco:PostalAddress" WHERE ID = "7_u") COLLATE NOCASE, ? COLLATE
NOCASE))||? COLLATE NOCASE||COALESCE((SELECT "nco:country" FROM
"nco:PostalAddress" WHERE ID = "7_u") COLLATE NOCASE, ? COLLATE
NOCASE))||? COLLATE NOCASE||COALESCE((SELECT "nco:region" FROM
"nco:PostalAddress" WHERE ID = "7_u") COLLATE NOCASE, ? COLLATE
NOCASE), '\n') FROM (SELECT
"nco:PersonContact_nco:hasAffiliation11"."nco:hasAffiliation" AS
"2_u", "nco:Role_nco:hasPostalAddress12"."nco:hasPostalAddress"
AS "7_u" FROM "nco:PersonContact_nco:hasAffiliation" AS
"nco:PersonContact_nco:hasAffiliation11",
"nco:Role_nco:hasPostalAddress" AS
"nco:Role_nco:hasPostalAddress12" WHERE "1_u" =
"nco:PersonContact_nco:hasAffiliation11"."ID" AND
"nco:PersonContact_nco:hasAffiliation11"."nco:hasAffiliation" =
"nco:Role_nco:hasPostalAddress12"."ID"), (SELECT
GROUP_CONCAT("10_u" COLLATE NOCASE, ',') FROM (SELECT
"nie:InformationElement_nao:hasProperty13"."nao:hasProperty" AS
"8_u", "nao:Property14"."nao:propertyName" AS "9_u",
"nao:Property14"."nao:propertyValue" AS "10_u" FROM
"nie:InformationElement_nao:hasProperty" AS
"nie:InformationElement_nao:hasProperty13", "nao:Property" AS
"nao:Property14" WHERE "1_u" =
"nie:InformationElement_nao:hasProperty13"."ID" AND
"nie:InformationElement_nao:hasProperty13"."nao:hasProperty" =
"nao:Property14"."ID" AND "9_u" IS NOT NULL AND "10_u" IS NOT
NULL AND ("9_u" COLLATE NOCASE = ? COLLATE NOCASE))) FROM (SELECT
"nco:PersonContact1"."ID" AS "1_u" FROM "nco:PersonContact" AS

```



```
"nco:PersonContact1") ORDER BY "1_u";
}
} {/. * Goto .*/}
```

finish\_test

Found in path(s):

```
* /opt/cola/permits/1146568937_1616563472.04/0/sqlite-3.7.17-8.el7_7.1-1.src.rpm-cosi-expand-archive-
lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/test/fuzz-oss1.test
No license file was found, but licenses were detected in source scan.
```

```
)print dup()cvx print
```

Found in path(s):

```
* {cvx $error/errname get(Error
No license file was found, but licenses were detected in source scan.
```

application code is free to use these routines as well, if desired.

Found in path(s):

```
* /opt/cola/permits/1146568937_1616563472.04/0/sqlite-3.7.17-8.el7_7.1-1.src.rpm-cosi-expand-archive-
lltKQC5N/sqlite-doc-3071700.zip-cosi-expand-archive-r9EckcaZ/sqlite-doc-3071700/34to35.html
No license file was found, but licenses were detected in source scan.
```

```
/*
```

```
** Return a pointer to the "temporary page" buffer held internally
** by the pager. This is a buffer that is big enough to hold the
** entire content of a database page. This buffer is used internally
** during rollback and will be overwritten whenever a rollback
** occurs. But other modules are free to use it too, as long as
** no rollbacks are happening.
*/
```

Found in path(s):

```
* /opt/cola/permits/1146568937_1616563472.04/0/sqlite-3.7.17-8.el7_7.1-1.src.rpm-cosi-expand-archive-
lltKQC5N/sqlite-src-3071700.zip-cosi-expand-archive-cheW8kUH/sqlite-src-3071700/src/pager.c
```

## 1.165 bind 9.11.4-26.P2.el7\_9.13

### 1.165.1 Available under license :

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\* `configure.ac`, `Makefile.am`: The original versions were derived from the ones in the XML Catalog Manager project, version 2.2.

Author: Julio Merino <jmmv@users.sourceforge.net>

\* `atf-c/ui.c`: The `format_paragraph` and `format_text` functions were derived from the ones in the Monotone project, revision 3a0982da308228d796df35f98d787c5cff2bb5b6.

Author: Julio Merino <jmmv@NetBSD.org>

\* `atf-c++/detail/io.hpp`, `atf-c++/detail/io.cpp`, `atf-c++/detail/io_test.cpp`: These files were derived from the `file_handle`, `systembuf`, `pipe` and `pistream` classes and tests found in the Boost.Process library.

Author: Julio Merino <jmmv84@gmail.com>

\* `admin/check-style.sh`, `admin/check-style-common.awk`, `admin/check-style-cpp.awk`, `admin/check-style-shell.awk`: These files, except the first one, were first implemented in the Buildtool project. They were later adapted to be part of Boost.Process and, during that process, the shell script was created.

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=====  
vim: filetype=text:textwidth=75:expandtab:shiftwidth=2:softtabstop=2

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<!-- Generate ISC copyright comments from Docbook copyright metadata. -->

```
<xsl:stylesheet version="1.0"
xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
xmlns:xi="http://www.w3.org/2001/XInclude"
xmlns:db="http://docbook.org/ns/docbook">

<xsl:template name="isc.copyright.format">
 <xsl:param name="text"/>
 <xsl:value-of select="$isc.copyright.leader"/>
 <xsl:value-of select="normalize-space(substring-before($text, '
'))"/>
 <xsl:text>
</xsl:text>
 <xsl:variable name="rest" select="substring-after($text, '
')"/>
 <xsl:if test="translate($rest, '	 ', '')">
 <xsl:call-template name="isc.copyright.format">
 <xsl:with-param name="text" select="$rest"/>
 </xsl:call-template>
 </xsl:if>
</xsl:template>

<xsl:variable name="isc.copyright.text">
 <xsl:text>
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 </xsl:text>
</xsl:variable>

<xsl:variable name="isc.copyright">
 <xsl:call-template name="isc.copyright.format">
 <xsl:with-param name="text">
 <xsl:for-each select="book/info/copyright | refentry/docinfo/copyright">
 <xsl:text>Copyright (C) </xsl:text>
 <xsl:call-template name="copyright.years">
 <xsl:with-param name="years" select="year"/>
 </xsl:call-template>
 <xsl:text> </xsl:text>
 <xsl:value-of select="holder"/>
 <xsl:value-of select="$isc.copyright.breakline"/>
 <xsl:text>
</xsl:text>
 </xsl:for-each>
 <xsl:value-of select="$isc.copyright.text"/>
 </xsl:with-param>
</xsl:variable>

```



</xsl:call-template>

</xsl:variable>

</xsl:stylesheet>

<!--

- Local variables:

- mode: sgml

- End:

-->

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## 1.166 protobuf-java-util 3.9.1

## 1.167 pygobject 3.22.0

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Eclipse

The following artifacts are EPL.

\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.

\* org.eclipse.jetty.orbit:javax.security.auth.message

The following artifacts are EPL and CDDL 1.0.

\* org.eclipse.jetty.orbit:javax.mail.glassfish

-----

Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api

\* javax.annotation:javax.annotation-api

\* javax.transaction:javax.transaction-api

\* javax.websocket:javax.websocket-api

-----

Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with

classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

-----

OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons

org.ow2.asm:asm

-----

Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec

org.apache.taglibs:taglibs-standard-impl

-----

MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp

org.apache.tomcat:tomcat-jasper

org.apache.tomcat:tomcat-juli

org.apache.tomcat:tomcat-jsp-api

org.apache.tomcat:tomcat-el-api

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-api

org.apache.tomcat:tomcat-util-scan

org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-el-api

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Mortbay

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

-----

Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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Manifest-Version: 1.0

Bnd-LastModified: 1670538228714

Build-Jdk-Spec: 17

Bundle-Description: Kubernetes Client Library  
Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>  
Bundle-ManifestVersion: 2  
Bundle-Name: client-java  
Bundle-SymbolicName: io.kubernetes.client-java  
Bundle-Version: 17.0.0  
Created-By: Apache Maven Bundle Plugin 5.1.8  
Export-Package: io.kubernetes.client;uses:="com.google.protobuf,io.kubernetes.client.custom,io.kubernetes.client.openapi,io.kubernetes.client.openapi.models,io.kubernetes.client.proto,io.kubernetes.client.util,io.kubernetes.client.util.exception";version="17.0.0",io.kubernetes.client.informer;uses:="io.kubernetes.client.common,io.kubernetes.client.informer.cache,io.kubernetes.client.informer.exception,io.kubernetes.client.openapi,io.kubernetes.client.util,io.kubernetes.client.util.generic";version="17.0.0",io.kubernetes.client.informer.exception;version="17.0.0",io.kubernetes.client.informer.cache;uses:="io.kubernetes.client.common,io.kubernetes.client.informer,io.kubernetes.client.openapi.models,org.apache.commons.lang3.tuple";version="17.0.0",io.kubernetes.client.apimachinery;uses:="io.kubernetes.client.common,okhttp3";version="17.0.0",io.kubernetes.client.monitoring;uses:="io.kubernetes.client.openapi,okhttp3";version="17.0.0",io.kubernetes.client.util;uses:="com.google.gson.annotations,io.kubernetes.client,io.kubernetes.client.apimachinery,io.kubernetes.client.common,io.kubernetes.client.openapi,io.kubernetes.client.openapi.models,io.kubernetes.client.util.authenticators,io.kubernetes.client.util.credentials,io.kubernetes.client.util.exception,javax.annotation,javax.net.ssl,okhttp3,okio,org.yaml.snakeyaml,org.yaml.snakeyaml.constructor,org.yaml.snakeyaml.introspector,org.yaml.snakeyaml.nodes,org.yaml.snakeyaml.representer";version="17.0.0",io.kubernetes.client.util.version;uses:="io.kubernetes.client.openapi,io.kubernetes.client.openapi.models";version="17.0.0",io.kubernetes.client.util.credentials;uses:="io.kubernetes.client.openapi,io.kubernetes.client.util,okhttp3";version="17.0.0",io.kubernetes.client.util.labels;uses:="io.kubernetes.client.common,io.kubernetes.client.openapi.models";version="17.0.0",io.kubernetes.client.util.okhttp;version="17.0.0",io.kubernetes.client.util.generic;uses:="io.kubernetes.client.common,io.kubernetes.client.custom,io.kubernetes.client.openapi,io.kubernetes.client.openapi.apis,io.kubernetes.client.openapi.models,io.kubernetes.client.util,io.kubernetes.client.util.generic.options";version="17.0.0",io.kubernetes.client.util.generic.options;uses:="io.kubernetes.client.openapi.models";version="17.0.0",io.kubernetes.client.util.generic.dynamic;uses:="com.google.gson,com.google.gson.reflect,io.kubernetes.client.common,io.kubernetes.client.openapi,io.kubernetes.client.openapi.models,io.kubernetes.client.util.generic,org.yaml.snakeyaml";version="17.0.0",io.kubernetes.client.util.authenticators;uses:="com.google.auth.oauth2";version="17.0.0",io.kubernetes.client.util.annotations;uses:="io.kubernetes.client.common";version="17.0.0",io.kubernetes.client.util.wait;version="17.0.0",io.kubernetes.client.util.exception;version="17.0.0",io.kubernetes.client.

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.0",io.kubernetes.client.util.conversion;uses:="io.kubernetes.client
.openapi.models";version="17.0.0"
Import-Package: com.google.auth.oauth2;resolution:=optional,com.google
.gson;version="[2.10,3)",com.google.gson.annotations;version="[2.10,3
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yaml.introspector;version="[1.33,2)",org.yaml.snakeyaml.nodes;version
="[1.33,2)",org.yaml.snakeyaml.representer;version="[1.33,2)"
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.8))"
Tool: Bnd-6.3.1.202206071316
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Found in path(s):

\* /opt/cola/permits/1536708847\_1674074049.0532064/0/client-java-17-0-0-jar/META-INF/MANIFEST.MF

# 1.173 snake-yaml 1.33

## 1.173.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/**
```

```
* Copyright (c) 2008, SnakeYAML
```

```
*
```

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```
*
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*
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```

```
* or implied. See the License for the specific language governing permissions and limitations under
```

```
* the License.
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/util/ArrayUtils.java
```

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/serializer/SerializerException.java
```

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/serializer/NumberAnchorGenerator.java
```

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/constructor/AbstractConstruct.java
```

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* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/representer/BaseRepresenter.java
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* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/events/CollectionStartEvent.java
```

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* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/emitter/Emitter.java
```

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/scanner/Constant.java
```

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/constructor/Constructor.java
```

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/scanner/Scanner.java
```

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/tokens/BlockEndToken.java
```

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/parser/ParserImpl.java
```

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/tokens/FlowSequenceEndToken.java
```

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/scanner/ScannerException.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/events/NodeEvent.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/FlowEntryToken.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/extensions/compactnotation/PackageCompactConstructor.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/Yaml.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/emitter/ScalarAnalysis.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/reader/ReaderException.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/constructor/BaseConstructor.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/DumperOptions.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/AnchorToken.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/emitter/EmitterException.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/representer/Representer.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/comments/CommentEventsCollector.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/emitter/Emitable.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/error/MarkedYAMLEException.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/BlockMappingStartToken.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/DirectiveToken.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/introspector/PropertyUtils.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/constructor/DuplicateKeyException.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/nodes/NodeTuple.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/CommentToken.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/introspector/MissingProperty.java

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/introspector/FieldProperty.java

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\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/util/PlatformFeatureDetector.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/constructor/CustomClassLoaderConstructor.java  
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\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/events/ScalarEvent.java  
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\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/TagToken.java  
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\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/TagTuple.java  
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\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/events/MappingStartEvent.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/resolver/ResolverTuple.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/introspector/PropertySubstitute.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/introspector/Property.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/resolver/Resolver.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/parser/Parser.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/events/AliasEvent.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/comments/CommentType.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/representer/SafeRepresenter.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/nodes/CollectionNode.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/util/ArrayStack.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/composer/Composer.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/StreamStartToken.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/FlowSequenceStartToken.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/AliasToken.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/ScalarToken.java  
\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/tokens/StreamEndToken.java

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/tokens/ValueToken.java
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/tokens/Token.java
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/tokens/FlowMappingEndToken.java
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/extensions/compactnotation/CompactConstructor.java
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/extensions/compactnotation/CompactData.java
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*/
```

Found in path(s):

```
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/UnicodeEscaper.java
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/PercentEscaper.java
* /opt/cola/permits/1501142303_1670441265.5464437/0/snakeyaml-1-33-sources-4-
jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/Escaper.java
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```

```
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/**
* A Base64 encoder/decoder.
*
* <p>
* This class is used to encode and decode data in Base64 format as described in RFC 1521.
*

```

\* <p>  
\* Project home page: <a href="http://www.source-code.biz/base64coder/java/">www.  
\* source-code.biz/base64coder/java</a><br>  
\* Author: Christian d'Heureuse, Inventec Informatik AG, Zurich, Switzerland<br>  
\* Multi-licensed: EPL / LGPL / GPL / AL / BSD.  
\*/

Found in path(s):

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/org/yaml/snakeyaml/external/biz/base64Coder/Base64Coder.java

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Found in path(s):

\* /opt/cola/permits/1501142303\_1670441265.5464437/0/snakeyaml-1-33-sources-4-jar/META-INF/maven/org.yaml/snakeyaml/pom.xml

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- \* javax.annotation:javax.annotation-api
- \* javax.transaction:javax.transaction-api
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- \* java.sun.security.ssl

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org.eclipse.jetty.toolchain:jetty-schemas

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*/opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
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- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ipfilter/package-info.java
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- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/JdkSslClientContext.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/util/OpenJdkSelfSignedCertGenerator.java
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- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ipfilter/IpFilterRuleType.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolNegotiator.java
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- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/JettyNpnSslEngine.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/OpenSslSessionContext.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/util/FingerprintTrustManagerFactory.java
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\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/OpenSslEngine.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/util/ThreadLocalInsecureRandom.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/util/SimpleTrustManagerFactory.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/OpenSslServerContext.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/IdentityCipherSuiteFilter.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ipfilter/IpSubnetFilterRule.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/Java7SslParametersUtils.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/CipherSuiteFilter.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/OpenSslDefaultApplicationProtocolNegotiator.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/JdkApplicationProtocolNegotiator.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/SslContext.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/OpenSslSessionStats.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/CipherSuiteConverter.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/util/LazyX509Certificate.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ipfilter/UniqueIpFilter.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/SniHandler.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/JdkSslEngine.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/SslProvider.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolUtil.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/JettyAlpnSslEngine.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ipfilter/RuleBasedIpFilter.java

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\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/pcap/package-info.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/pcap/TCPPacket.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/pcap/EthernetPacket.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/pcap/PcapWriter.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/pcap/UDPPacket.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-

jar/io/netty/handler/pcap/PcapHeaders.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-

jar/io/netty/handler/pcap/IPPacket.java

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jar/io/netty/handler/ssl/ReferenceCountedOpenSslServerContext.java

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jar/io/netty/handler/ssl/util/X509TrustManagerWrapper.java

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jar/io/netty/handler/flush/FlushConsolidationHandler.java  
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jar/io/netty/handler/flow/package-info.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-  
jar/io/netty/handler/ssl/ReferenceCountedOpenSslEngine.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-  
jar/io/netty/handler/ssl/OpenSslKeyMaterialManager.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-  
jar/io/netty/handler/ssl/PemX509Certificate.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-  
jar/io/netty/handler/ssl/Java8SslUtils.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-  
jar/io/netty/handler/flush/package-info.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-  
jar/io/netty/handler/ssl/PemPrivateKey.java  
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jar/io/netty/handler/ssl/PemValue.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-  
jar/io/netty/handler/ssl/ReferenceCountedOpenSslClientContext.java  
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jar/io/netty/handler/ssl/PemEncoded.java  
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jar/io/netty/handler/ssl/ReferenceCountedOpenSslContext.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-  
jar/io/netty/handler/ssl/OpenSslCertificateException.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-  
jar/io/netty/handler/ssl/DelegatingSslContext.java  
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* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/traffic/ChannelTrafficShapingHandler.java
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jar/io/netty/handler/traffic/GlobalTrafficShapingHandler.java
* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
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* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/OpenSslAsyncPrivateKeyMethod.java
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* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/SslProtocols.java
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* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/GroupsConverter.java
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* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/BouncyCastleAlpnSslEngine.java
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* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/OpenSslContextOption.java
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* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/OpenSslSessionId.java
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* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/OpenSslClientSessionCache.java
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* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/BouncyCastle.java
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* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/SslContextOption.java
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jar/io/netty/handler/ssl/BouncyCastleAlpnSslUtils.java
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* /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
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jar/io/netty/handler/ssl/Ciphers.java

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jar/io/netty/handler/ssl/BouncyCastlePemReader.java

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\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/OpenSslCachingKeyMaterialProvider.java  
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\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/OpenSslX509KeyManagerFactory.java  
\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/OpenSslX509TrustManagerWrapper.java  
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\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/DefaultOpenSslKeyMaterial.java  
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- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/timeout/WriteTimeoutHandler.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/NotSslRecordException.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/timeout/ReadTimeoutException.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/logging/package-info.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/stream/ChunkedNioStream.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/timeout/WriteTimeoutException.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/util/package-info.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/logging/LoggingHandler.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/stream/package-info.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/stream/ChunkedNioFile.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/SslHandler.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/timeout/IdleState.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/timeout/ReadTimeoutHandler.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/stream/ChunkedStream.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/timeout/IdleStateHandler.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/timeout/IdleStateEvent.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/package-info.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/timeout/package-info.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/stream/ChunkedWriteHandler.java
- \* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/logging/LogLevel.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/stream/ChunkedFile.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/stream/ChunkedInput.java

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```
 * /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/ocsp/package-info.java
 * /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/ConscryptAlpnSslEngine.java
 * /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/Conscrypt.java
 * /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/SslCompletionEvent.java
 * /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/JdkAlpnSslEngine.java
 * /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/JdkAlpnSslUtils.java
 * /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/AbstractSniHandler.java
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 * /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/SslCloseCompletionEvent.java
 * /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/OptionalSslHandler.java
 * /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
jar/io/netty/handler/ssl/SniCompletionEvent.java
 * /opt/cola/permits/1536390298_1674051205.1081247/0/netty-handler-4-1-87-final-sources-
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\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/OpenSslCertificateCompressionConfig.java

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\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/PseudoRandomFunction.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/util/KeyManagerFactoryWrapper.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/util/X509KeyManagerWrapper.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/address/package-info.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/OpenSslPrivateKeyMethod.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/util/SimpleKeyManagerFactory.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-jar/io/netty/handler/ssl/util/TrustManagerFactoryWrapper.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-

jar/io/netty/handler/ssl/SslMasterKeyHandler.java

\* /opt/cola/permits/1536390298\_1674051205.1081247/0/netty-handler-4-1-87-final-sources-

jar/io/netty/handler/address/DynamicAddressConnectHandler.java

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## 1.181 kerberos 1.15.1-55.e17\_9

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cmd/krb5/slave/kpropd_rpc.c
lib/gss_mechs/mech_krb5/et/kdb5_err.c
lib/gss_mechs/mech_spnego/mech/gssapiP_spnego.h
lib/gss_mechs/mech_spnego/mech/spnego_mech.c
lib/krb5/kadm5/kadm_host_srv_names.c
lib/krb5/kdb/kdb_convert.c
lib/krb5/kdb/kdb_hdr.h
lib/krb5/kdb/kdb_log.c
lib/krb5/kdb/kdb_log.h
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lib/libgss/g_process_context.c
lib/libgss/g_rel_buffer.c
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```

lib/libgss/g\_rel\_name.c  
lib/libgss/g\_rel\_oid\_set.c  
lib/libgss/g\_seal.c  
lib/libgss/g\_sign.c  
lib/libgss/g\_store\_cred.c  
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lib/libgss/g\_verify.c  
lib/libgss/gssd\_pname\_to\_uid.c  
uts/common/gssapi/include/gssapi\_err\_generic.h  
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The implementations of GSSAPI mechglue in GSSAPI-SPNEGO in "src/lib/gssapi", including the following files:

lib/gssapi/generic/gssapi\_err\_generic.et  
lib/gssapi/mechglue/g\_accept\_sec\_context.c  
lib/gssapi/mechglue/g\_acquire\_cred.c  
lib/gssapi/mechglue/g\_canon\_name.c  
lib/gssapi/mechglue/g\_compare\_name.c  
lib/gssapi/mechglue/g\_context\_time.c  
lib/gssapi/mechglue/g\_delete\_sec\_context.c  
lib/gssapi/mechglue/g\_dsp\_name.c  
lib/gssapi/mechglue/g\_dsp\_status.c  
lib/gssapi/mechglue/g\_dup\_name.c  
lib/gssapi/mechglue/g\_exp\_sec\_context.c  
lib/gssapi/mechglue/g\_export\_name.c  
lib/gssapi/mechglue/g\_glue.c  
lib/gssapi/mechglue/g\_imp\_name.c  
lib/gssapi/mechglue/g\_imp\_sec\_context.c  
lib/gssapi/mechglue/g\_init\_sec\_context.c  
lib/gssapi/mechglue/g\_initialize.c  
lib/gssapi/mechglue/g\_inquire\_context.c  
lib/gssapi/mechglue/g\_inquire\_cred.c  
lib/gssapi/mechglue/g\_inquire\_names.c  
lib/gssapi/mechglue/g\_process\_context.c  
lib/gssapi/mechglue/g\_rel\_buffer.c  
lib/gssapi/mechglue/g\_rel\_cred.c  
lib/gssapi/mechglue/g\_rel\_name.c  
lib/gssapi/mechglue/g\_rel\_oid\_set.c  
lib/gssapi/mechglue/g\_seal.c  
lib/gssapi/mechglue/g\_sign.c  
lib/gssapi/mechglue/g\_store\_cred.c  
lib/gssapi/mechglue/g\_unseal.c  
lib/gssapi/mechglue/g\_userok.c  
lib/gssapi/mechglue/g\_utils.c  
lib/gssapi/mechglue/g\_verify.c  
lib/gssapi/mechglue/gssd\_pname\_to\_uid.c  
lib/gssapi/mechglue/mglueP.h  
lib/gssapi/mechglue/oid\_ops.c  
lib/gssapi/spnego/gssapiP\_spnego.h

lib/gssapi/spnego/spnego\_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/ipropr\_hdr.h  
kadmin/server/ipropr\_svc.c  
lib/kdb/ipropr.x  
lib/kdb/kdb\_convert.c  
lib/kdb/kdb\_log.c  
lib/kdb/kdb\_log.h  
lib/krb5/error\_tables/kdb5\_err.et  
slave/kpropd\_rpc.c  
slave/kproplog.c

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# 1.185 httpcomponents-core 4.4.13

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code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

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```
<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>
```

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Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this  
when it starts in an interactive mode:

```
Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.
```

The hypothetical commands `show w' and `show c' should show the appropriate  
parts of the General Public License. Of course, the commands you use may  
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mouse-clicks or menu items--whatever suits your program.

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school, if any, to sign a "copyright disclaimer" for the program, if  
necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.
```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

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-----  
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Version 2, June 1991

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[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]

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The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

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"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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If such an object file uses only numerical parameters, data

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>  
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Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990  
Ty Coon, President of Vice

That's all there is to it!

# 1.188 dom 1.0

## 1.188.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
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 */
```

Found in path(s):

```
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ElementEditAS.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASNotationDeclaration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASObject.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/CharacterDataEditAS.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DOMImplementationAS.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASModel.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DocumentAS.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASAttributeDeclaration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASElementDeclaration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASEntityDeclaration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASNamedObjectMap.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASDataType.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASContentModel.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DOMASWriter.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DocumentEditAS.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASObjectList.java
```

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom3/as/DOMASBuilder.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom3/as/DOMASException.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom3/as/NodeEditAS.java

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Found in path(s):

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/datatypes/package.html

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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/w3c/dom/html/HTMLDOMImplementation.java

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*/
/**
 * Checks if this content model has had its min/maxOccurs values reduced for
 * purposes of speeding up UPA. If so, this content model should not be used
 * for any purpose other than checking unique particle attribution
 *
 * @return a boolean that says whether this content has been compacted for UPA
 */

```

Found in path(s):

```

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/models/XSCMValidator.java

```

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*/
/**
 * DOM Level 3 LS CR - Experimental.
 * Create a new LSParser. The newly constructed parser may
 * then be configured by means of its DOMConfiguration
 * object, and used to parse documents by means of its parse

```

- \* method.
- \* @param mode The `mode` argument is either
- \* `MODE_SYNCHRONOUS` or `MODE_ASYNCHRONOUS`, if
- \* `mode` is `MODE_SYNCHRONOUS` then the
- \* `LSParser` that is created will operate in synchronous
- \* mode, if it's `MODE_ASYNCHRONOUS` then the
- \* `LSParser` that is created will operate in asynchronous
- \* mode.
- \* @param schemaType An absolute URI representing the type of the schema
- \* language used during the load of a `Document` using the
- \* newly created `LSParser`. Note that no lexical checking
- \* is done on the absolute URI. In order to create a
- \* `LSParser` for any kind of schema types (i.e. the
- \* `LSParser` will be free to use any schema found), use the value
- \* `null`.
- \* **Note:** For W3C XML Schema [[XML Schema Part 1](http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/)]
- \* , applications must use the value
- \* `"http://www.w3.org/2001/XMLSchema"`. For XML DTD [[XML 1.0](http://www.w3.org/TR/2000/REC-xml-20001006/)],
- \* applications must use the value
- \* `"http://www.w3.org/TR/REC-xml"`. Other Schema languages
- \* are outside the scope of the W3C and therefore should recommend an
- \* absolute URI in order to use this method.
- \* @return The newly created `LSParser` object. This
- \* `LSParser` is either synchronous or asynchronous
- \* depending on the value of the `mode` argument.
- \* **Note:** By default, the newly created `LSParser`
- \* does not contain a `DOMErrorHandler`, i.e. the value of
- \* the "[parameter-error-handler](http://www.w3.org/TR/2003/WD-DOM-Level-3-Core-20030609/core.html#parameter-error-handler)
- \* `error-handler`" configuration parameter is `null`. However, implementations
- \* may provide a default error handler at creation time. In that case,
- \* the initial value of the `"error-handler"` configuration
- \* parameter on the new created `LSParser` contains a
- \* reference to the default error handler.
- \* @exception DOMException
- \* NOT\_SUPPORTED\_ERR: Raised if the requested mode or schema type is
- \* not supported.
- \*/

Found in path(s):

- \* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/CoreDOMImplementationImpl.java

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jar/org/apache/xerces/dom/DOMImplementationListImpl.java  
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\*/

/\*\*  
\* used to check the 3 constraints against each complex type  
\* (should be each model group):  
\* Unique Particle Attribution, Particle Derivation (Restriction),  
\* Element Declarations Consistent.  
\*/

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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/XSConstraints.java  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/traversers/XSDocumentInfo.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/traversers/XSDElementTraverser.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/xni/parser/XMLErrorHandler.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/html/dom/HTMLFrameElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/util/XMLEntityDescriptionImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/util/ShadowedSymbolTable.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/util/ObjectListImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/dom/WMLImgElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/WMLOptgroupElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/xni/parser/XMLInputSource.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/WMLImgElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/dom/DeferredCDATASectionImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/traversers/XSDAbstractIDConstraintTraverser.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/dom/WMLTimerElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/xs/XSParticle.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLWmlElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/AnySimpleDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/StringList.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLTimerElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xpath/regex/CaseInsensitiveMap.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/opti/SchemaDOMImplementation.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/opti/DefaultXMLDocumentHandler.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/DeferredElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLAnchorElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xml/serialize/HTMLSerializer.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLHtmlElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/stax/DefaultNamespaceContext.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xinclude/MultipleScopeNamespaceSupport.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/opti/SchemaParsingConfig.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/XML11NSDTDValidator.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xpointer/XPointerMessageFormatter.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/XSException.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLMetaElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLQuoteElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/EncodingMap.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xinclude/XIncludeTextReader.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/DOMInputImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/ObjectFactory.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xpointer/XPointerHandler.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/XMLCatalogResolver.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/TeeXMLDocumentFilterImpl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLTableSectionElementImpl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/models/CMStateSet.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/Base64BinaryDV.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/validation/DraconianErrorHandler.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/JAXPValidatorComponent.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLTitleElementImpl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/XML11NonValidatingConfiguration.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/ElementDefinitionImpl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/XMLElementDecl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/XSAttributeGroupDecl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/AbstractDOMParser.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLSelectElementImpl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLLabelElementImpl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLFieldSetElementImpl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLCardElementImpl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/util/ShortListImpl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/util/Base64.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/CDATASectionImpl.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/validation/XSGrammarPoolContainer.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/models/CMBuilder.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLMetaElement.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/XSSimpleType.java

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/XSSimpleTypeDelegate.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/opti/SchemaDOMParser.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xpath/regex/RegularExpression.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/opti/ElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/events/UIEventImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xml/serialize/Method.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/stax/events/EntityReferenceImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/datatypes/ByteList.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLBodyElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/XMLNSDTDValidator.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/models/XSCMBinOp.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/DeferredAttrImpl.java  
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jar/org/apache/xerces/impl/xs/models/XSEmptyCM.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/html/dom/HTMLOptGroupElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/DVFactoryException.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/html/dom/HTMLDocumentImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/SchemaDateTimeException.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/WMLOptionElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/WMLPElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/html/dom/HTMLOptionElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/WMLElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/html/dom/HTMLParamElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/dom/TreeWalkerImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/dtd/XML11DTDDVFactoryImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xpath/regex/ParseException.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/xni/parser/XMLDTDFilter.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dtd/XMLDTDValidator.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-

jar/org/apache/xerces/impl/xs/traversers/XSDNotationTraverser.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/xni/grammars/XMLSchemaDescription.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/jaxp/validation/DOMResultBuilder.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/dom/WMLAnchorElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/html/dom/HTMLModElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/dom/WMLDocumentImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/dom/DeferredElementNSImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/html/dom/HTMLTableCaptionElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/XMLEntityHandler.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/parsers/StandardParserConfiguration.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/models/XSAllCM.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/opti/AttrImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/dom/WMLFieldsetElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/dom/WMLDoElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xpath/regex/RangeToken.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/parsers/DOMASBuilderImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/html/dom/NameNodeListImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/dom/WMLDOMImplementationImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/io/UCSReader.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/parsers/XIncludeAwareParserConfiguration.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/RevalidationHandler.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/xs/XSValue.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/dom/NodeImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/dtd/XML11IDREFDatatypeValidator.java  
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jar/org/apache/xerces/xni/parser/XMLConfigurationException.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/util/AttributesProxy.java  
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jar/org/apache/xerces/jaxp/validation/ValidatorImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/parsers/XMLGrammarParser.java  
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jar/org/apache/xerces/impl/dtd/XMLSimpleType.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/SchemaNamespaceSupport.java  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/AbstractDateTimeDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/YearDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/traversers/XSDKeyrefTraverser.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/DateDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/DateTimeDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/traversers/XSDUniqueOrKeyTraverser.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/MonthDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/DurationDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-

jar/org/apache/xerces/impl/dv/xs/MonthDayDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/TimeDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/traversers/XSAttributeChecker.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/YearMonthDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/XSModelGroupImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/XSSimpleTypeDecl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/traversers/XSDHandler.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/DayDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/XMLSchemaValidator.java  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/msg/XMLSchemaMessages.properties  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xpath/regex/message.properties  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/msg/DOMMessages.properties  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/msg/XPointerMessages.properties  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/msg/DatatypeMessages.properties  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xpath/regex/message\_fr.properties  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/msg/SAXMessages.properties  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/msg/XIncludeMessages.properties  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/msg/XMLMessages.properties  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/msg/XMLSerializerMessages.properties  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xpath/regex/message\_ja.properties

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/msg/JAXPValidationMessages.properties

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## 1.189 dropwizard-jackson 2.0.34

### 1.189.1 Available under license :

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## 1.190 httpcore-nio 4.4.13

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## 1.192 jackson-annotations 2.14.2

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# 1.193 jetty-io 9.4.50.v20221201

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<http://www.eclipse.org/legal/epl-v10.html>

Jetty may be distributed under either license.

-----  
Eclipse

The following artifacts are EPL.  
\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.  
\* org.eclipse.jetty.orbit:javafx.security.auth.message

The following artifacts are EPL and CDDL 1.0.  
\* org.eclipse.jetty.orbit:javafx.mail.glassfish

-----  
Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.  
<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api  
\* javax.annotation:javax.annotation-api  
\* javax.transaction:javax.transaction-api  
\* javax.websocket:javax.websocket-api

-----  
Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons

org.ow2.asm:asm

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Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec

org.apache.taglibs:taglibs-standard-impl

-----

MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp

org.apache.tomcat:tomcat-jasper

org.apache.tomcat:tomcat-juli

org.apache.tomcat:tomcat-jsp-api

org.apache.tomcat:tomcat-el-api

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-api

org.apache.tomcat:tomcat-util-scan

org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el

org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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Mortbay

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

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## 1.194 attr 2.4.46 13.el7

### 1.194.1 Available under license :

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# 1.196 libjpeg 6b

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#### DOCUMENTATION ROADMAP

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This file contains the following sections:

OVERVIEW        General description of JPEG and the IJG software.  
LEGAL ISSUES    Copyright, lack of warranty, terms of distribution.  
REFERENCES     Where to learn more about JPEG.  
ARCHIVE LOCATIONS Where to find newer versions of this software.  
RELATED SOFTWARE Other stuff you should get.  
FILE FORMAT WARS Software \*not\* to get.  
TO DO          Plans for future IJG releases.

Other documentation files in the distribution are:

User documentation:

install.doc    How to configure and install the IJG software.  
usage.doc     Usage instructions for cjpeg, djpeg, jpegtran,  
              rdjpgcom, and wjjpgcom.  
\*.1          Unix-style man pages for programs (same info as usage.doc).  
wizard.doc    Advanced usage instructions for JPEG wizards only.  
change.log    Version-to-version change highlights.

Programmer and internal documentation:

libjpeg.doc   How to use the JPEG library in your own programs.  
example.c     Sample code for calling the JPEG library.  
structure.doc  Overview of the JPEG library's internal structure.  
filelist.doc  Road map of IJG files.  
coderrules.doc Coding style rules --- please read if you contribute code.

Please read at least the files `install.doc` and `usage.doc`. Useful information can also be found in the JPEG FAQ (Frequently Asked Questions) article. See ARCHIVE LOCATIONS below to find out where to obtain the FAQ article.

If you want to understand how the JPEG code works, we suggest reading one or more of the REFERENCES, then looking at the documentation files (in roughly the order listed) before diving into the code.

## OVERVIEW

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This package contains C software to implement JPEG image compression and decompression. JPEG (pronounced "jay-peg") is a standardized compression method for full-color and gray-scale images. JPEG is intended for compressing "real-world" scenes; line drawings, cartoons and other non-realistic images are not its strong suit. JPEG is lossy, meaning that the output image is not exactly identical to the input image. Hence you must not use JPEG if you have to have identical output bits. However, on typical photographic images, very good compression levels can be obtained with no visible change, and remarkably high compression levels are possible if you can tolerate a low-quality image. For more details, see the references, or just experiment with various compression settings.

This software implements JPEG baseline, extended-sequential, and progressive compression processes. Provision is made for supporting all variants of these processes, although some uncommon parameter settings aren't implemented yet. For legal reasons, we are not distributing code for the arithmetic-coding variants of JPEG; see LEGAL ISSUES. We have made no provision for supporting the hierarchical or lossless processes defined in the standard.

We provide a set of library routines for reading and writing JPEG image files, plus two sample applications "cjpeg" and "djpeg", which use the library to perform conversion between JPEG and some other popular image file formats. The library is intended to be reused in other applications.

In order to support file conversion and viewing software, we have included considerable functionality beyond the bare JPEG coding/decoding capability; for example, the color quantization modules are not strictly part of JPEG decoding, but they are essential for output to colormapped file formats or colormapped displays. These extra functions can be compiled out of the library if not required for a particular application. We have also included "jpegtran", a utility for lossless transcoding between different JPEG processes, and "rdjpgcom" and "wrjpgcom", two simple applications for inserting and extracting textual comments in JFIF files.

The emphasis in designing this software has been on achieving portability and

flexibility, while also making it fast enough to be useful. In particular, the software is not intended to be read as a tutorial on JPEG. (See the REFERENCES section for introductory material.) Rather, it is intended to be reliable, portable, industrial-strength code. We do not claim to have achieved that goal in every aspect of the software, but we strive for it.

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It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

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## REFERENCES

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We highly recommend reading one or more of these references before trying to understand the innards of the JPEG software.

The best short technical introduction to the JPEG compression algorithm is Wallace, Gregory K. "The JPEG Still Picture Compression Standard", Communications of the ACM, April 1991 (vol. 34 no. 4), pp. 30-44. (Adjacent articles in that issue discuss MPEG motion picture compression, applications of JPEG, and related topics.) If you don't have the CACM issue handy, a PostScript file containing a revised version of Wallace's article is available at <ftp://ftp.uu.net/graphics/jpeg/wallace.ps.gz>. The file (actually a preprint for an article that appeared in IEEE Trans. Consumer Electronics) omits the sample images that appeared in CACM, but it includes corrections and some added material. Note: the Wallace article is copyright ACM and IEEE, and it may not be used for commercial purposes.

A somewhat less technical, more leisurely introduction to JPEG can be found in "The Data Compression Book" by Mark Nelson and Jean-loup Gailly, published by M&T Books (New York), 2nd ed. 1996, ISBN 1-55851-434-1. This book provides good explanations and example C code for a multitude of compression methods including JPEG. It is an excellent source if you are comfortable reading C code but don't know much about data compression in general. The book's JPEG sample code is far from industrial-strength, but when you are ready to look at a full implementation, you've got one here...

The best full description of JPEG is the textbook "JPEG Still Image Data Compression Standard" by William B. Pennebaker and Joan L. Mitchell, published by Van Nostrand Reinhold, 1993, ISBN 0-442-01272-1. Price US\$59.95, 638 pp. The book includes the complete text of the ISO JPEG standards (DIS 10918-1 and draft DIS 10918-2). This is by far the most complete exposition of JPEG in existence, and we highly recommend it.

The JPEG standard itself is not available electronically; you must order a paper copy through ISO or ITU. (Unless you feel a need to own a certified official copy, we recommend buying the Pennebaker and Mitchell book instead; it's much cheaper and includes a great deal of useful explanatory material.) In the USA, copies of the standard may be ordered from ANSI Sales at (212) 642-4900, or from Global Engineering Documents at (800) 854-7179. (ANSI doesn't take credit card orders, but Global does.) It's not cheap: as of 1992, ANSI was charging \$95 for Part 1 and \$47 for Part 2, plus 7% shipping/handling. The standard is divided into two parts, Part 1 being the actual specification, while Part 2 covers compliance testing methods. Part 1 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 1: Requirements and guidelines" and has document numbers ISO/IEC IS

10918-1, ITU-T T.81. Part 2 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 2: Compliance testing" and has document numbers ISO/IEC IS 10918-2, ITU-T T.83.

Some extensions to the original JPEG standard are defined in JPEG Part 3, a newer ISO standard numbered ISO/IEC IS 10918-3 and ITU-T T.84. IJG currently does not support any Part 3 extensions.

The JPEG standard does not specify all details of an interchangeable file format. For the omitted details we follow the "JFIF" conventions, revision 1.02. A copy of the JFIF spec is available from:

Literature Department  
C-Cube Microsystems, Inc.  
1778 McCarthy Blvd.  
Milpitas, CA 95035  
phone (408) 944-6300, fax (408) 944-6314

A PostScript version of this document is available by FTP at <ftp://ftp.uu.net/graphics/jpeg/jfif.ps.gz>. There is also a plain text version at <ftp://ftp.uu.net/graphics/jpeg/jfif.txt.gz>, but it is missing the figures.

The TIFF 6.0 file format specification can be obtained by FTP from <ftp://ftp.sgi.com/graphics/tiff/TIFF6.ps.gz>. The JPEG incorporation scheme found in the TIFF 6.0 spec of 3-June-92 has a number of serious problems. IJG does not recommend use of the TIFF 6.0 design (TIFF Compression tag 6). Instead, we recommend the JPEG design proposed by TIFF Technical Note #2 (Compression tag 7). Copies of this Note can be obtained from [ftp.sgi.com](ftp://ftp.sgi.com) or from <ftp://ftp.uu.net/graphics/jpeg/>. It is expected that the next revision of the TIFF spec will replace the 6.0 JPEG design with the Note's design. Although IJG's own code does not support TIFF/JPEG, the free libtiff library uses our library to implement TIFF/JPEG per the Note. libtiff is available from <ftp://ftp.sgi.com/graphics/tiff/>.

## ARCHIVE LOCATIONS

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The "official" archive site for this software is [ftp.uu.net](ftp://ftp.uu.net) (Internet address 192.48.96.9). The most recent released version can always be found there in directory [graphics/jpeg](ftp://ftp.uu.net/graphics/jpeg/). This particular version will be archived as <ftp://ftp.uu.net/graphics/jpeg/jpegsrc.v6b.tar.gz>. If you don't have direct Internet access, UUNET's archives are also available via UUCP; contact [help@uunet.uu.net](mailto:help@uunet.uu.net) for information on retrieving files that way.

Numerous Internet sites maintain copies of the UUNET files. However, only [ftp.uu.net](ftp://ftp.uu.net) is guaranteed to have the latest official version.

You can also obtain this software in DOS-compatible "zip" archive format from

the SimTel archives (<ftp://ftp.simtel.net/pub/simtelnet/msdos/graphics/>), or on CompuServe in the Graphics Support forum (GO CIS:GRAPHSUP), library 12 "JPEG Tools". Again, these versions may sometimes lag behind the ftp.uu.net release.

The JPEG FAQ (Frequently Asked Questions) article is a useful source of general information about JPEG. It is updated constantly and therefore is not included in this distribution. The FAQ is posted every two weeks to Usenet newsgroups comp.graphics.misc, news.answers, and other groups. It is available on the World Wide Web at <http://www.faqs.org/faqs/jpeg-faq/> and other news.answers archive sites, including the official news.answers archive at rtfm.mit.edu: <ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/>. If you don't have Web or FTP access, send e-mail to [mail-server@rtfm.mit.edu](mailto:mail-server@rtfm.mit.edu) with body

send usenet/news.answers/jpeg-faq/part1

send usenet/news.answers/jpeg-faq/part2

## RELATED SOFTWARE

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Numerous viewing and image manipulation programs now support JPEG. (Quite a few of them use this library to do so.) The JPEG FAQ described above lists some of the more popular free and shareware viewers, and tells where to obtain them on Internet.

If you are on a Unix machine, we highly recommend Jef Poskanzer's free PBPLUS software, which provides many useful operations on PPM-format image files. In particular, it can convert PPM images to and from a wide range of other formats, thus making cjpeg/djpeg considerably more useful. The latest version is distributed by the NetPBM group, and is available from numerous sites, notably <ftp://wuarchive.wustl.edu/graphics/graphics/packages/NetPBM/>. Unfortunately PBPLUS/NETPBM is not nearly as portable as the IJG software is; you are likely to have difficulty making it work on any non-Unix machine.

A different free JPEG implementation, written by the PVRG group at Stanford, is available from <ftp://havefun.stanford.edu/pub/jpeg/>. This program is designed for research and experimentation rather than production use; it is slower, harder to use, and less portable than the IJG code, but it is easier to read and modify. Also, the PVRG code supports lossless JPEG, which we do not. (On the other hand, it doesn't do progressive JPEG.)

## FILE FORMAT WARS

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Some JPEG programs produce files that are not compatible with our library. The root of the problem is that the ISO JPEG committee failed to specify a

concrete file format. Some vendors "filled in the blanks" on their own, creating proprietary formats that no one else could read. (For example, none of the early commercial JPEG implementations for the Macintosh were able to exchange compressed files.)

The file format we have adopted is called JFIF (see REFERENCES). This format has been agreed to by a number of major commercial JPEG vendors, and it has become the de facto standard. JFIF is a minimal or "low end" representation. We recommend the use of TIFF/JPEG (TIFF revision 6.0 as modified by TIFF Technical Note #2) for "high end" applications that need to record a lot of additional data about an image. TIFF/JPEG is fairly new and not yet widely supported, unfortunately.

The upcoming JPEG Part 3 standard defines a file format called SPIFF. SPIFF is interoperable with JFIF, in the sense that most JFIF decoders should be able to read the most common variant of SPIFF. SPIFF has some technical advantages over JFIF, but its major claim to fame is simply that it is an official standard rather than an informal one. At this point it is unclear whether SPIFF will supersede JFIF or whether JFIF will remain the de-facto standard. IJG intends to support SPIFF once the standard is frozen, but we have not decided whether it should become our default output format or not. (In any case, our decoder will remain capable of reading JFIF indefinitely.)

Various proprietary file formats incorporating JPEG compression also exist. We have little or no sympathy for the existence of these formats. Indeed, one of the original reasons for developing this free software was to help force convergence on common, open format standards for JPEG files. Don't use a proprietary file format!

TO DO

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The major thrust for v7 will probably be improvement of visual quality. The current method for scaling the quantization tables is known not to be very good at low Q values. We also intend to investigate block boundary smoothing, "poor man's variable quantization", and other means of improving quality-vs-file-size performance without sacrificing compatibility.

In future versions, we are considering supporting some of the upcoming JPEG Part 3 extensions --- principally, variable quantization and the SPIFF file format.

As always, speeding things up is of great interest.

Please send bug reports, offers of help, etc. to [jpeg-info@uunet.uu.net](mailto:jpeg-info@uunet.uu.net).



# 1.197 pyliblzma 0.5.3 11.e17

## 1.197.1 Available under license :

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Version 3, 29 June 2007

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## 1.200 pyxattr 0.5.1 5.e17

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# 1.202 j2objc-annotations 1.3

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\*/

```
package java.security;
```

```
import java.io.Serializable;
```

```
/**
```

```
* Legacy security code; do not use.
```

```
*/
```

```
public abstract class Permission implements Guard, Serializable {
 public Permission(String name) { }
```

```
 public final String getName() { return null; }
```

```
 public void checkGuard(Object obj) throws SecurityException { }
```

```
 public PermissionCollection newPermissionCollection() {
 return new AllPermissionCollection();
 }
```

```
 public abstract String getActions();
```

```
 public abstract boolean implies(Permission permission);
}
```

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- \* file name: UBiDiProps.java
- \* encoding: US-ASCII
- \* tab size: 8 (not used)
- \* indentation:4
- \*
- \* created on: 2005jan16
- \* created by: Markus W. Scherer
- \*
- \* Low-level Unicode bidi/shaping properties access.
- \* Java port of ubidi\_props.h/c.

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<code>Replaceable</code> is an interface representing a string of characters that supports the replacement of a range of itself with a new string of characters. It is used by APIs that change a piece of text while retaining metadata. Metadata is data other than the Unicode characters returned by `char32At()`. One example of metadata is style attributes; another is an edit history, marking each character with an author and revision number.

An implicit aspect of the `Replaceable` API is that during a replace operation, new characters take on the metadata of the old characters. For example, if the string "the **bold** font" has range (4, 8) replaced with "strong", then it becomes "the **strong** font".

`Replaceable` specifies ranges using a start offset and a limit offset. The range of characters thus specified includes the characters at offset start..limit-1. That is, the start offset is inclusive, and the limit offset is exclusive.

`Replaceable` also includes API to access characters in the string: `length()`, `charAt()`, `char32At()`, and `extractBetween()`.

For a subclass to support metadata, typical behavior of `replace()` is the following:

- 

- Set the metadata of the new text to the metadata of the first character replaced

- If no characters are replaced, use the metadata of the previous character

- If there is no previous character (i.e. start == 0), use the following character

- If there is no following character (i.e. the replaceable was empty), use default metadata

- If the code point U+FFFF is seen, it should be interpreted as a special marker having no metadata

- 



If this is not the behavior, the subclass should document any differences.

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@author Alan Liu

@stable ICU 2.0

`ReplaceableString` is an adapter class that implements the `Replaceable` API around an ordinary `StringBuffer`.

**Note:** This class does not support attributes and is not intended for general use. Most clients will need to implement `Replaceable` in their text representation class.

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@see Replaceable  
@author Alan Liu  
@stable ICU 2.0

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JUnit

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## 1.203 simpleclient\_tracer\_common 0.15.0

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\* /opt/cola/permits/1332541500\_1653371816.668578/0/simpleclient-tracer-common-0-15-0-jar/META-INF/maven/io.prometheus/simpleclient\_tracer\_common/pom.xml

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Manifest-Version: 1.0  
Bnd-LastModified: 1644098817942  
Build-Jdk: 11.0.13  
Built-By: fabian  
Bundle-Description: The Prometheus Java Suite: Client Metrics, Exposition, and Examples  
Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>  
Bundle-ManifestVersion: 2  
Bundle-Name: Prometheus Java Span Context Supplier - Common  
Bundle-SymbolicName: io.prometheus.simpleclient\_tracer\_common  
Bundle-Version: 0.15.0  
Created-By: Apache Maven Bundle Plugin  
Export-Package: io.prometheus.client.exemplars.tracer.common;version="0.15.0"  
Tool: Bnd-2.1.0.20130426-122213

Found in path(s):

\* /opt/cola/permits/1332541500\_1653371816.668578/0/simpleclient-tracer-common-0-15-0-jar/META-INF/MANIFEST.MF

## 1.204 metrics-servlets 4.1.33

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Manifest-Version: 1.0  
Automatic-Module-Name: com.codahale.metrics.servlets  
Build-Jdk-Spec: 1.8  
Bundle-Description: A set of utility servlets for Metrics, allowing you to expose valuable information about your production environment.  
Bundle-License: <https://www.apache.org/licenses/LICENSE-2.0.html>  
Bundle-ManifestVersion: 2  
Bundle-Name: Metrics Utility Servlets  
Bundle-SymbolicName: io.dropwizard.metrics.servlets  
Bundle-Version: 4.1.33  
Created-By: Apache Maven Bundle Plugin 5.1.8  
Export-Package: com.codahale.metrics.servlets;uses="com.codahale.metrics,com.codahale.metrics.health,com.fasterxml.jackson.databind,javax.servlet,javax.servlet.http";version="4.1.33"  
Implementation-Title: Metrics Utility Servlets  
Implementation-Version: 4.1.33  
Import-Package: javax.servlet;version="[2.5.0,4.0.0)",javax.servlet.http;version="[2.5.0,4.0.0)",com.codahale.metrics;version="[4.1,5)",com.codahale.metrics.health;version="[4.1,5)",com.codahale.metrics.json;

version="[4.1,5)",com.codahale.metrics.jvm;version="[4.1,5)",com.fast  
erxml.jackson.databind;version="[2.9,3)",com.fasterxml.jackson.databi  
nd.util;version="[2.9,3)",com.papertrail.profiler;version="[1.1,2)"  
Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.8))"  
Tool: Bnd-6.3.1.202206071316

Found in path(s):

\* /opt/cola/permits/1480501845\_1668971417.0605376/0/metrics-servlets-4-1-33-jar/META-INF/MANIFEST.MF

# 1.205 python-iniparse 0.4

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iniparse/compat.py and tests/test\_compat.py contain code derived from  
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Python was created in the early 1990s by Guido van Rossum at Stichting  
Mathematisch Centrum (CWI, see <http://www.cwi.nl>) in the Netherlands

as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see <http://www.cnri.reston.va.us>) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see <http://www.zope.com>). In 2001, the Python Software Foundation (PSF, see <http://www.python.org/psf/>) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see <http://www.opensource.org> for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

| Release from   | Derived from | Year      | Owner      | GPL-compatible? (1) |
|----------------|--------------|-----------|------------|---------------------|
| 0.9.0 thru 1.2 |              | 1991-1995 | CWI        | yes                 |
| 1.3 thru 1.5.2 | 1.2          | 1995-1999 | CNRI       | yes                 |
| 1.6            | 1.5.2        | 2000      | CNRI       | no                  |
| 2.0            | 1.6          | 2000      | BeOpen.com | no                  |
| 1.6.1          | 1.6          | 2001      | CNRI       | yes (2)             |
| 2.1            | 2.0+1.6.1    | 2001      | PSF        | no                  |
| 2.0.1          | 2.0+1.6.1    | 2001      | PSF        | yes                 |
| 2.1.1          | 2.1+2.0.1    | 2001      | PSF        | yes                 |
| 2.2            | 2.1.1        | 2001      | PSF        | yes                 |
| 2.1.2          | 2.1.1        | 2002      | PSF        | yes                 |
| 2.1.3          | 2.1.2        | 2002      | PSF        | yes                 |
| 2.2.1          | 2.2          | 2002      | PSF        | yes                 |
| 2.2.2          | 2.2.1        | 2002      | PSF        | yes                 |
| 2.2.3          | 2.2.2        | 2003      | PSF        | yes                 |
| 2.3            | 2.2.2        | 2002-2003 | PSF        | yes                 |
| 2.3.1          | 2.3          | 2002-2003 | PSF        | yes                 |
| 2.3.2          | 2.3.1        | 2002-2003 | PSF        | yes                 |
| 2.3.3          | 2.3.2        | 2002-2003 | PSF        | yes                 |

Footnotes:

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- (2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

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## 1.206 simpleclient\_tracer\_otel\_agent 0.15.0

### 1.206.1 Available under license :

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<url><http://www.apache.org/licenses/LICENSE-2.0.txt></url>

Found in path(s):

\* /opt/cola/permits/1332541513\_1653371836.766746/0/simpleclient-tracer-otel-agent-0-15-0-jar/META-INF/maven/io.prometheus/simpleclient\_tracer\_otel\_agent/pom.xml

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Manifest-Version: 1.0

Bnd-LastModified: 1644098835491

Build-Jdk: 11.0.13

Built-By: fabian

Bundle-Description: The Prometheus Java Suite: Client Metrics, Exposition, and Examples

Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>

Bundle-ManifestVersion: 2

Bundle-Name: Prometheus Java Span Context Supplier - OpenTelemetry Agent

Bundle-SymbolicName: io.prometheus.simpleclient\_tracer\_otel\_agent

Bundle-Version: 0.15.0

Created-By: Apache Maven Bundle Plugin

Export-Package: io.prometheus.client.exemplars.tracer.otel\_agent;uses:="io.prometheus.client.exemplars.tracer.common";version="0.15.0"

Import-Package: io.opentelemetry.api.trace,io.prometheus.client.exemplars.tracer.common;version="[0.15,1)"

Tool: Bnd-2.1.0.20130426-122213

Found in path(s):

\* /opt/cola/permits/1332541513\_1653371836.766746/0/simpleclient-tracer-otel-agent-0-15-0-jar/META-INF/MANIFEST.MF

# 1.207 cracklib 2.9.0 11.e17

## 1.207.1 Available under license :

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Version 2.1, February 1999

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^L

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To apply these terms, attach the following notices to the library.  
It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>

Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

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Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990  
Ty Coon, President of Vice

That's all there is to it!  
This package was debianized by Jean Pierre LeJacq  
<jplejacq@quoininc.com> on Wed, 25 Feb 1998. Martin Pitt  
<martin@piware.de> was the package's maintainer up to version 2.7.19-1. The current maintainer is Jan Dittberner  
<jandd@debian.org>.

It was downloaded from <http://sourceforge.net/projects/cracklib>

Copyright (c) 1993 Alec Muffett <[alecm@crypto.dircon.co.uk](mailto:alecm@crypto.dircon.co.uk)>,  
Copyright (c) 2005-2009 Nathan Neulinger <[nneul@umr.edu](mailto:nneul@umr.edu)>,  
Copyright (c) 2008-2009 Jan Dittberner <[jan@dittberner.info](mailto:jan@dittberner.info)>

Modifications: Added cronjob, configuration file, and man pages.

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A copy of the GNU Lesser General Public License 2.1 is available as /usr/share/common-licenses/LGPL-2.1 in the Debian GNU/Linux distribution or on the World Wide Web at <http://www.gnu.org/licenses/old-licenses/lgpl-2.1.html>. You can also obtain it by writing to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301, USA.

Copyright information:

CrackLib was originally licensed with a variant of the Artistic license. In the interests of wider acceptance and more modern licensing, it was switched with the original author's blessing to GPL v2.

This approval was carried out in email discussions in 2005, and has been reconfirmed as of 2007-10-01 with the following email from Alec Muffett. Cracklib's license was changed from the GPL to the LGPL after consensus of all previous developers in October 2008, effective with release 2.8.15 released on 2009-11-19. See the email discussion below for both license changes.

-----

-----

EFFECTIVE OCT 2008, LICENSE IS BEING CHANGED TO LGPL-2.1 (though not reflected in released code until Nov 2009 - slow release cycle...)

-----

Discussion thread from mailing list archive, with approval from everyone actively involved or holding original licensing rights included.

[Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2007-10-02 01:16

Attachments: Message as HTML

looks like 2.8.11 is out and marked as "GPL-2" ... releasing libraries unde=  
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GPL-2 is not desirable at all ... this is why the LGPL-2.1 exists  
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Re: [Cracklib-devel] cracklib license

From: Neulinger, Nathan <nneul@um...> - 2007-10-02 01:18

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-- Nathan

=20

-----  
Nathan Neulinger EMail: nneul@um...

University of Missouri - Rolla Phone: (573) 341-6679

UMR Information Technology Fax: (573) 341-4216

> -----Original Message-----

> From: cracklib-devel-bounces@li...

> [mailto:cracklib-devel-bounces@li...] On Behalf Of

> Mike Frysinger

> Sent: Monday, October 01, 2007 8:15 PM

> To: cracklib-devel@li...

> Subject: [Cracklib-devel] cracklib license

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Re: [Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2007-10-02 01:33

Attachments: Message as HTML

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=20Dmike

Re: [Cracklib-devel] cracklib license

From: Neulinger, Nathan <nneul@um...> - 2007-10-02 01:46

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University of Missouri - Rolla Phone: (573) 341-6679  
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> Mike Frysinger  
> Sent: Monday, October 01, 2007 8:33 PM  
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Re: [Cracklib-devel] cracklib license

From: Alec Muffett <alecm@cr...> - 2007-10-02 08:57

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I am sympathetic. Guys, what do you reckon?

What I am hearing so far is that LGPL makes sense, since it can be  
linked with any code, not just GPL...

-a

Re: [Cracklib-devel] cracklib license

From: Devin Reade <gdr@gn...> - 2007-10-02 15:04

I would like to see it under LGPL as well. I think it is in everyone's  
best interests to have as secure systems as possible, and I think tainting  
it via GPL will just make it less likely that the library gets used, and  
will not usually cause companies/developers to GPL the dependent code

(where it is not already GPL).

I like GPL, I use it when I can, but I don't think that it's the correct license in this situation.

Devin

--

If it's sinful, it's more fun.

Re: [Cracklib-devel] cracklib license

From: Nalin Dahyabhai <nalin@re...> - 2008-01-28 16:32

On Tue, Oct 02, 2007 at 09:57:31AM +0100, Alec Muffett wrote:

>> Seems like the ideal thing here would be for you and the other distro  
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My apologies for not chiming in in anything resembling a reasonable timeframe.

I'd also suggest the LGPL, for the reason you noted above. Alternately, GPLv2 with the option of using the library under a later version of the GPL would permit applications which were released under version 3 of the GPL to use the library, too, which would be sufficient for the packages which are included in Fedora. FWIW, I'd personally lean toward LGPL.

In any case, I thank you both for working on sorting this out.

Cheers,

Nalin

Re: [Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2008-10-05 21:27

Attachments: Message as HTML

On Monday 28 January 2008, Nalin Dahyabhai wrote:

> On Tue, Oct 02, 2007 at 09:57:31AM +0100, Alec Muffett wrote:

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looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we make  
the change now ?

-mike

Re: [Cracklib-devel] cracklib license

From: Alec Muffett <alecm@cr...> - 2008-10-05 23:18

>> In any case, I thank you both for working on sorting this out.

>

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> the change now ?

yes. go for it. thanks++

-a

Re: [Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2008-10-25 22:34

Attachments: Message as HTML

On Sunday 05 October 2008, Alec Muffett wrote:

>>> In any case, I thank you both for working on sorting this out.

>>

>> looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we  
>> make the change now ?  
>  
> yes. go for it. thanks++

Nathan Neulinger is the only one who can actually make said change ...  
-mike

-----  
BELOW IS ORIGINAL LICENSING DISCUSSION RE CHANGING TO GPL from Artistic.  
-----

CrackLib was originally licensed with a variant of the Artistic license. In the interests of wider acceptance and more modern licensing, it was switched with the original author's blessing to GPL v2.

This approval was carried out in email discussions in 2005, and has been reconfirmed as of 2007-10-01 with the following email from Alec Muffett.

The below email references nneul@umr.edu address, as that is the address that was used at the time. For any future emails regarding this, please use nneul@neulinger.org.

-----  
From alecm@crypticide.com Mon Oct 1 12:26:03 2007  
Received: from umr-exproto2.cc.umr.edu ([131.151.0.192]) by UMR-CMAIL1.umr.edu with Microsoft SMTPSVC(6.0.3790.3959);  
Mon, 1 Oct 2007 12:26:03 -0500  
Received: from scansrv2.srv.mst.edu ([131.151.1.114]) by umr-exproto2.cc.umr.edu with Microsoft SMTPSVC(6.0.3790.3959);  
Mon, 1 Oct 2007 12:26:02 -0500  
Received: (qmail 8022 invoked from network); 1 Oct 2007 16:59:55 -0000  
Received: from smtp1.srv.mst.edu (131.151.1.43)  
by scanin-ipvs.cc.umr.edu with SMTP; 1 Oct 2007 16:59:55 -0000  
Received: from spunkymail-mx8.g.dreamhost.com (mx1.spunky.mail.dreamhost.com [208.97.132.47])  
by smtp1.srv.mst.edu (8.13.1/8.13.1) with ESMTP id 191Gxtpr020623  
for <nneul@umr.edu>; Mon, 1 Oct 2007 11:59:55 -0500  
Received: from rutherford.zen.co.uk (rutherford.zen.co.uk [212.23.3.142])  
by spunkymail-mx8.g.dreamhost.com (Postfix) with ESMTP id 2C7734D311  
for <nneul@neulinger.org>; Mon, 1 Oct 2007 09:59:50 -0700 (PDT)  
Received: from [82.68.43.14] (helo=[192.168.1.3])  
by rutherford.zen.co.uk with esmtp (Exim 4.50)  
id 1IcOcX-0004Qt-6L

for nneul@neulinger.org; Mon, 01 Oct 2007 16:59:49 +0000  
Mime-Version: 1.0 (Apple Message framework v752.2)  
In-Reply-To: <1b1b3fd80710010908k11dac0afp1f2dd471059ff9a4@mail.gmail.com>  
References: <1190922867.3457.147.camel@localhost.localdomain>  
<EC90713277D2BE41B7110CCD74E235CEF44F38@UMR-CMAIL1.umr.edu>  
<1b1b3fd80710010908k11dac0afp1f2dd471059ff9a4@mail.gmail.com>  
Content-Type: text/plain; charset=US-ASCII; delp=yes; format=flowed  
Message-Id: <117A1264-F6DC-4E25-B0DD-56FBFE6E9F@crypticide.com>  
Content-Transfer-Encoding: 7bit  
From: Alec Muffett <alecm@crypticide.com>  
Subject: Re: cracklib license  
Date: Mon, 1 Oct 2007 17:59:46 +0100  
To: Nathan Neulinger <nneul@neulinger.org>  
X-Mailer: Apple Mail (2.752.2)  
X-Originating-Rutherford-IP: [82.68.43.14]  
Return-Path: alecm@crypticide.com  
X-OriginalArrivalTime: 01 Oct 2007 17:26:03.0008 (UTC) FILETIME=[2420C000:01C80450]  
Status: RO  
Content-Length: 585  
Lines: 21

>  
> ----- Forwarded message -----  
> From: Neulinger, Nathan <nneul@umr.edu>  
> Date: Sep 27, 2007 2:58 PM  
> Subject: RE: cracklib license  
> To: alecm@crypto.dircon.co.uk  
>  
> Any chance you could write me a self-contained email stating clearly  
> that the license is being changed to GPL, so I could include that  
> email  
> in the repository and clean up the repository/tarballs? I have all the  
> original discussion, but something succinct and self contained  
> would be  
> ideal.

The license for my code in the Cracklib distribution is henceforth GPL.

Happy now? :-)

-a

-----  
EFFECTIVE OCT 2008, LICENSE IS BEING CHANGED TO LGPL-2.1 (though not reflected  
in released code until Nov 2009 - slow release cycle...)  
-----

Discussion thread from mailing list archive, with approval from everyone actively  
involved or holding original licensing rights included.

[Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2007-10-02 01:16

Attachments: Message as HTML

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> From: cracklib-devel-bounces@li...

> [mailto:cracklib-devel-bounces@li...] On Behalf Of

> Mike Frysinger

> Sent: Monday, October 01, 2007 8:15 PM

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Attachments: Message as HTML

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On Monday 28 January 2008, Nalin Dahyabhai wrote:

> On Tue, Oct 02, 2007 at 09:57:31AM +0100, Alec Muffett wrote:  
>>> Seems like the ideal thing here would be for you and the other distro  
>>> maintainers to get together with Alec in a conversation and come to a

>>> decision as to what licensing scheme y'all want. I haven't really done  
>>> much other than cleaning up the packaging and patches and a small  
>>> bit of  
>>> additional code, so whatever licensing y'all come up with is fine  
>>> by me.  
>>  
>> I am sympathetic. Guys, what do you reckon?  
>>  
>> What I am hearing so far is that LGPL makes sense, since it can be  
>> linked with any code, not just GPL...  
>  
> My apologies for not chiming in in anything resembling a reasonable  
> timeframe.  
>  
> I'd also suggest the LGPL, for the reason you noted above. Alternately,  
> GPLv2 with the option of using the library under a later version of the  
> GPL would permit applications which were released under version 3 of the  
> GPL to use the library, too, which would be sufficient for the packages  
> which are included in Fedora. FWIW, I'd personally lean toward LGPL.  
>  
> In any case, I thank you both for working on sorting this out.

looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we make  
the change now ?

-mike

Re: [Cracklib-devel] cracklib license

From: Alec Muffett <alecm@cr...> - 2008-10-05 23:18

>> In any case, I thank you both for working on sorting this out.

>

> looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we make  
> the change now ?

yes. go for it. thanks++

-a

Re: [Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2008-10-25 22:34

Attachments: Message as HTML

On Sunday 05 October 2008, Alec Muffett wrote:

>>> In any case, I thank you both for working on sorting this out.

>>

>> looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we

>> make the change now ?

>

> yes. go for it. thanks++

Nathan Neulinger is the only one who can actually make said change ...

-mike

-----  
BELOW IS ORIGINAL LICENSING DISCUSSION RE CHANGING TO GPL from Artistic.  
-----

CrackLib was originally licensed with a variant of the Artistic license. In the interests of wider acceptance and more modern licensing, it was switched with the original author's blessing to GPL v2.

This approval was carried out in email discussions in 2005, and has been reconfirmed as of 2007-10-01 with the following email from Alec Muffett.

The below email references nneul@umr.edu address, as that is the address that was used at the time. For any future emails regarding this, please use nneul@neulinger.org.

-----

From alecm@crypticide.com Mon Oct 1 12:26:03 2007  
Received: from umr-exproto2.cc.umr.edu ([131.151.0.192]) by UMR-CMAIL1.umr.edu with Microsoft SMTPSVC(6.0.3790.3959);  
Mon, 1 Oct 2007 12:26:03 -0500  
Received: from scansrv2.srv.mst.edu ([131.151.1.114]) by umr-exproto2.cc.umr.edu with Microsoft SMTPSVC(6.0.3790.3959);  
Mon, 1 Oct 2007 12:26:02 -0500  
Received: (qmail 8022 invoked from network); 1 Oct 2007 16:59:55 -0000  
Received: from smtp1.srv.mst.edu (131.151.1.43)  
by scanin-ipvs.cc.umr.edu with SMTP; 1 Oct 2007 16:59:55 -0000  
Received: from spunkymail-mx8.g.dreamhost.com (mx1.spunky.mail.dreamhost.com [208.97.132.47])  
by smtp1.srv.mst.edu (8.13.1/8.13.1) with ESMTP id 191Gxtpr020623  
for <nneul@umr.edu>; Mon, 1 Oct 2007 11:59:55 -0500  
Received: from rutherford.zen.co.uk (rutherford.zen.co.uk [212.23.3.142])  
by spunkymail-mx8.g.dreamhost.com (Postfix) with ESMTP id 2C7734D311  
for <nneul@neulinger.org>; Mon, 1 Oct 2007 09:59:50 -0700 (PDT)  
Received: from [82.68.43.14] (helo=[192.168.1.3])  
by rutherford.zen.co.uk with esmtp (Exim 4.50)  
id 1IcOcX-0004Qt-6L  
for nneul@neulinger.org; Mon, 01 Oct 2007 16:59:49 +0000  
Mime-Version: 1.0 (Apple Message framework v752.2)

In-Reply-To: <1b1b3fd80710010908k11dac0afp1f2dd471059ff9a4@mail.gmail.com>  
References: <1190922867.3457.147.camel@localhost.localdomain>  
<EC90713277D2BE41B7110CCD74E235CEF44F38@UMR-CMAIL1.umr.edu>  
<1b1b3fd80710010908k11dac0afp1f2dd471059ff9a4@mail.gmail.com>  
Content-Type: text/plain; charset=US-ASCII; delsp=yes; format=flowed  
Message-Id: <117A1264-F6DC-4E25-B0DD-56FBFE6E9F@crypticide.com>  
Content-Transfer-Encoding: 7bit  
From: Alec Muffett <alecm@crypticide.com>  
Subject: Re: cracklib license  
Date: Mon, 1 Oct 2007 17:59:46 +0100  
To: Nathan Neulinger <nneul@neulinger.org>  
X-Mailer: Apple Mail (2.752.2)  
X-Originating-Rutherford-IP: [82.68.43.14]  
Return-Path: alecm@crypticide.com  
X-OriginalArrivalTime: 01 Oct 2007 17:26:03.0008 (UTC) FILETIME=[2420C000:01C80450]  
Status: RO  
Content-Length: 585  
Lines: 21

>  
> ----- Forwarded message -----  
> From: Neulinger, Nathan <nneul@umr.edu>  
> Date: Sep 27, 2007 2:58 PM  
> Subject: RE: cracklib license  
> To: alecm@crypto.dircon.co.uk  
>  
> Any chance you could write me a self-contained email stating clearly  
> that the license is being changed to GPL, so I could include that  
> email  
> in the repository and clean up the repository/tarballs? I have all the  
> original discussion, but something succinct and self contained  
> would be  
> ideal.

The license for my code in the Cracklib distribution is henceforth GPL.

Happy now? :-)

-a

## 1.208 jre 1.8.0\_345-b01

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2000-01-14

## 1.209 python 2.7.5-92.el7\_9

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#### A. HISTORY OF THE SOFTWARE

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Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see <http://www.cwi.nl>) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see <http://www.cnri.reston.va.us>) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see <http://www.zope.com>). In 2001, the Python Software Foundation (PSF, see <http://www.python.org/psf/>) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see <http://www.opensource.org> for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

| Release        | Derived from | Year      | Owner | GPL-compatible? (1) |
|----------------|--------------|-----------|-------|---------------------|
| 0.9.0 thru 1.2 |              | 1991-1995 | CWI   | yes                 |
| 1.3 thru 1.5.2 | 1.2          | 1995-1999 | CNRI  | yes                 |
| 1.6            | 1.5.2        | 2000      | CNRI  | no                  |

|       |           |           |            |         |
|-------|-----------|-----------|------------|---------|
| 2.0   | 1.6       | 2000      | BeOpen.com | no      |
| 1.6.1 | 1.6       | 2001      | CNRI       | yes (2) |
| 2.1   | 2.0+1.6.1 | 2001      | PSF        | no      |
| 2.0.1 | 2.0+1.6.1 | 2001      | PSF        | yes     |
| 2.1.1 | 2.1+2.0.1 | 2001      | PSF        | yes     |
| 2.2   | 2.1.1     | 2001      | PSF        | yes     |
| 2.1.2 | 2.1.1     | 2002      | PSF        | yes     |
| 2.1.3 | 2.1.2     | 2002      | PSF        | yes     |
| 2.2.1 | 2.2       | 2002      | PSF        | yes     |
| 2.2.2 | 2.2.1     | 2002      | PSF        | yes     |
| 2.2.3 | 2.2.2     | 2003      | PSF        | yes     |
| 2.3   | 2.2.2     | 2002-2003 | PSF        | yes     |
| 2.3.1 | 2.3       | 2002-2003 | PSF        | yes     |
| 2.3.2 | 2.3.1     | 2002-2003 | PSF        | yes     |
| 2.3.3 | 2.3.2     | 2002-2003 | PSF        | yes     |
| 2.3.4 | 2.3.3     | 2004      | PSF        | yes     |
| 2.3.5 | 2.3.4     | 2005      | PSF        | yes     |
| 2.4   | 2.3       | 2004      | PSF        | yes     |
| 2.4.1 | 2.4       | 2005      | PSF        | yes     |
| 2.4.2 | 2.4.1     | 2005      | PSF        | yes     |
| 2.4.3 | 2.4.2     | 2006      | PSF        | yes     |
| 2.4.4 | 2.4.3     | 2006      | PSF        | yes     |
| 2.5   | 2.4       | 2006      | PSF        | yes     |
| 2.5.1 | 2.5       | 2007      | PSF        | yes     |
| 2.5.2 | 2.5.1     | 2008      | PSF        | yes     |
| 2.5.3 | 2.5.2     | 2008      | PSF        | yes     |
| 2.6   | 2.5       | 2008      | PSF        | yes     |
| 2.6.1 | 2.6       | 2008      | PSF        | yes     |
| 2.6.2 | 2.6.1     | 2009      | PSF        | yes     |
| 2.6.3 | 2.6.2     | 2009      | PSF        | yes     |
| 2.6.4 | 2.6.3     | 2009      | PSF        | yes     |
| 2.6.5 | 2.6.4     | 2010      | PSF        | yes     |
| 2.7   | 2.6       | 2010      | PSF        | yes     |

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## 1.214 jackson-dataformat-yaml 2.13.3

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```
* /opt/cola/permits/1257772269_1643010353.74/0/paranamer-2-5-1-sources-
jar/com/thoughtworks/paranamer/BytecodeReadingParanamer.java
```

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jar/com/thoughtworks/paranamer/NullParanamer.java  
\* /opt/cola/permits/1257772269\_1643010353.74/0/paranamer-2-5-1-sources-  
jar/com/thoughtworks/paranamer/AdaptiveParanamer.java  
\* /opt/cola/permits/1257772269\_1643010353.74/0/paranamer-2-5-1-sources-  
jar/com/thoughtworks/paranamer/ParameterNamesNotFoundException.java  
\* /opt/cola/permits/1257772269\_1643010353.74/0/paranamer-2-5-1-sources-  
jar/com/thoughtworks/paranamer/CachingParanamer.java  
\* /opt/cola/permits/1257772269\_1643010353.74/0/paranamer-2-5-1-sources-  
jar/com/thoughtworks/paranamer/DefaultParanamer.java

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jar/com/thoughtworks/paranamer/JavadocParanamer.java

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### 1.216.1 Available under license :

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## 1.217 procps 3.3.10-28.el7

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## 1.220 libutempter 1.1.6 4.e17

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2000-01-14

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```
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/TreeTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/DateTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/ConstructorConstructor.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/sql/SqlDateTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/UnsafeAllocator.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/sql/SqlTimeTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/LazilyParsedNumber.java
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\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/bind/JsonTreeReader.java

\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/bind/TypeAdapterRuntimeTypeWrapper.java

\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/bind/CollectionTypeAdapterFactory.java

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\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-

jar/com/google/gson/internal/JsonReaderInternalAccess.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/ReflectiveTypeAdapterFactory.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/TypeAdapters.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/ObjectTypeAdapter.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/TypeAdapter.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/JsonTreeWriter.java  
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jar/com/google/gson/JsonStreamParser.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/LongSerializationPolicy.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/FieldAttributes.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonParser.java  
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\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-

jar/com/google/gson/JsonSerializationContext.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/JsonParseException.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/ObjectConstructor.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/Gson.java  
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jar/com/google/gson/annotations/Since.java  
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jar/com/google/gson/JsonPrimitive.java  
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jar/com/google/gson/ExclusionStrategy.java  
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jar/com/google/gson/InstanceCreator.java  
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\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/JsonReader.java

\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/MalformedJsonException.java

\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/JsonScope.java

\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/JsonToken.java

\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/JsonWriter.java

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Found in path(s):

\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/reflect/PreJava9ReflectionAccessor.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/reflect/ReflectionAccessor.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/reflect/UnsafeReflectionAccessor.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/PreJava9DateFormatProvider.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/JavaVersion.java

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\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/ToNumberPolicy.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/ToNumberStrategy.java

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\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/bind/NumberTypeAdapter.java  
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\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonSyntaxException.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/Streams.java  
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\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/bind/JsonAdapterAnnotationTypeAdapterFactory.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/annotations/JsonAdapter.java

## 1.227 grpc-stub 1.22.1

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\* /opt/ws\_local/PERMITS\_SQL/1013689293\_1591363949.45/0/grpc-stub-1-22-1-sources-jar/io/grpc/stub/package-info.java

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\* /opt/ws\_local/PERMITS\_SQL/1013689293\_1591363949.45/0/grpc-stub-1-22-1-sources-  
jar/io/grpc/stub/ClientCallStreamObserver.java  
\* /opt/ws\_local/PERMITS\_SQL/1013689293\_1591363949.45/0/grpc-stub-1-22-1-sources-  
jar/io/grpc/stub/CallStreamObserver.java  
\* /opt/ws\_local/PERMITS\_SQL/1013689293\_1591363949.45/0/grpc-stub-1-22-1-sources-  
jar/io/grpc/stub/ServerCallStreamObserver.java  
\* /opt/ws\_local/PERMITS\_SQL/1013689293\_1591363949.45/0/grpc-stub-1-22-1-sources-  
jar/io/grpc/stub/ClientResponseObserver.java

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jar/io/grpc/stub/ClientCalls.java  
\* /opt/ws\_local/PERMITS\_SQL/1013689293\_1591363949.45/0/grpc-stub-1-22-1-sources-  
jar/io/grpc/stub/MetadataUtils.java  
\* /opt/ws\_local/PERMITS\_SQL/1013689293\_1591363949.45/0/grpc-stub-1-22-1-sources-  
jar/io/grpc/stub/AbstractStub.java  
\* /opt/ws\_local/PERMITS\_SQL/1013689293\_1591363949.45/0/grpc-stub-1-22-1-sources-  
jar/io/grpc/stub/ServerCalls.java  
\* /opt/ws\_local/PERMITS\_SQL/1013689293\_1591363949.45/0/grpc-stub-1-22-1-sources-  
jar/io/grpc/stub/StreamObserver.java

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* /opt/ws_local/PERMITS_SQL/1013689293_1591363949.45/0/grpc-stub-1-22-1-sources-
jar/io/grpc/stub/annotations/RpcMethod.java
```

## 1.228 jackson-jaxrs 2.10.5

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# Jackson JSON processor

Jackson is a high-performance, Free/Open Source JSON processing library.

It was originally written by Tatu Saloranta ([tatu.saloranta@iki.fi](mailto:tatu.saloranta@iki.fi)), and has been in development since 2007.

It is currently developed by a community of developers, as well as supported commercially by FasterXML.com.

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## 1.229 python-iniparse 0.4 9.e17

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iniparse/compat.py and tests/test\_compat.py contain code derived from lib/python-2.3/ConfigParser.py and lib/python-2.3/test/test\_cfgparse.py respectively. Other code may contain small snippets from those two files as well. The Python license (LICENSE-PSF) applies to that code.

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Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see <http://www.cwi.nl>) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see <http://www.cnri.reston.va.us>) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see <http://www.zope.com>). In 2001, the Python Software Foundation (PSF, see <http://www.python.org/psf/>) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see <http://www.opensource.org> for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

| Release from   | Derived from | Year      | Owner      | GPL-compatible? (1) |
|----------------|--------------|-----------|------------|---------------------|
| 0.9.0 thru 1.2 |              | 1991-1995 | CWI        | yes                 |
| 1.3 thru 1.5.2 | 1.2          | 1995-1999 | CNRI       | yes                 |
| 1.6            | 1.5.2        | 2000      | CNRI       | no                  |
| 2.0            | 1.6          | 2000      | BeOpen.com | no                  |
| 1.6.1          | 1.6          | 2001      | CNRI       | yes (2)             |
| 2.1            | 2.0+1.6.1    | 2001      | PSF        | no                  |
| 2.0.1          | 2.0+1.6.1    | 2001      | PSF        | yes                 |



|       |           |           |     |     |
|-------|-----------|-----------|-----|-----|
| 2.1.1 | 2.1+2.0.1 | 2001      | PSF | yes |
| 2.2   | 2.1.1     | 2001      | PSF | yes |
| 2.1.2 | 2.1.1     | 2002      | PSF | yes |
| 2.1.3 | 2.1.2     | 2002      | PSF | yes |
| 2.2.1 | 2.2       | 2002      | PSF | yes |
| 2.2.2 | 2.2.1     | 2002      | PSF | yes |
| 2.2.3 | 2.2.2     | 2003      | PSF | yes |
| 2.3   | 2.2.2     | 2002-2003 | PSF | yes |
| 2.3.1 | 2.3       | 2002-2003 | PSF | yes |
| 2.3.2 | 2.3.1     | 2002-2003 | PSF | yes |
| 2.3.3 | 2.3.2     | 2002-2003 | PSF | yes |

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---

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-----

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Jim Luther's Mac OS File Manager interface code; and Christopher Evans' MacBinaryIII coding code (for the MacOS port).. These copyrights are discussed in more detail below.

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There are no known patents on any of the code in UnZip. Unisys claims a patent on LZW encoding and on LZW decoding in an apparatus that performs LZW encoding, but the patent appears to exempt a stand-alone decoder (as in UnZip's unshrink.c). Unisys has publicly claimed

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---

The original unzip source code has been extensively modified and almost entirely rewritten (changes include random zipfile access rather than sequential; replacement of unimplode() with explode(); replacement of old unshrink() with new (unrelated) unshrink(); replacement of output routines; addition of inflate(), wildcards, filename-mapping, text translation, ...; etc.). As far as we can tell, only the core code of the unreduce method remained substantially similar to Mr. Smith's original source. As of UnZip 5.42, the complete core code is now covered by the Info-ZIP Licence. Therefore, support for the reduce method has been removed.

The drop of the reduce method should only affect some test archives, reducing was never used in any publically distributed Zip program. For pathologic cases where support for reduced archive entries is needed, the unreduce code copyrighted by Samuel H. Smith is available as a separate distribution (the restricted copyright of this code is cited below in the "historical" section).

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```
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*
* A collection of File Manager and related routines
*
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- \*
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- \* -----
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"He says that he thought that whoever contacted him understood that

he has no objection to the Info-ZIP group's inclusion of his code.  
His primary concern is that it remain freely distributable, he said."

Despite the fact that our "normal" code has been entirely rewritten and by default no longer contains any of Mr. Smith's code, Info-ZIP remains indebted and grateful to him. We hope he finds our contributions as useful as we have his.

Note that the third and fourth stipulations still apply to any company that wishes to incorporate the unreduced code into its products; if you wish to do so, you must contact Mr. Smith directly regarding licensing.

-----

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-----

The remaining code was written by many people associated with the Info-ZIP group, with large contributions from (but not limited to): Greg Roelofs (overall program logic, ZipInfo, unshrink, filename mapping/portability, etc.), Mark Adler (inflate, explode, funzip), Kai Uwe Rommel (OS/2), John Bush and Paul Kienitz (Amiga), Antoine Verheijen (Macintosh), Hunter Goatley (more VMS), Mike White (Windows DLLs), Christian Spieler (overall logic, optimization, VMS, etc.) and others. See the file CONTRIBS in the source distribution for a much more complete list of contributors.

The decompression core code for the deflate method (inflate.[ch], explode.c) was originally written by Mark Adler who submitted it as public domain code.

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## 1.232 activation-api 1.2.1

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# 1.233 pcre 8.32 17.el7

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### THE BASIC LIBRARY FUNCTIONS

-----

Written by: Philip Hazel  
Email local part: ph10  
Email domain: cam.ac.uk

University of Cambridge Computing Service,  
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## 1.234 commons-collections 4.4

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# 1.238 diffutils 3.3 5.e17

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```
#define GDIFF_MAIN
#include "diff.h"
#include <assert.h>
#include "paths.h"
#include <c-stack.h>
#include <dirname.h>
#include <error.h>
#include <exclude.h>
#include <exitfail.h>
#include <filenamecat.h>
#include <file-type.h>
#include <fnmatch.h>
#include <getopt.h>
#include <hard-locale.h>
#include <prepargs.h>
#include <progrname.h>
#include <sh-quote.h>
#include <stat-time.h>
#include <timespec.h>
#include <version-etc.h>
#include <xalloc.h>
#include <xreadlink.h>
#include <binary-io.h>
```

```

/* The official name of this program (e.g., no 'g' prefix). */
#define PROGRAM_NAME "diff"

#define AUTHORS \
proper_name ("Paul Eggert"), \
proper_name ("Mike Haertel"), \
proper_name ("David Hayes"), \
proper_name ("Richard Stallman"), \
proper_name ("Len Tower")

#ifndef GUTTER_WIDTH_MINIMUM
define GUTTER_WIDTH_MINIMUM 3
#endif

struct regexp_list
{
char *regexps; /* chars representing disjunction of the regexps */
size_t len; /* chars used in 'regexps' */
size_t size; /* size malloc'ed for 'regexps'; 0 if not malloc'ed */
bool multiple_regexps; /* Does 'regexps' represent a disjunction? */
struct re_pattern_buffer *buf;
};

static int compare_files (struct comparison const *, char const *, char const *);
static void add_regexp (struct regexp_list *, char const *);
static void summarize_regexp_list (struct regexp_list *);
static void specify_style (enum output_style);
static void specify_value (char const **, char const *, char const *);
static void try_help (char const *, char const *) __attribute__((noreturn));
static void check_stdout (void);
static void usage (void);

/* If comparing directories, compare their common subdirectories
 recursively. */
static bool recursive;

/* In context diffs, show previous lines that match these regexps. */
static struct regexp_list function_regexp_list;

/* Ignore changes affecting only lines that match these regexps. */
static struct regexp_list ignore_regexp_list;

#if O_BINARY
/* Use binary I/O when reading and writing data (--binary).
 On POSIX hosts, this has no effect. */
static bool binary;
#else
enum { binary = true };

```

```

#endif

/* If one file is missing, treat it as present but empty (-N). */
static bool new_file;

/* If the first file is missing, treat it as present but empty
 (--unidirectional-new-file). */
static bool unidirectional_new_file;

/* Report files compared that are the same (-s).
 Normally nothing is output when that happens. */
static bool report_identical_files;

static char const shortopts[] =
"0123456789abBcC:dD:eEfF:hHiI:lL:nNpPqrsS:tTuU:vwW:x:X:yZ";

/* Values for long options that do not have single-letter equivalents. */
enum
{
 BINARY_OPTION = CHAR_MAX + 1,
 FROM_FILE_OPTION,
 HELP_OPTION,
 HORIZON_LINES_OPTION,
 IGNORE_FILE_NAME_CASE_OPTION,
 INHIBIT_HUNK_MERGE_OPTION,
 LEFT_COLUMN_OPTION,
 LINE_FORMAT_OPTION,
 NO_DEREFERENCE_OPTION,
 NO_IGNORE_FILE_NAME_CASE_OPTION,
 NORMAL_OPTION,
 SDIFF_MERGE_ASSIST_OPTION,
 STRIP_TRAILING_CR_OPTION,
 SUPPRESS_BLANK_EMPTY_OPTION,
 SUPPRESS_COMMON_LINES_OPTION,
 TABSIZE_OPTION,
 TO_FILE_OPTION,

 /* These options must be in sequence. */
 UNCHANGED_LINE_FORMAT_OPTION,
 OLD_LINE_FORMAT_OPTION,
 NEW_LINE_FORMAT_OPTION,

 /* These options must be in sequence. */
 UNCHANGED_GROUP_FORMAT_OPTION,
 OLD_GROUP_FORMAT_OPTION,
 NEW_GROUP_FORMAT_OPTION,
 CHANGED_GROUP_FORMAT_OPTION
};

```

```

static char const group_format_option[][sizeof "--unchanged-group-format"] =
{
 "--unchanged-group-format",
 "--old-group-format",
 "--new-group-format",
 "--changed-group-format"
};

```

```

static char const line_format_option[][sizeof "--unchanged-line-format"] =
{
 "--unchanged-line-format",
 "--old-line-format",
 "--new-line-format"
};

```

```

static struct option const longopts[] =
{
 {"binary", 0, 0, BINARY_OPTION},
 {"brief", 0, 0, 'q'},
 {"changed-group-format", 1, 0, CHANGED_GROUP_FORMAT_OPTION},
 {"context", 2, 0, 'C'},
 {"ed", 0, 0, 'e'},
 {"exclude", 1, 0, 'x'},
 {"exclude-from", 1, 0, 'X'},
 {"expand-tabs", 0, 0, 't'},
 {"forward-ed", 0, 0, 'f'},
 {"from-file", 1, 0, FROM_FILE_OPTION},
 {"help", 0, 0, HELP_OPTION},
 {"horizon-lines", 1, 0, HORIZON_LINES_OPTION},
 {"ifdef", 1, 0, 'D'},
 {"ignore-all-space", 0, 0, 'w'},
 {"ignore-blank-lines", 0, 0, 'B'},
 {"ignore-case", 0, 0, 'i'},
 {"ignore-file-name-case", 0, 0, IGNORE_FILE_NAME_CASE_OPTION},
 {"ignore-matching-lines", 1, 0, 'I'},
 {"ignore-space-change", 0, 0, 'b'},
 {"ignore-tab-expansion", 0, 0, 'E'},
 {"ignore-trailing-space", 0, 0, 'Z'},
 {"inhibit-hunk-merge", 0, 0, INHIBIT_HUNK_MERGE_OPTION},
 {"initial-tab", 0, 0, 'T'},
 {"label", 1, 0, 'L'},
 {"left-column", 0, 0, LEFT_COLUMN_OPTION},
 {"line-format", 1, 0, LINE_FORMAT_OPTION},
 {"minimal", 0, 0, 'd'},
 {"new-file", 0, 0, 'N'},
 {"new-group-format", 1, 0, NEW_GROUP_FORMAT_OPTION},
 {"new-line-format", 1, 0, NEW_LINE_FORMAT_OPTION},
};

```

```

{"no-dereference", 0, 0, NO_DEREFERENCE_OPTION},
{"no-ignore-file-name-case", 0, 0, NO_IGNORE_FILE_NAME_CASE_OPTION},
{"normal", 0, 0, NORMAL_OPTION},
{"old-group-format", 1, 0, OLD_GROUP_FORMAT_OPTION},
{"old-line-format", 1, 0, OLD_LINE_FORMAT_OPTION},
{"paginate", 0, 0, 'l'},
{"rcs", 0, 0, 'n'},
{"recursive", 0, 0, 'r'},
{"report-identical-files", 0, 0, 's'},
{"sdiff-merge-assist", 0, 0, SDIFF_MERGE_ASSIST_OPTION},
{"show-c-function", 0, 0, 'p'},
{"show-function-line", 1, 0, 'F'},
{"side-by-side", 0, 0, 'y'},
{"speed-large-files", 0, 0, 'H'},
{"starting-file", 1, 0, 'S'},
{"strip-trailing-cr", 0, 0, STRIP_TRAILING_CR_OPTION},
{"suppress-blank-empty", 0, 0, SUPPRESS_BLANK_EMPTY_OPTION},
{"suppress-common-lines", 0, 0, SUPPRESS_COMMON_LINES_OPTION},
{"tabsize", 1, 0, TABSIZE_OPTION},
{"text", 0, 0, 'a'},
{"to-file", 1, 0, TO_FILE_OPTION},
{"unchanged-group-format", 1, 0, UNCHANGED_GROUP_FORMAT_OPTION},
{"unchanged-line-format", 1, 0, UNCHANGED_LINE_FORMAT_OPTION},
{"unidirectional-new-file", 0, 0, 'P'},
{"unified", 2, 0, 'U'},
{"version", 0, 0, 'v'},
{"width", 1, 0, 'W'},
{0, 0, 0, 0}
};

```

/\* Return a string containing the command options with which diff was invoked.

Spaces appear between what were separate ARGV-elements.

There is a space at the beginning but none at the end.

If there were no options, the result is an empty string.

Arguments: OPTIONVEC, a vector containing separate ARGV-elements, and COUNT, the length of that vector. \*/

```

static char *
option_list (char **optionvec, int count)
{
 int i;
 size_t size = 1;
 char *result;
 char *p;

 for (i = 0; i < count; i++)
 size += 1 + shell_quote_length (optionvec[i]);

```

```

p = result = xmalloc (size);

for (i = 0; i < count; i++)
{
 *p++ = ' ';
 p = shell_quote_copy (p, optionvec[i]);
}

*p = '\0';
return result;
}

/* Return an option value suitable for add_exclude. */

static int
exclude_options (void)
{
 return EXCLUDE_WILDCARDS | (ignore_file_name_case ? FNM_CASEFOLD : 0);
}

int
main (int argc, char **argv)
{
 int exit_status = EXIT_SUCCESS;
 int c;
 int i;
 int prev = -1;
 lin ocontext = -1;
 bool explicit_context = false;
 size_t width = 0;
 bool show_c_function = false;
 char const *from_file = NULL;
 char const *to_file = NULL;
 uintmax_t numval;
 char *numend;

 /* Do our initializations. */
 exit_failure = EXIT_TROUBLE;
 initialize_main (&argc, &argv);
 set_program_name (argv[0]);
 setlocale (LC_ALL, "");
 bindtextdomain (PACKAGE, LOCALEDIR);
 textdomain (PACKAGE);
 c_stack_action (0);
 function_regexp_list.buf = &function_regexp;
 ignore_regexp_list.buf = &ignore_regexp;

```

```

re_set_syntax (RE_SYNTAX_GREP | RE_NO_POSIX_BACKTRACKING);
excluded = new_exclude ();

/* Decode the options. */

while ((c = getopt_long (argc, argv, shortopts, longopts, NULL)) != -1)
{
 switch (c)
 {
 case 0:
 break;

 case '0':
 case '1':
 case '2':
 case '3':
 case '4':
 case '5':
 case '6':
 case '7':
 case '8':
 case '9':
 if (! ISDIGIT (prev))
 ocontext = c - '0';
 else if (LIN_MAX / 10 < ocontext
 || ((ocontext = 10 * ocontext + c - '0') < 0))
 ocontext = LIN_MAX;
 break;

 case 'a':
 text = true;
 break;

 case 'b':
 if (ignore_white_space < IGNORE_SPACE_CHANGE)
 ignore_white_space = IGNORE_SPACE_CHANGE;
 break;

 case 'Z':
 if (ignore_white_space < IGNORE_SPACE_CHANGE)
 ignore_white_space |= IGNORE_TRAILING_SPACE;
 break;

 case 'B':
 ignore_blank_lines = true;
 break;

 case 'C':

```

```

case 'U':
{
 if (optarg)
 {
 numval = strtoumax (optarg, &numend, 10);
 if (*numend)
 try_help ("invalid context length '%s'", optarg);
 if (LIN_MAX < numval)
 numval = LIN_MAX;
 }
 else
 numval = 3;

 specify_style (c == 'U' ? OUTPUT_UNIFIED : OUTPUT_CONTEXT);
 if (context < numval)
 context = numval;
 explicit_context = true;
}
break;

case 'c':
 specify_style (OUTPUT_CONTEXT);
 if (context < 3)
 context = 3;
 break;

case 'd':
 minimal = true;
 break;

case 'D':
 specify_style (OUTPUT_IFDEF);
 {
 static char const C_ifdef_group_formats[] =
 "% %=%c#ifndef %s\n% %<#endif /* ! %s *\n%c#ifdef %s\n% %>#endif /* %s *\n%c#ifndef %s\n% %<#else
/* %s *\n% %>#endif /* %s *\n";
 char *b = xmalloc (sizeof C_ifdef_group_formats
 + 7 * strlen (optarg) - 14 /* 7*"%s" */
 - 8 /* 5*"%%" + 3*"%c" */);
 sprintf (b, C_ifdef_group_formats,
 0,
 optarg, optarg, 0,
 optarg, optarg, 0,
 optarg, optarg, optarg);
 for (i = 0; i < sizeof group_format / sizeof group_format[0]; i++)
 {
 specify_value (&group_format[i], b, "-D");
 b += strlen (b) + 1;
 }
 }
}

```



```

 }
}
break;

case 'e':
 specify_style (OUTPUT_ED);
 break;

case 'E':
 if (ignore_white_space < IGNORE_SPACE_CHANGE)
 ignore_white_space |= IGNORE_TAB_EXPANSION;
 break;

case 'f':
 specify_style (OUTPUT_FORWARD_ED);
 break;

case 'F':
 add_regexp (&function_regexp_list, optarg);
 break;

case 'h':
 /* Split the files into chunks for faster processing.
 Usually does not change the result.

 This currently has no effect. */
 break;

case 'H':
 speed_large_files = true;
 break;

case 'i':
 ignore_case = true;
 break;

case 'T':
 add_regexp (&ignore_regexp_list, optarg);
 break;

case 'l':
 if (!pr_program[0])
 try_help ("pagination not supported on this host", NULL);
 paginate = true;
#ifdef SIGCHLD
 /* Pagination requires forking and waiting, and
 System V fork+wait does not work if SIGCHLD is ignored. */
 signal (SIGCHLD, SIG_DFL);

```

```
#endif
 break;

case 'L':
 if (!file_label[0])
 file_label[0] = optarg;
 else if (!file_label[1])
 file_label[1] = optarg;
 else
 fatal ("too many file label options");
 break;

case 'n':
 specify_style (OUTPUT_RCS);
 break;

case 'N':
 new_file = true;
 break;

case 'p':
 show_c_function = true;
 add_regexp (&function_regexp_list, "^[[:alpha:]]$");
 break;

case 'P':
 unidirectional_new_file = true;
 break;

case 'q':
 brief = true;
 break;

case 'r':
 recursive = true;
 break;

case 's':
 report_identical_files = true;
 break;

case 'S':
 specify_value (&starting_file, optarg, "-S");
 break;

case 't':
 expand_tabs = true;
 break;
```

```

case 'T':
 initial_tab = true;
 break;

case 'u':
 specify_style (OUTPUT_UNIFIED);
 if (context < 3)
 context = 3;
 break;

case 'v':
 version_etc (stdout, PROGRAM_NAME, PACKAGE_NAME, Version,
 AUTHORS, (char *) NULL);
 check_stdout ();
 return EXIT_SUCCESS;

case 'w':
 ignore_white_space = IGNORE_ALL_SPACE;
 break;

case 'x':
 add_exclude (excluded, optarg, exclude_options ());
 break;

case 'X':
 if (add_exclude_file (add_exclude, excluded, optarg,
 exclude_options (), '\n'))
 pfatal_with_name (optarg);
 break;

case 'y':
 specify_style (OUTPUT_SDIFF);
 break;

case 'W':
 numval = strtoumax (optarg, &numend, 10);
 if (! (0 < numval && numval <= SIZE_MAX) || *numend)
 try_help ("invalid width '%s'", optarg);
 if (width != numval)
 {
 if (width)
 fatal ("conflicting width options");
 width = numval;
 }
 break;

case BINARY_OPTION:

```

```

#if O_BINARY
 binary = true;
 if (! isatty (STDOUT_FILENO))
 set_binary_mode (STDOUT_FILENO, O_BINARY);
#endif
 break;

case FROM_FILE_OPTION:
 specify_value (&from_file, optarg, "--from-file");
 break;

case HELP_OPTION:
 usage ();
 check_stdout ();
 return EXIT_SUCCESS;

case HORIZON_LINES_OPTION:
 numval = strtoumax (optarg, &numend, 10);
 if (*numend)
 try_help ("invalid horizon length '%s'", optarg);
 horizon_lines = MAX (horizon_lines, MIN (numval, LIN_MAX));
 break;

case IGNORE_FILE_NAME_CASE_OPTION:
 ignore_file_name_case = true;
 break;

case INHIBIT_HUNK_MERGE_OPTION:
 /* This option is obsolete, but accept it for backward
 compatibility. */
 break;

case LEFT_COLUMN_OPTION:
 left_column = true;
 break;

case LINE_FORMAT_OPTION:
 specify_style (OUTPUT_IFDEF);
 for (i = 0; i < sizeof line_format / sizeof line_format[0]; i++)
 specify_value (&line_format[i], optarg, "--line-format");
 break;

case NO_DEREFERENCE_OPTION:
 no_dereference_symlinks = true;
 break;

case NO_IGNORE_FILE_NAME_CASE_OPTION:
 ignore_file_name_case = false;

```

```

break;

case NORMAL_OPTION:
 specify_style (OUTPUT_NORMAL);
 break;

case SDIFF_MERGE_ASSIST_OPTION:
 specify_style (OUTPUT_SDIFF);
 sdiff_merge_assist = true;
 break;

case STRIP_TRAILING_CR_OPTION:
 strip_trailing_cr = true;
 break;

case SUPPRESS_BLANK_EMPTY_OPTION:
 suppress_blank_empty = true;
 break;

case SUPPRESS_COMMON_LINES_OPTION:
 suppress_common_lines = true;
 break;

case TABSIZE_OPTION:
 numval = strtoumax (optarg, &numend, 10);
 if (! (0 < numval && numval <= SIZE_MAX) || *numend)
 try_help ("invalid tabsize '%s'", optarg);
 if (tabsize != numval)
 {
 if (tabsize)
 fatal ("conflicting tabsize options");
 tabsize = numval;
 }
 break;

case TO_FILE_OPTION:
 specify_value (&to_file, optarg, "--to-file");
 break;

case UNCHANGED_LINE_FORMAT_OPTION:
case OLD_LINE_FORMAT_OPTION:
case NEW_LINE_FORMAT_OPTION:
 specify_style (OUTPUT_IFDEF);
 c -= UNCHANGED_LINE_FORMAT_OPTION;
 specify_value (&line_format[c], optarg, line_format_option[c]);
 break;

case UNCHANGED_GROUP_FORMAT_OPTION:

```

```

case OLD_GROUP_FORMAT_OPTION:
case NEW_GROUP_FORMAT_OPTION:
case CHANGED_GROUP_FORMAT_OPTION:
 specify_style (OUTPUT_IFDEF);
 c -= UNCHANGED_GROUP_FORMAT_OPTION;
 specify_value (&group_format[c], optarg, group_format_option[c]);
 break;

default:
 try_help (NULL, NULL);
}
 prev = c;
}

if (output_style == OUTPUT_UNSPECIFIED)
{
 if (show_c_function)
 {
 specify_style (OUTPUT_CONTEXT);
 if (ocontext < 0)
 context = 3;
 }
 else
 specify_style (OUTPUT_NORMAL);
}

if (output_style != OUTPUT_CONTEXT || hard_locale (LC_TIME))
{
 #if (defined STAT_TIMESPEC || defined STAT_TIMESPEC_NS \
 || defined HAVE_STRUCT_STAT_ST_SPARE1)
 time_format = "%Y-%m-%d %H:%M:%S.%N %z";
 #else
 time_format = "%Y-%m-%d %H:%M:%S %z";
 #endif
}
else
{
 /* See POSIX 1003.1-2001 for this format. */
 time_format = "%a %b %e %T %Y";
}

if (0 <= ocontext
 && (output_style == OUTPUT_CONTEXT
 || output_style == OUTPUT_UNIFIED)
 && (context < ocontext
 || (ocontext < context && ! explicit_context)))
 context = ocontext;

```

```

if (! tabsize)
 tabsize = 8;
if (! width)
 width = 130;

{
 /* Maximize first the half line width, and then the gutter width,
 according to the following constraints:

1. Two half lines plus a gutter must fit in a line.
2. If the half line width is nonzero:
 a. The gutter width is at least GUTTER_WIDTH_MINIMUM.
 b. If tabs are not expanded to spaces,
 a half line plus a gutter is an integral number of tabs,
 so that tabs in the right column line up. */

 intmax_t t = expand_tabs ? 1 : tabsize;
 intmax_t w = width;
 intmax_t off = (w + t + GUTTER_WIDTH_MINIMUM) / (2 * t) * t;
 sdiff_half_width = MAX (0, MIN (off - GUTTER_WIDTH_MINIMUM, w - off)),
 sdiff_column2_offset = sdiff_half_width ? off : w;
}

/* Make the horizon at least as large as the context, so that
 shift_boundaries has more freedom to shift the first and last hunks. */
if (horizon_lines < context)
 horizon_lines = context;

summarize_regexp_list (&function_regexp_list);
summarize_regexp_list (&ignore_regexp_list);

if (output_style == OUTPUT_IFDEF)
{
 for (i = 0; i < sizeof line_format / sizeof line_format[0]; i++)
if (!line_format[i])
 line_format[i] = "%l\n";
 if (!group_format[OLD])
group_format[OLD]
= group_format[CHANGED] ? group_format[CHANGED] : "%<";
 if (!group_format[NEW])
group_format[NEW]
= group_format[CHANGED] ? group_format[CHANGED] : "%>";
 if (!group_format[UNCHANGED])
group_format[UNCHANGED] = "%=";
 if (!group_format[CHANGED])
group_format[CHANGED] = concat (group_format[OLD],
 group_format[NEW], "");
}

```

```

no_diff_means_no_output =
(output_style == OUTPUT_IFDEF ?
(*group_format[UNCHANGED]
|| (STREQ (group_format[UNCHANGED], "%=")
&& !*line_format[UNCHANGED]))
: (output_style != OUTPUT_SDIFF) | suppress_common_lines);

files_can_be_treated_as_binary =
(brief & binary
& ~ (ignore_blank_lines | ignore_case | strip_trailing_cr
| (ignore_regexp_list.regexp || ignore_white_space)));

switch_string = option_list (argv + 1, optind - 1);

if (from_file)
{
if (to_file)
fatal ("--from-file and --to-file both specified");
else
for (; optind < argc; optind++)
{
int status = compare_files (NULL, from_file, argv[optind]);
if (exit_status < status)
exit_status = status;
}
}
else
{
if (to_file)
for (; optind < argc; optind++)
{
int status = compare_files (NULL, argv[optind], to_file);
if (exit_status < status)
exit_status = status;
}
else
{
if (argc - optind != 2)
{
if (argc - optind < 2)
try_help ("missing operand after '%s'", argv[argc - 1]);
else
try_help ("extra operand '%s'", argv[optind + 2]);
}

exit_status = compare_files (NULL, argv[optind], argv[optind + 1]);
}
}

```



```

}

/* Print any messages that were saved up for last. */
print_message_queue ();

check_stdout ();
exit (exit_status);
return exit_status;
}

/* Append to REGLIST the regexp PATTERN. */

static void
add_regexp (struct regexp_list *reglist, char const *pattern)
{
 size_t patlen = strlen (pattern);
 char const *m = re_compile_pattern (pattern, patlen, reglist->buf);

 if (m != 0)
 error (0, 0, "%s: %s", pattern, m);
 else
 {
 char *regexps = reglist->regexps;
 size_t len = reglist->len;
 bool multiple_regexps = reglist->multiple_regexps = regexps != 0;
 size_t newlen = reglist->len = len + 2 * multiple_regexps + patlen;
 size_t size = reglist->size;

 if (size <= newlen)
 {
 if (!size)
 size = 1;

 do size *= 2;
 while (size <= newlen);

 reglist->size = size;
 reglist->regexps = regexps = xrealloc (regexps, size);
 }
 if (multiple_regexps)
 {
 regexps[len++] = '\\';
 regexps[len++] = '|';
 }
 memcpy (regexps + len, pattern, patlen + 1);
 }
}

```

```
/* Ensure that REGLIST represents the disjunction of its regexps.
 This is done here, rather than earlier, to avoid O(N^2) behavior. */
```

```
static void
summarize_regexp_list (struct regexp_list *reglist)
{
 if (reglist->regexps)
 {
 /* At least one regexp was specified. Allocate a fastmap for it. */
 reglist->buf->fastmap = xmalloc (1 << CHAR_BIT);
 if (reglist->multiple_regexps)
 {
 /* Compile the disjunction of the regexps.
 (If just one regexp was specified, it is already compiled.) */
 char const *m = re_compile_pattern (reglist->regexps, reglist->len,
 reglist->buf);
 if (m)
 error (EXIT_TROUBLE, 0, "%s: %s", reglist->regexps, m);
 }
 }
}
```

```
static void
try_help (char const *reason_msgid, char const *operand)
{
 if (reason_msgid)
 error (0, 0, _(reason_msgid), operand);
 error (EXIT_TROUBLE, 0, _("Try '%s --help' for more information."),
 program_name);
 abort ();
}
```

```
static void
check_stdout (void)
{
 if (ferror (stdout))
 fatal ("write failed");
 else if (fclose (stdout) != 0)
 pfatal_with_name (_("standard output"));
}
```

```
static char const * const option_help_msgid[] = {
 N_(" --normal output a normal diff (the default)"),
 N_(" -q, --brief report only when files differ"),
 N_(" -s, --report-identical-files report when two files are the same"),
 N_(" -c, -C NUM, --context[=NUM] output NUM (default 3) lines of copied context"),
 N_(" -u, -U NUM, --unified[=NUM] output NUM (default 3) lines of unified context"),
 N_(" -e, --ed output an ed script"),
```

```

N_("-n, --rcs output an RCS format diff"),
N_("-y, --side-by-side output in two columns"),
N_("-W, --width=NUM output at most NUM (default 130) print columns"),
N_(" --left-column output only the left column of common lines"),
N_(" --suppress-common-lines do not output common lines"),
"",
N_("-p, --show-c-function show which C function each change is in"),
N_("-F, --show-function-line=RE show the most recent line matching RE"),
N_(" --label LABEL use LABEL instead of file name\n"
" (can be repeated)"),
"",
N_("-t, --expand-tabs expand tabs to spaces in output"),
N_("-T, --initial-tab make tabs line up by prepending a tab"),
N_(" --tabsize=NUM tab stops every NUM (default 8) print columns"),
N_(" --suppress-blank-empty suppress space or tab before empty output lines"),
N_("-l, --paginate pass output through 'pr' to paginate it"),
"",
N_("-r, --recursive recursively compare any subdirectories found"),
N_(" --no-dereference don't follow symbolic links"),
N_("-N, --new-file treat absent files as empty"),
N_(" --unidirectional-new-file treat absent first files as empty"),
N_(" --ignore-file-name-case ignore case when comparing file names"),
N_(" --no-ignore-file-name-case consider case when comparing file names"),
N_("-x, --exclude=PAT exclude files that match PAT"),
N_("-X, --exclude-from=FILE exclude files that match any pattern in FILE"),
N_("-S, --starting-file=FILE start with FILE when comparing directories"),
N_(" --from-file=FILE1 compare FILE1 to all operands;\n"
" FILE1 can be a directory"),
N_(" --to-file=FILE2 compare all operands to FILE2;\n"
" FILE2 can be a directory"),
"",
N_("-i, --ignore-case ignore case differences in file contents"),
N_("-E, --ignore-tab-expansion ignore changes due to tab expansion"),
N_("-Z, --ignore-trailing-space ignore white space at line end"),
N_("-b, --ignore-space-change ignore changes in the amount of white space"),
N_("-w, --ignore-all-space ignore all white space"),
N_("-B, --ignore-blank-lines ignore changes where lines are all blank"),
N_("-I, --ignore-matching-lines=RE ignore changes where all lines match RE"),
"",
N_("-a, --text treat all files as text"),
N_(" --strip-trailing-cr strip trailing carriage return on input"),
#if O_BINARY
N_(" --binary read and write data in binary mode"),
#endif
"",
N_("-D, --ifdef=NAME output merged file with '#ifdef NAME' diffs"),
N_(" --GTYPE-group-format=GFMT format GTYPE input groups with GFMT"),
N_(" --line-format=LFMT format all input lines with LFMT"),

```

```

N_(" --LTYPE=line-format=LFMT format LTYPE input lines with LFMT"),
N_(" These format options provide fine-grained control over the output\n"
 " of diff, generalizing -D/--ifdef."),
N_(" LTYPE is 'old', 'new', or 'unchanged'. GTYPE is LTYPE or 'changed'."),
N_(" GFMT (only) may contain:\n\
 %< lines from FILE1\n\
 %> lines from FILE2\n\
 %= lines common to FILE1 and FILE2\n\
 %[-][WIDTH][.][PREC]]{doxX}LETTER printf-style spec for LETTER\n\
 LETTERs are as follows for new group, lower case for old group:\n\
 F first line number\n\
 L last line number\n\
 N number of lines = L-F+1\n\
 E F-1\n\
 M L+1\n\
 %(A=B?T:E) if A equals B then T else E"),
N_(" LFMT (only) may contain:\n\
 %L contents of line\n\
 %l contents of line, excluding any trailing newline\n\
 %[-][WIDTH][.][PREC]]{doxX}n printf-style spec for input line number"),
N_(" Both GFMT and LFMT may contain:\n\
 %% %\n\
 %c'C' the single character C\n\
 %c'\000' the character with octal code 000\n\
 C the character C (other characters represent themselves)"),
"",
N_(" -d, --minimal try hard to find a smaller set of changes"),
N_(" --horizon-lines=NUM keep NUM lines of the common prefix and suffix"),
N_(" --speed-large-files assume large files and many scattered small changes"),
"",
N_(" --help display this help and exit"),
N_(" -v, --version output version information and exit"),
"",
N_("FILES are 'FILE1 FILE2' or 'DIR1 DIR2' or 'DIR FILE...' or 'FILE... DIR.'"),
N_("If --from-file or --to-file is given, there are no restrictions on FILE(s)."),
N_("If a FILE is '-', read standard input."),
N_("Exit status is 0 if inputs are the same, 1 if different, 2 if trouble."),
0
};

static void
usage (void)
{
 char const * const *p;

 printf (_("Usage: %s [OPTION]... FILES\n"), program_name);
 printf ("%s\n\n", _("Compare FILES line by line."));

```

```

fputs (_("\n
Mandatory arguments to long options are mandatory for short options too.\n
"), stdout);

for (p = option_help_msgid; *p; p++)
{
 if (!**p)
 putchar ('\n');
 else
 {
 char const *msg = _(*p);
 char const *nl;
 while ((nl = strchr (msg, '\n')))
 {
 int msglen = nl + 1 - msg;
 printf (" %.*s", msglen, msg);
 msg = nl + 1;
 }

 printf (" %s\n" + 2 * (*msg != ' ' && *msg != '-'), msg);
 }
}
emit_bug_reporting_address ();
}

/* Set VAR to VALUE, reporting an OPTION error if this is a
conflict. */
static void
specify_value (char const **var, char const *value, char const *option)
{
 if (*var && ! STREQ (*var, value))
 {
 error (0, 0, _("conflicting %s option value '%s'"), option, value);
 try_help (NULL, NULL);
 }
 *var = value;
}

/* Set the output style to STYLE, diagnosing conflicts. */
static void
specify_style (enum output_style style)
{
 if (output_style != style)
 {
 if (output_style != OUTPUT_UNSPECIFIED)
 try_help ("conflicting output style options", NULL);
 output_style = style;
 }
}

```

```

}

/* Set the last-modified time of *ST to be the current time. */

static void
set_mtime_to_now (struct stat *st)
{
#ifdef STAT_TIMESPEC
 gettimeofday (&STAT_TIMESPEC (st, st_mtim));
#else
 struct timespec t;
 gettimeofday (&t);
 st->st_mtime = t.tv_sec;
 # if defined STAT_TIMESPEC_NS
 STAT_TIMESPEC_NS (st, st_mtim) = t.tv_nsec;
 # elif defined HAVE_STRUCT_STAT_ST_SPARE1
 st->st_spare1 = t.tv_nsec / 1000;
 # endif
#endif
}

/* Compare two files (or dirs) with parent comparison PARENT
and names NAME0 and NAME1.
(If PARENT is null, then the first name is just NAME0, etc.)
This is self-contained; it opens the files and closes them.

Value is EXIT_SUCCESS if files are the same, EXIT_FAILURE if
different, EXIT_TROUBLE if there is a problem opening them. */

static int
compare_files (struct comparison const *parent,
 char const *name0,
 char const *name1)
{
 struct comparison cmp;
#define DIR_P(f) (S_ISDIR (cmp.file[f].stat.st_mode) != 0)
 register int f;
 int status = EXIT_SUCCESS;
 bool same_files;
 char *free0;
 char *free1;

 /* If this is directory comparison, perhaps we have a file
 that exists only in one of the directories.
 If so, just print a message to that effect. */

 if (!(name0 && name1)
 || (unidirectional_new_file && name1)

```

```

|| new_file))
{
 char const *name = name0 ? name0 : name1;
 char const *dir = parent->file[!name0].name;

 /* See POSIX 1003.1-2001 for this format. */
 message ("Only in %s: %s\n", dir, name);

 /* Return EXIT_FAILURE so that diff_dirs will return
EXIT_FAILURE ("some files differ"). */
 return EXIT_FAILURE;
}

memset (cmp.file, 0, sizeof cmp.file);
cmp.parent = parent;

/* cmp.file[f].desc markers */
#define NONEXISTENT (-1) /* nonexistent file */
#define UNOPENED (-2) /* unopened file (e.g. directory) */
#define ERRNO_ENCODE(errno) (-3 - (errno)) /* encoded errno value */

#define ERRNO_DECODE(desc) (-3 - (desc)) /* inverse of ERRNO_ENCODE */

cmp.file[0].desc = name0 ? UNOPENED : NONEXISTENT;
cmp.file[1].desc = name1 ? UNOPENED : NONEXISTENT;

/* Now record the full name of each file, including nonexistent ones. */

if (!name0)
 name0 = name1;
if (!name1)
 name1 = name0;

if (!parent)
{
 free0 = NULL;
 free1 = NULL;
 cmp.file[0].name = name0;
 cmp.file[1].name = name1;
}
else
{
 cmp.file[0].name = free0
= file_name_concat (parent->file[0].name, name0, NULL);
 cmp.file[1].name = free1
= file_name_concat (parent->file[1].name, name1, NULL);
}

```

```

/* Stat the files. */

for (f = 0; f < 2; f++)
{
 if (cmp.file[f].desc != NONEXISTENT)
 {
 if (f && file_name_cmp (cmp.file[f].name, cmp.file[0].name) == 0)
 {
 cmp.file[f].desc = cmp.file[0].desc;
 cmp.file[f].stat = cmp.file[0].stat;
 }
 else if (STREQ (cmp.file[f].name, "-"))
 {
 cmp.file[f].desc = STDIN_FILENO;
 if (binary && ! isatty (STDIN_FILENO))
 set_binary_mode (STDIN_FILENO, O_BINARY);
 if (fstat (STDIN_FILENO, &cmp.file[f].stat) != 0)
 cmp.file[f].desc = ERRNO_ENCODE (errno);
 else
 {
 if (S_ISREG (cmp.file[f].stat.st_mode))
 {
 off_t pos = lseek (STDIN_FILENO, 0, SEEK_CUR);
 if (pos < 0)
 cmp.file[f].desc = ERRNO_ENCODE (errno);
 else
 cmp.file[f].stat.st_size =
 MAX (0, cmp.file[f].stat.st_size - pos);
 }
 }

 /* POSIX 1003.1-2001 requires current time for
 stdin. */
 set_mtime_to_now (&cmp.file[f].stat);
 }
 }
 else if ((no_dereference_symlinks
 ? lstat (cmp.file[f].name, &cmp.file[f].stat)
 : stat (cmp.file[f].name, &cmp.file[f].stat)
 != 0)
 cmp.file[f].desc = ERRNO_ENCODE (errno);
}

/* Mark files as nonexistent as needed for -N and -P, if they are
inaccessible empty regular files (the kind of files that 'patch'
creates to indicate nonexistent backups), or if they are
top-level files that do not exist but their counterparts do
exist. */

```



```

for (f = 0; f < 2; f++)
 if ((new_file || (f == 0 && unidirectional_new_file))
 && (cmp.file[f].desc == UNOPENED
 ? (S_ISREG (cmp.file[f].stat.st_mode)
 && ! (cmp.file[f].stat.st_mode & (S_IRWXU | S_IRWXG | S_IRWXO))
 && cmp.file[f].stat.st_size == 0)
 : ((cmp.file[f].desc == ERRNO_ENCODE (ENOENT)
 || cmp.file[f].desc == ERRNO_ENCODE (EBADF))
 && ! parent
 && (cmp.file[1 - f].desc == UNOPENED
 || cmp.file[1 - f].desc == STDIN_FILENO))))
 cmp.file[f].desc = NONEXISTENT;

```

```

for (f = 0; f < 2; f++)
 if (cmp.file[f].desc == NONEXISTENT)
 {
 memset (&cmp.file[f].stat, 0, sizeof cmp.file[f].stat);
 cmp.file[f].stat.st_mode = cmp.file[1 - f].stat.st_mode;
 }

```

```

for (f = 0; f < 2; f++)
 {
 int e = ERRNO_DECODE (cmp.file[f].desc);
 if (0 <= e)
 {
 errno = e;
 perror_with_name (cmp.file[f].name);
 status = EXIT_TROUBLE;
 }
 }

```

```

if (status == EXIT_SUCCESS && ! parent && DIR_P (0) != DIR_P (1))
 {
 /* If one is a directory, and it was specified in the command line,
 use the file in that dir with the other file's basename. */

```

```

 int fnm_arg = DIR_P (0);
 int dir_arg = 1 - fnm_arg;
 char const *fnm = cmp.file[fnm_arg].name;
 char const *dir = cmp.file[dir_arg].name;
 char const *filename = cmp.file[dir_arg].name = free0
= find_dir_file_pathname (dir, last_component (fnm));

```

```

 if (STREQ (fnm, "-"))
 fatal ("cannot compare '-' to a directory");

```

```

 if ((no_dereference_symlinks
 ? lstat (filename, &cmp.file[dir_arg].stat)

```

```

: stat (filename, &cmp.file[dir_arg].stat)
!= 0)
{
perror_with_name (filename);
status = EXIT_TROUBLE;
}
}

if (status != EXIT_SUCCESS)
{
/* One of the files should exist but does not. */
}
else if (cmp.file[0].desc == NONEXISTENT
&& cmp.file[1].desc == NONEXISTENT)
{
/* Neither file "exists", so there's nothing to compare. */
}
else if ((same_files
= (cmp.file[0].desc != NONEXISTENT
&& cmp.file[1].desc != NONEXISTENT
&& 0 < same_file (&cmp.file[0].stat, &cmp.file[1].stat)
&& same_file_attributes (&cmp.file[0].stat,
&cmp.file[1].stat)))
&& no_diff_means_no_output)
{
/* The two named files are actually the same physical file.
We know they are identical without actually reading them. */
}
else if (DIR_P (0) & DIR_P (1))
{
if (output_style == OUTPUT_IFDEF)
fatal ("-D option not supported with directories");

/* If both are directories, compare the files in them. */

if (parent && !recursive)
{
/* But don't compare dir contents one level down
unless -r was specified.
See POSIX 1003.1-2001 for this format. */
message ("Common subdirectories: %s and %s\n",
cmp.file[0].name, cmp.file[1].name);
}
else
status = diff_dirs (&cmp, compare_files);
}
else if ((DIR_P (0) | DIR_P (1))
|| (parent

```

```

 && !((S_ISREG (cmp.file[0].stat.st_mode)
 || S_ISLNK (cmp.file[0].stat.st_mode))
 && (S_ISREG (cmp.file[1].stat.st_mode)
 || S_ISLNK (cmp.file[1].stat.st_mode))))))
{
 if (cmp.file[0].desc == NONEXISTENT || cmp.file[1].desc == NONEXISTENT)
{
 /* We have a subdirectory that exists only in one directory. */

 if ((DIR_P (0) | DIR_P (1))
 && recursive
 && (new_file
 || (unidirectional_new_file
 && cmp.file[0].desc == NONEXISTENT)))
 status = diff_dirs (&cmp, compare_files);
 else
 {
 char const *dir;

 /* PARENT must be non-NULL here. */
 assert (parent);
 dir = parent->file[cmp.file[0].desc == NONEXISTENT].name;

 /* See POSIX 1003.1-2001 for this format. */
 message ("Only in %s: %s\n", dir, name0);

 status = EXIT_FAILURE;
 }
}
else
{
 /* We have two files that are not to be compared. */

 /* See POSIX 1003.1-2001 for this format. */
 message5 ("File %s is a %s while file %s is a %s\n",
 file_label[0] ? file_label[0] : cmp.file[0].name,
 file_type (&cmp.file[0].stat),
 file_label[1] ? file_label[1] : cmp.file[1].name,
 file_type (&cmp.file[1].stat));

 /* This is a difference. */
 status = EXIT_FAILURE;
}
}
else if (S_ISLNK (cmp.file[0].stat.st_mode)
 || S_ISLNK (cmp.file[1].stat.st_mode))
{
 /* We get here only if we use lstat(), not stat(). */

```

```

assert (no_dereference_symlinks);

if (S_ISLNK (cmp.file[0].stat.st_mode)
&& S_ISLNK (cmp.file[1].stat.st_mode))
{
/* Compare the values of the symbolic links. */
char *link_value[2] = { NULL, NULL };

for (f = 0; f < 2; f++)
{
link_value[f] = xreadlink (cmp.file[f].name);
if (link_value[f] == NULL)
{
perror_with_name (cmp.file[f].name);
status = EXIT_TROUBLE;
break;
}
}
if (status == EXIT_SUCCESS)
{
if (! STREQ (link_value[0], link_value[1]))
{
message ("Symbolic links %s and %s differ\n",
cmp.file[0].name, cmp.file[1].name);
/* This is a difference. */
status = EXIT_FAILURE;
}
}
for (f = 0; f < 2; f++)
free (link_value[f]);
}
else
{
/* We have two files that are not to be compared, because
one of them is a symbolic link and the other one is not. */

message5 ("File %s is a %s while file %s is a %s\n",
file_label[0] ? file_label[0] : cmp.file[0].name,
file_type (&cmp.file[0].stat),
file_label[1] ? file_label[1] : cmp.file[1].name,
file_type (&cmp.file[1].stat));

/* This is a difference. */
status = EXIT_FAILURE;
}
}
else if (files_can_be_treated_as_binary
&& S_ISREG (cmp.file[0].stat.st_mode)

```

```

&& S_ISREG (cmp.file[1].stat.st_mode)
&& cmp.file[0].stat.st_size != cmp.file[1].stat.st_size)
{
 message ("Files %s and %s differ\n",
 file_label[0] ? file_label[0] : cmp.file[0].name,
 file_label[1] ? file_label[1] : cmp.file[1].name);
 status = EXIT_FAILURE;
}
else
{
 /* Both exist and neither is a directory. */

 /* Open the files and record their descriptors. */

 int oflags = O_RDONLY | (binary ? O_BINARY : 0);

 if (cmp.file[0].desc == UNOPENED)
if ((cmp.file[0].desc = open (cmp.file[0].name, oflags, 0)) < 0)
 {
 perror_with_name (cmp.file[0].name);
 status = EXIT_TROUBLE;
 }
 if (cmp.file[1].desc == UNOPENED)
{
 if (same_files)
 cmp.file[1].desc = cmp.file[0].desc;
 else if ((cmp.file[1].desc = open (cmp.file[1].name, oflags, 0)) < 0)
 {
 perror_with_name (cmp.file[1].name);
 status = EXIT_TROUBLE;
 }
}

 /* Compare the files, if no error was found. */

 if (status == EXIT_SUCCESS)
status = diff_2_files (&cmp);

 /* Close the file descriptors. */

 if (0 <= cmp.file[0].desc && close (cmp.file[0].desc) != 0)
 {
 perror_with_name (cmp.file[0].name);
 status = EXIT_TROUBLE;
 }
 if (0 <= cmp.file[1].desc && cmp.file[0].desc != cmp.file[1].desc
&& close (cmp.file[1].desc) != 0)
 {

```

```

perror_with_name (cmp.file[1].name);
status = EXIT_TROUBLE;
}
}

/* Now the comparison has been done, if no error prevented it,
and STATUS is the value this function will return. */

if (status == EXIT_SUCCESS)
{
if (report_identical_files && !DIR_P (0))
message ("Files %s and %s are identical\n",
file_label[0] ? file_label[0] : cmp.file[0].name,
file_label[1] ? file_label[1] : cmp.file[1].name);
}
else
{
/* Flush stdout so that the user sees differences immediately.
This can hurt performance, unfortunately. */
if (fflush (stdout) != 0)
pfatal_with_name (_("standard output"));
}

free (free0);
free (free1);

return status;
}

```

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\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Log4JLogger.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/LogFactoryImpl.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk13LumberjackLogger.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/SimpleLog.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk14Logger.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogSource.java  
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\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/LogKitLogger.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/Log.java

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## 1.242 zt 1.14

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 \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/extra/ExtraFieldUtils.java  
 \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/extra/ZipConstants.java  
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jar/org/zeroturnaround/zip/commons/FileExistsException.java  
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jar/org/zeroturnaround/zip/commons/IOUtils.java  
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jar/org/zeroturnaround/zip/commons/FileUtilsV2\_2.java  
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jar/org/zeroturnaround/zip/commons/StringBuilderWriter.java  
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- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipUtil.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/timestamps/TimestampStrategyFactory.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipEntryCallback.java

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\* /opt/cola/permits/1425036410\_1663940303.098677/0/netty-handler-proxy-4-1-79-final-sources-1-jar/io/netty/handler/proxy/ProxyHandler.java  
\* /opt/cola/permits/1425036410\_1663940303.098677/0/netty-handler-proxy-4-1-79-final-sources-1-jar/io/netty/handler/proxy/ProxyConnectException.java  
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\* /opt/cola/permits/1425036410\_1663940303.098677/0/netty-handler-proxy-4-1-79-final-sources-1-jar/io/netty/handler/proxy/Socks4ProxyHandler.java  
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\* /opt/cola/permits/1425036410\_1663940303.098677/0/netty-handler-proxy-4-1-79-final-sources-1-jar/io/netty/handler/proxy/Socks5ProxyHandler.java

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Version 3, 29 June 2007

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## 1.252 python-urlgrabber 3.10

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jar/com/google/common/util/concurrent/ForwardingBlockingQueue.java
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```

jar/com/google/common/annotations/package-info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/primitives/package-info.java  
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jar/com/google/common/base/Equivalence.java  
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jar/com/google/common/annotations/Beta.java  
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jar/com/google/common/base/CommonMatcher.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/CommonPattern.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/JdkPattern.java  
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jar/com/google/common/collect/GwtTransient.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/AtomicLongMap.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/graph/AbstractUndirectedNetworkConnections.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/graph/MapRetrievalCache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
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jar/com/google/common/graph/StandardMutableGraph.java  
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 */
/**
 * Holder for web specializations of methods of { @code Doubles}. Intended to be empty for regular
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 */
```



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\* Holder for web specializations of methods of { @code Ints }. Intended to be empty for regular  
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jar/com/google/common/collect/CollectSpliterators.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableBiMapFauxverideShim.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/package-info.java
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jar/com/google/common/collect/ImmutableSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractMultiset.java
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ListMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ReverseOrdering.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/SetMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractMapEntry.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/LexicographicalOrdering.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/LinkedHashMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/HashMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingCollection.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ClassToInstanceMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Maps.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingSortedSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingObject.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/MapDifference.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/EnumBiMap.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Predicates.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Function.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Throwables.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/AsyncEventBus.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Primitives.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/FinalizableWeakReference.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ExecutionList.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/DeadEvent.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/Files.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/package-info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/package-info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/LineReader.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Predicate.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/package-info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Preconditions.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/FinalizableSoftReference.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/FinalizableReferenceQueue.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Objects.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/base/Charsets.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/eventbus/Subscribe.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/MultiInputStream.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/Flushables.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/Supplier.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/FinalizableReference.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/Interners.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/Closeables.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/eventbus/EventBus.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/FinalizablePhantomReference.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/LineBuffer.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/Suppliers.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/package-  
info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/DirectExecutor.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/EnumMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/HashBiMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/eventbus/AllowConcurrentEvents.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/LittleEndianDataInputStream.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/Defaults.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/CountingOutputStream.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ListenableFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/AbstractIterator.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/Functions.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/CountingInputStream.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/io/LittleEndianDataOutputStream.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/CharStreams.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/ByteStreams.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/primitives/ImmutableDoubleArray.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/primitives/ImmutableIntArray.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ForwardingLock.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/hash/AbstractHashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/primitives/ImmutableLongArray.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ForwardingCondition.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/OverflowAvoidingLockSupport.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/ToDoubleRounder.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/BigDecimalMath.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Java8Compatibility.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/Internal.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/AsyncCallable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/FarmHashFingerprint64.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/ReaderInputStream.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/MacHashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ConsumingQueueIterator.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/CombinedFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/Platform.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/InterruptibleTask.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/AggregateFutureState.java

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jar/com/google/common/collect/JdkBackedImmutableMultiset.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/JdkBackedImmutableSet.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/hash/ImmutableSupplier.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ExecutionSequencer.java

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jar/com/google/common/util/concurrent/IgnoreJRERequirement.java

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 *
 * As of 2010/06/11, this method is identical to the (package private) hash method in OpenJDK 7's
 * java.util.HashMap class.
 */
```

Found in path(s):

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/Striped.java
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jar/com/google/common/primitives/UnsignedInts.java
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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/WrappingExecutorService.java
```

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractScheduledService.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/UncheckedExecutionException.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/Weigher.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/CacheStats.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/AbstractCompositeHashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Hashing.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/AbstractLoadingCache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/package-info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/ForwardingLoadingCache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/CacheBuilderSpec.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Optional.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/DescendingImmutableSortedMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Ticker.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Present.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/UnsignedInteger.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Murmur3\_32HashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/PrimitiveSink.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/BoundType.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/AbstractHasher.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/RemovalListeners.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/UnsignedLong.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/Types.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/TypeParameter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableMultiset.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingExecutorService.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/PairwiseEquivalence.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/CycleDetectingLockFactory.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TreeRangeSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularContiguousSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Absent.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/RemovalNotification.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractListeningExecutorService.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Hasher.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingListeningExecutorService.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/HashCode.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/net/MediaType.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/AbstractStreamingHasher.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Crc32cHashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/Uninterruptibles.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/net/HostAndPort.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Murmur3\_128HashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Enums.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/MathPreconditions.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/MessageDigestHashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/UnsignedLongs.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/RemovalListener.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ListeningScheduledExecutorService.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/net/HttpHeaders.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/RemovalCause.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/package-info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/FunctionalEquivalence.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/AsyncFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/Cache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/BloomFilterStrategies.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/BigIntegerMath.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/AbstractCache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ExecutionError.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/IntMath.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/HashingOutputStream.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/EmptyContiguousSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/DoubleMath.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Funnels.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/CacheLoader.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/AbstractNonStreamingHashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Funnel.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/ForwardingCache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Queues.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/LongMath.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/DoubleUtils.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractSortedMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/LoadingCache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/ParseRequest.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/FutureCallback.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/BloomFilter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/HashFunction.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableSortedMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/GeneralRange.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingSortedMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/SortedIterable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RangeSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractRangeSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Count.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/SortedIterables.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableSortedMultiset.java

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```

```
*/
```

```
/**
```

```
* Returns an array containing all of the elements in the specified collection. This method
* returns the elements in the order they are returned by the collection's iterator. The returned
* array is "safe" in that no references to it are maintained by the collection. The caller is
* thus free to modify the returned array.
*
* <p>This method assumes that the collection size doesn't change while the method is running.
*
* <p>TODO(kevinb): support concurrently modified collections?
*
* @param c the collection for which to return an array of elements
*/
```

Found in path(s):

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ObjectArrays.java
```

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*
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```

```
*/
```

```
/*
```

```
* This method was rewritten in Java from an intermediate step of the Murmur hash function in
* http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
```

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/SmallCharMatcher.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/Dispatcher.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/MoreObjects.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenerCallQueue.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/Quantiles.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/Subscriber.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/TrustedListenableFutureTask.java

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jar/com/google/common/util/concurrent/ServiceManagerBridge.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/Java8Usage.java

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jar/com/google/common/io/AppendableWriter.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/reflect/TypeToken.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/FluentFuture.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/AggregateFuture.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/TimeLimiter.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/AbstractCatchingFuture.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/AbstractTransformFuture.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/UncheckedTimeoutException.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/FakeTimeLimiter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/FuturesGetChecked.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/GwtFluentFutureCatchingSpecialization.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/CollectionFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/CaseFormat.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/escape/CharEscaper.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/PatternFilenameFilter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/GwtFuturesCatchingSpecialization.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/escape/CharEscaperBuilder.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/TimeoutFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ImmediateFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/SimpleTimeLimiter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/annotations/VisibleForTesting.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/HashingInputStream.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/VerifyException.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/SubscriberExceptionHandler.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractTable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/Runnables.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Verify.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/SubscriberExceptionContext.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FilteredMultimapValues.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/CharSequenceReader.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Utf8.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/JdkBackedImmutableMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/collect/BaseImmutableMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/JdkBackedImmutableBiMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/IndexedImmutableSet.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/FilteredKeySetMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/FilteredKeyListMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/AllEqualOrdering.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/TransformedListIterator.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/FilteredMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/FilteredEntrySetMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/SortedMultisetBridge.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/CompactLinkedHashSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/CompactLinkedHashMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/FilteredSetMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/CompactHashMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/AbstractSortedKeySortedSetMultimap.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableEnumMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/UnmodifiableSortedMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableList.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingBlockingDeque.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingDeque.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TransformedIterator.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TreeTraverser.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/CompactHashSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/DescendingMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FilteredEntryMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RangeMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingNavigableSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TreeRangeMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/DescendingImmutableSortedSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableAsList.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/EvictingQueue.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingNavigableMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractNavigableMap.java  
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```
*/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/package-info.java
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*/
/**
* Holder for extra methods of { @code Objects } only in web. Intended to be empty for regular
* version.
*/
```

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```
*/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/base/ExtraObjectsMethodsForWeb.java
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/*
* This following method is a modified version of one found in
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* which contained the following notice:
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```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/MoreExecutors.java
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jar/com/google/common/collect/ImmutableMapEntry.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/MultimapBuilder.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/io/MoreFiles.java
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jar/com/google/common/collect/ImmutableEntry.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Tables.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/thirdparty/publicsuffix/PublicSuffixPatterns.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Serialization.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/StandardTable.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableListMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/PeekingIterator.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/RegularImmutableMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/SingletonImmutableBiMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/RegularImmutableBiMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableBiMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableSortedSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableMapValues.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
```

jar/com/google/common/collect/Collections2.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableMapEntrySet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableCollection.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/Table.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/EmptyImmutableListMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/CollectPreconditions.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/HashBasedTable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/Platform.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/TreeBasedTable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/StandardRowSortedTable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/Range.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/UnmodifiableIterator.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableMapKeySet.java  
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\* the License.  
\*/  
/\*\*  
\* Holder for web specializations of methods of { @code Shorts}. Intended to be empty for regular  
\* version.

\*/

Found in path(s):

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/ShortsMethodsForWeb.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/LinearTransformation.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/CharSink.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/LongAddable.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/SmoothRateLimiter.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FilteredKeyMultimap.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/Parameter.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/ByteSink.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/Closer.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/Stats.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/html/package-info.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/PairedStatsAccumulator.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/Element.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/CharSource.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/package-info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/StatsAccumulator.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/escape/package-info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/MutableTypeToInstanceMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/SipHashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/TypeCapture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/LongAddable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/ByteSource.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/ChecksumHashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/Invokable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/RateLimiter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/StandardSystemProperty.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/AbstractByteHasher.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/AbstractInvocationHandler.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/BaseEncoding.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/TypeToInstanceMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/PairedStats.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/LongAddables.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenableScheduledFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/LongAddables.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/CartesianList.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/FileWriteMode.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/reflect/ClassPath.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/xml/package-
info.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableRangeMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/ServiceManager.java
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jar/com/google/common/graph/AbstractBaseGraph.java
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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/BaseGraph.java
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jar/com/google/common/graph/Traverser.java
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jar/com/google/common/util/concurrent/ClosingFuture.java
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/CompactHashing.java

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\* This method was rewritten in Java from an intermediate step of the Murmur hash function in

\* <http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp>, which contained the

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\* Outer class that exists solely to let us write {@code Partially.GwtIncompatible} instead of plain  
\* {@code GwtIncompatible}. This is more accurate for {@link Futures#catching}, which is available  
\* under GWT but with a slightly different signature.

\*

\* <p>We can't use {@code PartiallyGwtIncompatible} because then the GWT compiler wouldn't recognize  
\* it as a {@code GwtIncompatible} annotation. And for {@code Futures.catching}, we need the GWT  
\* compiler to autostrip the normal server method in order to expose the special, inherited GWT  
\* version.

\*/

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jar/com/google/common/util/concurrent/Partially.java

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- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/ImmutableGraph.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/SuccessorsFunction.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/MutableNetwork.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/ImmutableNetwork.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/Graphs.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/InsecureRecursiveDeleteException.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/Graph.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/RecursiveDeleteOption.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/PredecessorsFunction.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/MutableGraph.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/Network.java

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jar/com/google/common/hash/LongAdder.java  
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jar/com/google/common/cache/LongAdder.java  
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jar/com/google/common/cache/Striped64.java  
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jar/com/google/common/primitives/Shorts.java

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jar/com/google/common/primitives/Doubles.java

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jar/com/google/common/util/concurrent/SequentialExecutor.java

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jar/com/google/common/base/CharMatcher.java

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jar/com/google/common/primitives/Booleans.java

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jar/com/google/common/net/PercentEscaper.java

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jar/com/google/common/base/Joiner.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
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jar/com/google/common/util/concurrent/ListenableFutureTask.java  
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jar/com/google/common/escape/UnicodeEscaper.java  
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jar/com/google/common/primitives/Bytes.java  
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jar/com/google/common/io/MultiReader.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/Stopwatch.java  
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jar/com/google/common/base/Converter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/primitives/Longs.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/primitives/Ints.java  
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jar/com/google/common/base/internal/Finalizer.java  
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jar/com/google/common/net/InetAddresses.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/escape/Escaper.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/thirdparty/publicsuffix/TrieParser.java

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jar/com/google/common/collect/MinMaxPriorityQueue.java

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jar/com/google/common/collect/AbstractSequentialIterator.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/TypeResolver.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/escape/Platform.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/MapMaker.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/escape/ArrayBasedUnicodeEscaper.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/CacheBuilder.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Cut.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/ByteArrayDataInput.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/SettableFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/Callables.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/util/concurrent/Service.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/AbstractIdleService.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ForwardingFluentFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/Platform.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/ByteArrayDataOutput.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/html/HtmlEscapers.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/escape/ArrayBasedEscaperMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/LineProcessor.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/xml/XmlEscapers.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/RegularImmutableTable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ForwardingListenableFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/annotations/GwtCompatible.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/ByteProcessor.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/escape/ArrayBasedCharEscaper.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/net/InternetDomainName.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/AbstractService.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/Splitter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/cache/LocalCache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/escape/Escapers.java

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\*/  
/\*\*

\* Not supported. <b>You are attempting to create a map that may contain a non-{@code Comparable}  
\* key.</b> Proper calls will resolve to the version in {@code ImmutableSortedMap}, not this dummy  
\* version.  
\*  
\* @throws UnsupportedOperationException always  
\* @deprecated <b>Pass a key of type {@code Comparable} to use {@link  
\* ImmutableSortedMap#of(Comparable, Object)}.</b>  
\*/

Found in path(s):

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableSortedMapFauxverideShim.java  
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\*/

/\*\*

\* Holder for web specializations of methods of {@code Floats}. Intended to be empty for regular  
\* version.

\*/

Found in path(s):

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/primitives/FloatsMethodsForWeb.java  
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- \*/

Found in path(s):

- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ComputationException.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/DiscreteDomain.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableClassToInstanceMap.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableSortedSetFauxverideShim.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableTable.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableAsList.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ArrayTable.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingTable.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TableCollectors.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableEnumSet.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableSortedSet.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableSortedMap.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/SingletonImmutableList.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/SingletonImmutableTable.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableSetMultimap.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ComparisonChain.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableList.java



\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractIndexedListIterator.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/EmptyImmutableSetMultimap.java

## 1.254 tzdata 2022g-1.el7

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## 1.256 jackson-jaxrs-base 2.10.5

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## 1.257 chardet 2.2.1

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## 1.258 acl 2.2.51 15.e17

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\* /opt/cola/permits/1332541525\_1653371815.0250404/0/simpleclient-tracer-otel-0-15-0-jar/META-INF/maven/io.prometheus/simpleclient\_tracer\_otel/pom.xml

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Manifest-Version: 1.0

Bnd-LastModified: 1644098826595

Build-Jdk: 11.0.13

Built-By: fabian

Bundle-Description: The Prometheus Java Suite: Client Metrics, Exposition, and Examples

Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>

Bundle-ManifestVersion: 2

Bundle-Name: Prometheus Java Span Context Supplier - OpenTelemetry

Bundle-SymbolicName: io.prometheus.simpleclient\_tracer\_otel

Bundle-Version: 0.15.0

Created-By: Apache Maven Bundle Plugin

Export-Package: io.prometheus.client.exemplars.tracer.otel;uses:="io.prometheus.client.exemplars.tracer.common";version="0.15.0"

Import-Package: io.opentelemetry.api.trace,io.prometheus.client.exemplars.tracer.common;version="[0.15,1)"

Tool: Bnd-2.1.0.20130426-122213

Found in path(s):

\* /opt/cola/permits/1332541525\_1653371815.0250404/0/simpleclient-tracer-otel-0-15-0-jar/META-INF/MANIFEST.MF

# 1.260 pth 2.0.7 23.e17

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```
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 | _ / | | | |
 | | \ | | | |
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Ty Coon, President of Vice

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## 1.264 simpleclient-httpserver 0.15.0

### 1.264.1 Available under license :

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<url><http://www.apache.org/licenses/LICENSE-2.0.txt></url>

Found in path(s):

\* /opt/cola/permits/1369173634\_1658389571.3526907/0/simpleclient-httpserver-0-15-0-jar/META-INF/maven/io.prometheus/simpleclient\_httpserver/pom.xml

No license file was found, but licenses were detected in source scan.

Manifest-Version: 1.0

Bnd-LastModified: 1644098956820

Build-Jdk: 11.0.13

Built-By: fabian

Bundle-Description: Httpserver exposition for the simpleclient.

Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>

Bundle-ManifestVersion: 2

Bundle-Name: Prometheus Java Simpleclient Httpserver

Bundle-SymbolicName: io.prometheus.simpleclient\_httpserver

Bundle-Version: 0.15.0  
Created-By: Apache Maven Bundle Plugin  
Export-Package: io.prometheus.client.exporter;uses:="com.sun.net.httpserver,io.prometheus.client";version="0.15.0"  
Import-Package: com.sun.net.httpserver,io.prometheus.client;version="[0.15,1)",io.prometheus.client.exporter.common;version="[0.15,1)"  
Tool: Bnd-2.1.0.20130426-122213

Found in path(s):

\* /opt/cola/permits/1369173634\_1658389571.3526907/0/simpleclient-httpserver-0-15-0-jar/META-INF/MANIFEST.MF

# 1.265 protobuf-java 3.21.12

## 1.265.1 Available under license :

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Manifest-Version: 1.0  
Automatic-Module-Name: com.google.protobuf  
Bnd-LastModified: 1671050201631  
Build-Jdk: 11.0.13  
Built-By: kfm  
Bundle-Description: Core Protocol Buffers library. Protocol Buffers are a way of encoding structured data in an efficient yet extensible format.  
Bundle-DocURL: <https://developers.google.com/protocol-buffers/>  
Bundle-License: <https://opensource.org/licenses/BSD-3-Clause>  
Bundle-ManifestVersion: 2  
Bundle-Name: Protocol Buffers [Core]  
Bundle-SymbolicName: com.google.protobuf  
Bundle-Version: 3.21.12  
Created-By: Apache Maven Bundle Plugin  
Export-Package: com.google.protobuf;version="3.21.12"  
Import-Package: sun.misc;resolution:=optional,com.google.protobuf;version="[3.21,4)"  
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.7))"  
Tool: Bnd-3.0.0.201509101326

Found in path(s):

\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/META-INF/MANIFEST.MF  
No license file was found, but licenses were detected in source scan.

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```

Found in path(s):

```
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-
jar/google/protobuf/compiler/plugin.proto
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-
jar/google/protobuf/source_context.proto
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/type.proto
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-
jar/google/protobuf/field_mask.proto
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/api.proto
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-
jar/google/protobuf/timestamp.proto
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/duration.proto
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/struct.proto
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/empty.proto
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/wrappers.proto
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/any.proto
* /opt/cola/permits/1535600625_1674018919.1448016/0/protobuf-java-3-21-12-
jar/google/protobuf/descriptor.proto
```

# 1.266 qrencode 3.4.1 3.e17

## 1.266.1 Available under license :

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Version 2.1, February 1999

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## 1.272 jackson-annotations 2.13.2

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# 1.275 jackson-databind 2.13.3

## 1.275.1 Available under license :

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\* /opt/cola/permits/1332541519\_1653371833.439189/0/simpleclient-0-15-0-jar/META-INF/maven/io.prometheus/simpleclient/pom.xml

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Manifest-Version: 1.0

Bnd-LastModified: 1644098851622

Build-Jdk: 11.0.13

Built-By: fabian  
Bundle-Description: Core instrumentation library for the simpleclient.  
Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>  
Bundle-ManifestVersion: 2  
Bundle-Name: Prometheus Java Simpleclient  
Bundle-SymbolicName: io.prometheus.simpleclient  
Bundle-Version: 0.15.0  
Created-By: Apache Maven Bundle Plugin  
Export-Package: io.prometheus.client;uses:="io.prometheus.client.exemplars";version="0.15.0",io.prometheus.client.exemplars;uses:="io.prometheus.client.exemplars.tracer.common";version="0.15.0"  
Import-Package: io.prometheus.client.exemplars.tracer.common;version="[0.15,1)",io.prometheus.client.exemplars.tracer.otel;version="[0.15,1)",io.prometheus.client.exemplars.tracer.otel\_agent;version="[0.15,1)"  
Tool: Bnd-2.1.0.20130426-122213

Found in path(s):

\* /opt/cola/permits/1332541519\_1653371833.439189/0/simpleclient-0-15-0-jar/META-INF/MANIFEST.MF

## 1.277 dropwizard-configuration 2.0.34

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## 1.279 setup 2.8.71 11.el7

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## 1.280 animal-sniffer-annotation 1.19

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\* /opt/cola/permits/1258876677\_1643115784.16/0/animal-sniffer-annotations-1-19-sources-jar/META-INF/maven/org.codehaus.mojo/animal-sniffer-annotations/pom.xml

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```

* /opt/cola/permits/1258876677_1643115784.16/0/animal-sniffer-annotations-1-19-sources-
jar/org/codehaus/mojo/animal_sniffer/IgnoreJRERequirement.java

```

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jar/org/jctools/queues/BaseSpSCLinkedArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-  
jar/org/jctools/queues/BaseLinkedQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-  
jar/org/jctools/maps/NonBlockingHashSet.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-  
jar/org/jctools/util/UnsafeJvmInfo.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-  
jar/org/jctools/queues/atomic/BaseMpscLinkedAtomicArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-

jar/org/jctools/queues/MessagePassingQueueUtil.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/MpscCompoundQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/maps/NonBlockingIdentityHashMap.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/atomic/AtomicReferenceArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/MpscUnboundedXaddChunk.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/maps/ConcurrentAutoTable.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/atomic/LinkedQueueAtomicNode.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/atomic/SpSCLinkedAtomicQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/atomic/MpscLinkedAtomicQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/SpSCLinkedQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/MpscGrowableArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/spec/ConcurrentQueueSpec.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/util/UnsafeAccess.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/MpscUnboundedArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/MpmcArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/SupportsIterator.java  
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\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/SpSCChunkedArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/util/UnsafeLongArrayAccess.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/atomic/BaseSpSCLinkedAtomicArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/atomic/MpscChunkedAtomicArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/SpSCUnboundedArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/util/InternalAPI.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/maps/NonBlockingHashMap.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-

jar/org/jctools/queues/atomic/MpscGrowableAtomicArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-  
jar/org/jctools/queues/SpSCGrowableArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-  
jar/org/jctools/queues/atomic/SpSCGrowableAtomicArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-  
jar/org/jctools/util/PortableJvmInfo.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-  
jar/org/jctools/queues/BaseMpscLinkedListArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-  
jar/org/jctools/queues/atomic/SpMCAtomicArrayQueue.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-  
jar/org/jctools/maps/NonBlockingHashMapLong.java  
\* /opt/cola/permits/1257772382\_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/util/Pow2.java

# 1.284 nss 3.79.0-1.el7\_9

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```

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<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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Format: <http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/>

Upstream-Name: liblz4

Upstream-Contact: Yann Collet <[Cyan4973@github.com](mailto:Cyan4973@github.com)>

Source: <https://github.com/lz4/lz4>

Files: \*

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# 1.286 basesystem 10.0-7.el7.centos

## 1.286.1 Available under license :

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Summary: The skeleton package which defines a simple CentOS Linux system

Name: basesystem

Version: 10.0

Release: 7%{?dist}

License: Public Domain

Group: System Environment/Base

Requires(pre): setup filesystem

BuildRoot: %(mktemp -ud %[\_tmppath]/{name}-%{version}-%{release}-XXXXXX)

BuildArch: noarch

%description

Basesystem defines the components of a basic CentOS Linux system (for example, the package installation order to use during bootstrapping). Basesystem should be in every installation of a system, and it should never be removed.

%prep

%build

%install

%clean

%files  
%defattr(-,root,root,-)

%changelog

- \* Fri Jun 27 2014 Johnny Hughes <johnny@centos.org> - 10.0-7.el7.centos  
- Roll in CentOS Branding
- \* Fri Dec 27 2013 Daniel Mach <dmach@redhat.com> - 10.0-7  
- Mass rebuild 2013-12-27
- \* Tue Mar 06 2012 Ondrej Vasik <ovasik@redhat.com> 10.0-6  
- remove again reference to Fedora after RHEL-7 import(#800464)
- \* Thu Jun 23 2011 Ondrej Vasik <ovasik@redhat.com> 10.0-5  
- fix FTBFS typo (#715640), add disttag
- \* Fri May 21 2010 Ondrej Vasik <ovasik@redhat.com> - 10.0-4  
- remove reference to Fedora, add dist tag  
Related: rhbz#566527
- \* Mon Apr 26 2010 Dennis Gregorovic <dgregor@redhat.com> - 10.0-3.2  
- Rebuilt for RHEL 6  
Related: rhbz#566527
- \* Mon Apr 26 2010 Dennis Gregorovic <dgregor@redhat.com> - 10.0-3.1  
- Rebuilt for RHEL 6  
Related: rhbz#566527
- \* Fri Jul 24 2009 Fedora Release Engineering <rel-eng@lists.fedoraproject.org> - 10.0-3  
- Rebuilt for [https://fedoraproject.org/wiki/Fedora\\_12\\_Mass\\_Rebuild](https://fedoraproject.org/wiki/Fedora_12_Mass_Rebuild)
- \* Mon Feb 23 2009 Fedora Release Engineering <rel-eng@lists.fedoraproject.org> - 10.0-2  
- Rebuilt for [https://fedoraproject.org/wiki/Fedora\\_11\\_Mass\\_Rebuild](https://fedoraproject.org/wiki/Fedora_11_Mass_Rebuild)
- \* Mon Oct 20 2008 Phil Knirsch <pknirsch@redhat.com> 10.0-1  
- Bump version and rebuild for Fedora 10 (#451289)
- \* Fri Mar 02 2007 Phil Knirsch <pknirsch@redhat.com> - 8.1-1  
- Cleanup per package review (#225608)
- \* Wed Jul 12 2006 Jesse Keating <jkeating@redhat.com> - 8.0-5.1.1  
- rebuild
- \* Fri Dec 09 2005 Jesse Keating <jkeating@redhat.com>  
- rebuilt
- \* Wed Sep 22 2004 Bill Nottingham <notting@redhat.com>

- rebuilt

\* Fri Feb 13 2004 Elliot Lee <sopwith@redhat.com>

- rebuilt

\* Wed Jan 22 2003 Tim Powers <timp@redhat.com>

- rebuilt

\* Wed Aug 21 2002 Bill Nottingham <notting@redhat.com>

- bump rev

\* Fri Jun 21 2002 Tim Powers <timp@redhat.com>

- automated rebuild

\* Thu May 23 2002 Tim Powers <timp@redhat.com>

- automated rebuild

\* Wed Jan 09 2002 Tim Powers <timp@redhat.com>

- automated rebuild

\* Wed Jul 12 2000 Prospector <bugzilla@redhat.com>

- automatic rebuild

\* Tue Jun 6 2000 Bill Nottingham <notting@redhat.com>

- rebuild. Wheee.

\* Sun Mar 21 1999 Cristian Gafton <gafton@redhat.com>

- auto rebuild in the new build environment (release 4)

\* Tue Mar 16 1999 Cristian Gafton <gafton@redhat.com>

- don't require rpm (breaks dependency chain)

\* Tue Mar 16 1999 Erik Troan <ewt@redhat.com>

- require rpm

\* Wed Dec 30 1998 Cristian Gafton <gafton@redhat.com>

- build for 6.0

\* Tue Aug 11 1998 Jeff Johnson <jbj@redhat.com>

- build root

\* Mon Apr 27 1998 Prospector System <bugs@redhat.com>

- translations modified for de, fr, tr

\* Tue Sep 23 1997 Erik Troan <ewt@redhat.com>

- made a noarch package

Found in path(s):



\* /opt/cola/permits/1151233448\_1617817524.04/0/basesystem-10.0-7.el7.centos.src.rpm-cosi-expand-archive-tqrtl4Z0/basesystem.spec

## 1.287 libffi 3.0.13 19.el7

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## 1.288 jetty-servlet 9.4.50.v20221201

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Eclipse

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\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.

\* org.eclipse.jetty.orbit:javax.security.auth.message

The following artifacts are EPL and CDDL 1.0.

\* org.eclipse.jetty.orbit:javax.mail.glassfish

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Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.  
<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

- \* javax.servlet:javax.servlet-api
- \* javax.annotation:javax.annotation-api
- \* javax.transaction:javax.transaction-api
- \* javax.websocket:javax.websocket-api

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Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

- \* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons  
org.ow2.asm:asm

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Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec  
org.apache.taglibs:taglibs-standard-impl

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MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp  
org.apache.tomcat:tomcat-jasper  
org.apache.tomcat:tomcat-juli  
org.apache.tomcat:tomcat-jsp-api  
org.apache.tomcat:tomcat-el-api  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-api  
org.apache.tomcat:tomcat-util-scan  
org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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Mortbay

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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## 1.289 jackson-datatype-jsr310 2.10.5

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# 1.290 netty 4.1.87.Final

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\* /opt/cola/permits/1536708833\_1674074058.7292252/0/client-java-proto-17-0-0-sources-jar/io/kubernetes/client/proto/V1beta1Apps.java  
\* /opt/cola/permits/1536708833\_1674074058.7292252/0/client-java-proto-17-0-0-sources-jar/io/kubernetes/client/proto/V1beta1Authentication.java  
\* /opt/cola/permits/1536708833\_1674074058.7292252/0/client-java-proto-17-0-0-sources-jar/io/kubernetes/client/proto/V1Rbac.java  
\* /opt/cola/permits/1536708833\_1674074058.7292252/0/client-java-proto-17-0-0-sources-jar/io/kubernetes/client/proto/V1beta1Storage.java  
\* /opt/cola/permits/1536708833\_1674074058.7292252/0/client-java-proto-17-0-0-sources-jar/io/kubernetes/client/proto/Resource.java  
\* /opt/cola/permits/1536708833\_1674074058.7292252/0/client-java-proto-17-0-0-sources-jar/io/kubernetes/client/proto/V1Scheduling.java  
\* /opt/cola/permits/1536708833\_1674074058.7292252/0/client-java-proto-17-0-0-sources-jar/io/kubernetes/client/proto/V1beta1Admissionregistration.java  
\* /opt/cola/permits/1536708833\_1674074058.7292252/0/client-java-proto-17-0-0-sources-jar/io/kubernetes/client/proto/V1Autoscaling.java  
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\* /opt/cola/permits/1536708833\_1674074058.7292252/0/client-java-proto-17-0-0-sources-jar/io/kubernetes/client/proto/V1alpha1Scheduling.java  
\* /opt/cola/permits/1536708833\_1674074058.7292252/0/client-java-proto-17-0-0-sources-jar/io/kubernetes/client/proto/V2beta2Autoscaling.java

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Found in path(s):

\* /opt/ws\_local/PERMITS\_SQL/1068179877\_1594279123.39/0/profiler-1-1-1-sources-jar/META-INF/maven/com.helger/profiler/pom.xml

## 1.294 chkconfig 1.7.6-1.el7

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## 1.295 hk2-utils 2.6.1

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# 1.296 jeromq 0.3.5

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## 1.301 metrics-json 4.1.33



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Automatic-Module-Name: com.codahale.metrics.json  
Build-Jdk-Spec: 1.8  
Bundle-Description: A set of Jackson modules which provide serializers for most Metrics classes.  
Bundle-License: <https://www.apache.org/licenses/LICENSE-2.0.html>  
Bundle-ManifestVersion: 2  
Bundle-Name: Jackson Integration for Metrics  
Bundle-SymbolicName: io.dropwizard.metrics.json  
Bundle-Version: 4.1.33  
Created-By: Apache Maven Bundle Plugin 5.1.8  
Export-Package: com.codahale.metrics.json;uses:="com.codahale.metrics, com.fasterxml.jackson.core,com.fasterxml.jackson.databind";version="4.1.33"  
Implementation-Title: Jackson Integration for Metrics  
Implementation-Version: 4.1.33  
Import-Package: com.codahale.metrics;version="[4.1,5)",com.codahale.metrics.health;version="[4.1,5)";resolution:=optional,com.fasterxml.jackson.core;version="[2.9,3)",com.fasterxml.jackson.databind;version="[2.9,3)",com.fasterxml.jackson.databind.module;version="[2.9,3)",com.fasterxml.jackson.databind.ser;version="[2.9,3)",com.fasterxml.jackson.databind.ser.std;version="[2.9,3)"  
Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.8))"  
Tool: Bnd-6.3.1.202206071316

Found in path(s):

\* /opt/cola/permits/1480501740\_1668971447.245473/0/metrics-json-4-1-33-jar/META-INF/MANIFEST.MF

## 1.302 glib 2.56.1-9.el7\_9

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## 1.304 gobject-introspection 1.56.1-1.el7

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# 1.305 openjsse 1.1.10

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Version 2, June 1991

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## 1.306 simpleclient-common 0.15.0

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Manifest-Version: 1.0  
Bnd-LastModified: 1644098861383  
Build-Jdk: 11.0.13  
Built-By: fabian  
Bundle-Description: Common code used by various modules of the Simpleclient.  
Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>  
Bundle-ManifestVersion: 2  
Bundle-Name: Prometheus Java Simpleclient Common  
Bundle-SymbolicName: io.prometheus.simpleclient\_common  
Bundle-Version: 0.15.0  
Created-By: Apache Maven Bundle Plugin  
Export-Package: io.prometheus.client.exporter.common;uses:="io.prometheus.client";version="0.15.0"  
Import-Package: io.prometheus.client;version="[0.15,1)",io.prometheus.client.exemplars;version="[0.15,1)"  
Tool: Bnd-2.1.0.20130426-122213

Found in path(s):

\* /opt/cola/permits/1332541538\_1653371818.1968312/0/simpleclient-common-0-15-0-jar/META-INF/MANIFEST.MF

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\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/HttpServerExpectContinueHandler.java

\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketScheme.java

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\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/HttpContentDecompressor.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/rtsp/RtspResponseStatuses.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/DefaultHttpObject.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketClientHandshaker.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/HttpResponseStatus.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketClientHandshakerFactory.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/multipart/MemoryFileUpload.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/spdy/package-info.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/multipart/DiskFileUpload.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/HttpVersion.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketClientHandshaker08.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/multipart/HttpPostMultipartRequestDecoder.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/package-info.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketVersion.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/HttpClientCodec.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/DefaultHttpContent.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/DefaultHttpMessage.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/websocketx/PingWebSocketFrame.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/rtsp/RtspResponseDecoder.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/websocketx/package-info.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/multipart/MixedFileUpload.java

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jar/io/netty/handler/codec/http/TooLongHttpContentException.java
 * /opt/cola/permits/1536390085_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-
jar/io/netty/handler/codec/http/TooLongHttpHeaderException.java
 * /opt/cola/permits/1536390085_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-
jar/io/netty/handler/codec/http/TooLongHttpLineException.java
 * /opt/cola/permits/1536390085_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-
jar/io/netty/handler/codec/http/multipart/AbstractMixedHttpData.java
 * /opt/cola/permits/1536390085_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-
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* /opt/cola/permits/1536390085_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-
jar/io/netty/handler/codec/http/websocketx/WebSocket13FrameEncoder.java
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\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/HttpScheme.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/cookie/CookieUtil.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/cookie/CookieEncoder.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/EmptyHttpHeaders.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/HttpUtil.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/cookie/ServerCookieDecoder.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/cookie/Cookie.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/cookie/ClientCookieDecoder.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/cookie/CookieHeaderNames.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/HttpExpectationFailedEvent.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/cookie/CookieDecoder.java  
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\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/cookie/ClientCookieEncoder.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/CombinedHttpHeaders.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/rtsp/RtspDecoder.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/CookieUtil.java  
\* /opt/cola/permits/1536390085\_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-jar/io/netty/handler/codec/http/cookie/ServerCookieEncoder.java

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jar/io/netty/handler/codec/http/websocketx/WebSocket08FrameDecoder.java
* /opt/cola/permits/1536390085_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-
jar/io/netty/handler/codec/http/websocketx/WebSocket13FrameDecoder.java
* /opt/cola/permits/1536390085_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-
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* /opt/cola/permits/1536390085_1674051825.4218893/0/netty-codec-http-4-1-87-final-sources-
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- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/internal/SegmentedByteString.kt
- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/internal/RealBufferedSource.kt

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DeprecatedUtf8.kt

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DeprecatedUpgrade.kt

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jar/commonMain/okio/PeekSource.kt

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DeprecatedOkio.kt

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- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/Options.kt
- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/jvmMain/okio/HashingSink.kt

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ByteString.kt
- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/-Util.kt
- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/-  
CommonPlatform.kt
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- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/HashingSink.kt
- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/jvmMain/okio/NioSystemFileSystem.kt
- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/Path.kt
- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/jvmMain/okio/JvmSystemFileSystem.kt
- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/ExperimentalFileSystem.kt
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- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/HashingSource.kt
- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/FileSystem.kt
- \* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/jvmMain/okio/Path.kt
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\* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/FileHandle.kt

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\* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/commonMain/okio/internal/FileSystem.kt

\* /opt/cola/permits/1387809635\_1660200733.4071565/0/okio-3-0-0-sources-1-jar/jvmMain/okio/FileSystem.kt

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# 1.311 hostname 3.13 3.el7\_7.1

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hostname -- set the host name or show the host/domain name

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## 1.312 metrics-jersey2 4.1.33

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Manifest-Version: 1.0  
Automatic-Module-Name: com.codahale.metrics.jersey2  
Build-Jdk-Spec: 1.8  
Bundle-Description: A set of class providing Metrics integration for J  
ersey, the reference JAX-RS implementation.  
Bundle-License: <https://www.apache.org/licenses/LICENSE-2.0.html>  
Bundle-ManifestVersion: 2  
Bundle-Name: Metrics Integration for Jersey 2.x  
Bundle-SymbolicName: io.dropwizard.metrics.jersey2  
Bundle-Version: 4.1.33  
Created-By: Apache Maven Bundle Plugin 5.1.8  
Export-Package: com.codahale.metrics.jersey2;uses:="com.codahale.metri  
cs.javax.ws.rs.core,javax.ws.rs.ext,org.glassfish.jersey.server.model  
,org.glassfish.jersey.server.monitoring";version="4.1.33"  
Implementation-Title: Metrics Integration for Jersey 2.x  
Implementation-Version: 4.1.33  
Import-Package: com.codahale.metrics;version="[4.1,5)",com.codahale.me  
trics.annotation;version="[4.1,5)",javax.ws.rs.core;version="[2.1,3)"  
,javax.ws.rs.ext;version="[2.1,3)",org.glassfish.jersey.server;versio  
n="[2.36,3)",org.glassfish.jersey.server.model;version="[2.36,3)",org  
.glassfish.jersey.server.monitoring;version="[2.36,3)"  
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.8))"  
Tool: Bnd-6.3.1.202206071316

Found in path(s):

\* /opt/cola/permits/1480501859\_1668971440.221243/0/metrics-jersey2-4-1-33-jar/META-INF/MANIFEST.MF

## 1.313 libcap 2.22 11.el7



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/\* A simple integer desk calculator using yacc and gmp.

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## 1.318 animal-sniffer-annotation 1.21

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 */
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```
*/opt/cola/permits/1401299224_1661572018.4397962/0/animal-sniffer-annotations-1-21-sources-1-
jar/org/codehaus/mojo/animal_sniffer/IgnoreJRERequirement.java
```

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# 1.319 apache-commons-text 1.10.0

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# 1.320 bouncy-castle 1.72

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```
* /opt/cola/permits/1487838996_1674089109.076011/0/src-116-
zip/org/bouncycastle/pqc/legacy/math/ntru/euclid/test/IntEuclideanTest.java
```

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```
/**
```

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```

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*
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// now keep space is free to use

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zip/org/bouncycastle/pqc/legacy/crypto/gmss/GMSSPrivateKeyParameters.java  
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/\*\*

\* Magic value for proprietary OpenSSH private key.

\*\*/

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zip/org/bouncycastle/crypto/util/OpenSSHPrivateKeyUtil.java  
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\* Poly1305 message authentication code, designed by D. J. Bernstein.

\* <p>

\* Poly1305 computes a 128-bit (16 bytes) authenticator, using a 128 bit nonce and a 256 bit key  
\* consisting of a 128 bit key applied to an underlying cipher, and a 128 bit key (with 106  
\* effective key bits) used in the authenticator.

\* <p>

\* The polynomial calculation in this implementation is adapted from the public domain <a



\* href="https://github.com/floodyberry/poly1305-donna">poly1305-donna-unrolled</a> C implementation  
\* by Andrew M (@floodyberry).  
\* @see Poly1305KeyGenerator  
\*/

Found in path(s):

\* /opt/cola/permits/1487838996\_1674089109.076011/0/src-116-zip/org/bouncycastle/crypto/macs/Poly1305.java  
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/\*\*

\* Contains the polynomial classes used in the NTRU round 3 algorithm.

\*

\* <p>

\* This implementation is based on the C reference implementation submitted for the round 3 NIST PQC competition,

\* released under CC0-1.0 license.

\* </p>

\*

\* <p><a href="https://csrc.nist.gov/CSRC/media/Projects/post-quantum-cryptography/documents/round-3/submissions/NTRU-Round3.zip">NIST submission files</a></p>

\* <p><a href="https://github.com/jschanck/ntru/blob/master/LICENSE">License of reference implementation</a></p>

\*/

Found in path(s):

\* /opt/cola/permits/1487838996\_1674089109.076011/0/src-116-zip/org/bouncycastle/pqc/math/ntru/package-info.java

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/\*\*

\* SPHINCS-256 signer.

\* <p>

\* This implementation is heavily based on the reference implementation in SUPERCOP, the main difference being the digests used

\* for message hashing and tree construction are now configurable (within limits...) and that the implementation produces

\* detached signatures.

\* </p>

\* <p>

\* The SPHINCS reference implementation is public domain, as per the statement in the second last paragraph of section 1 in https://eprint.iacr.org/2014/795.pdf

\* </p>

\*/

Found in path(s):

\* /opt/cola/permits/1487838996\_1674089109.076011/0/src-116-zip/org/bouncycastle/pqc/crypto/sphincs/SPHINCS256Signer.java

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```
/**
 * The NTRU algorithm based on the round 3 submission of the NIST post-quantum cryptography. For the old
 * NTRU, see
 * { @link org.bouncycastle.pqc.legacy.crypto.ntru }.
 *
 * <p>
 * This implementation is based on the C reference implementation submitted for the round 3 NIST PQC
 * competition,
 * released under CC0-1.0 license.
 * </p>
 *
 * <p><a href="https://csrc.nist.gov/CSRC/media/Projects/post-quantum-cryptography/documents/round-
 * 3/submissions/NTRU-Round3.zip">NIST submission files</p>
 * <p>License of reference
 * implementation</p>
 *
 * @see NIST round 3
 * PQC submissions page
 * @see NTRU website
 * @see NTRU specification
 */
```

Found in path(s):

```
*/opt/cola/permits/1487838996_1674089109.076011/0/src-116-zip/org/bouncycastle/pqc/crypto/ntru/package-
info.java
```

## 1.321 jackson-module-afterburner 2.10.5

### 1.321.1 Available under license :

```
Jackson JSON processor
```

Jackson is a high-performance, Free/Open Source JSON processing library.

It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has been in development since 2007.

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```
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```

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Additional licensing information exists for following 3rd party library dependencies

### ### ASM

ASM: a very small and fast Java bytecode manipulation framework

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# 1.322 guava 31.1-jre

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 */
/**
 * Outer class that exists solely to let us write {@code Partially.GwtIncompatible} instead of plain
 * {@code GwtIncompatible}. This is more accurate for {@link Futures#catching}, which is available
 * under GWT but with a slightly different signature.
 *
 * <p>We can't use {@code PartiallyGwtIncompatible} because then the GWT compiler wouldn't recognize
 * it as a {@code GwtIncompatible} annotation. And for {@code Futures.catching}, we need the GWT
 * compiler to autostrip the normal server method in order to expose the special, inherited GWT
 * version.
 */
```

Found in path(s):

```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/util/concurrent/Partially.java
```

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jar/com/google/common/graph/Network.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/graph/PredecessorsFunction.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/graph/ImmutableGraph.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/graph/MutableGraph.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/RecursiveDeleteOption.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/graph/SuccessorsFunction.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/graph/Graph.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/graph/ImmutableNetwork.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/graph/Graphs.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/TopKSelector.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/graph/MutableNetwork.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/InsecureRecursiveDeleteException.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-

jar/com/google/common/collect/JdkBackedImmutableSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/hash/ImmutableSupplier.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ExecutionSequencer.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/JdkBackedImmutableMultiset.java  
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jar/com/google/common/collect/RegularImmutableSortedSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableAsList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ComparisonChain.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableClassToInstanceMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SingletonImmutableList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/TableCollectors.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/DiscreteDomain.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableSortedMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableSortedSetFauxverideShim.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SingletonImmutableTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableEnumSet.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/EmptyImmutableSetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractIndexedListIterator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ComputationException.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableSetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ArrayTable.java

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- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableEntry.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableBiMap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Serialization.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/HashBasedTable.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMapValues.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMultiset.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMapKeySet.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableSortedSet.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMultimap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/CollectPreconditions.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Tables.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableMap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/UnmodifiableIterator.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/SingletonImmutableBiMap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/thirdparty/publicsuffix/PublicSuffixPatterns.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/StandardRowSortedTable.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMapEntrySet.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Collections2.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-



jar/com/google/common/collect/StandardTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableCollection.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/RegularImmutableBiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Table.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/TreeBasedTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableListMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Platform.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Range.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/EmptyImmutableListMultimap.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/NullnessCasts.java  
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jar/com/google/common/util/concurrent/NullnessCasts.java  
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jar/com/google/common/util/concurrent/AbstractListeningExecutorService.java  
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jar/com/google/common/graph/IncidentEdgeSet.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/escape/UnicodeEscaper.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/Joiner.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/net/InetAddresses.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/MultiReader.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/FluentIterable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/net/PercentEscaper.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/primitives/Doubles.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/primitives/Chars.java



\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/Bytes.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/SequentialExecutor.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/Longs.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/Ints.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/Booleans.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenableFutureTask.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/Escaper.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/Shorts.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/internal/Finalizer.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/FileBackedOutputStream.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/thirdparty/publicsuffix/TrieParser.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Stopwatch.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/CharMatcher.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/Floats.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Converter.java

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\* Holder for web specializations of methods of { @code Ints }. Intended to be empty for regular

\* version.

\*/

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/IntsMethodsForWeb.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/Subscriber.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/MoreObjects.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenerCallQueue.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/Quantiles.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/Dispatcher.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/SubscriberRegistry.java

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jar/com/google/common/hash/LongAdder.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/cache/LongAdder.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/cache/Striped64.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/hash/Striped64.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/AtomicDoubleArray.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingSortedMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/GeneralRange.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Count.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/RegularImmutableSortedMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SortedIterable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/RangeSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractRangeSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SortedIterables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableSortedMultiset.java

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jar/com/google/common/graph/package-info.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ImmutableBiMapFauxverideShim.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/CollectSpliterators.java
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jar/com/google/common/util/concurrent/AtomicLongMap.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/GwtTransient.java
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jar/com/google/common/util/concurrent/OverflowAvoidingLockSupport.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/math/BigDecimalMath.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/Java8Compatibility.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/hash/Java8Compatibility.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/math/ToDoubleRounder.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/Java8Compatibility.java

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- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/UnmodifiableListIterator.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RowSortedTable.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/MinMaxPriorityQueue.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableCollection.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractSequentialIterator.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/SortedMapDifference.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingSortedSetMultimap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingSetMultimap.java

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- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ParametricNullness.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/net/ParametricNullness.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/ParametricNullness.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/xml/ParametricNullness.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/ParametricNullness.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/ParametricNullness.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/ParametricNullness.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/ParametricNullness.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/html/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/ElementTypesAreNonnullByDefault.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/ElementTypesAreNonnullByDefault.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ElementTypesAreNonnullByDefault.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ParametricNullness.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/net/ElementTypesAreNonnullByDefault.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/ParametricNullness.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/ParametricNullness.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/GwtFuturesCatchingSpecialization.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/CharEscaperBuilder.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/TimeoutFuture.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/GwtFluentFutureCatchingSpecialization.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/annotations/VisibleForTesting.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/FuturesGetChecked.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/UncheckedTimeoutException.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/TimeLimiter.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/TypeToken.java



\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractCatchingFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/CharEscaper.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractTransformFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/SimpleTimeLimiter.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/FluentFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/AppendableWriter.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AggregateFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/PatternFilenameFilter.java

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\* This following method is a modified version of one found in

\* <http://gee.cs.oswego.edu/cgi-bin/viewcvs.cgi/jsr166/src/test/tck/AbstractExecutorServiceTest.java?revision=1.30>

\* which contained the following notice:

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\* Other contributors include Andrew Wright, Jeffrey Hayes, Pat Fisher, Mike Judd.

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Found in path(s):

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/MoreExecutors.java

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```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/base/PatternCompiler.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/base/JdkPattern.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/base/CommonMatcher.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/base/CommonPattern.java
```

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 */
```

```
/*
 * This method was rewritten in Java from an intermediate step of the Murmur hash function in
 * http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
 * following header:
 *
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 */
```

Found in path(s):

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/SmallCharMatcher.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Verify.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/SubscriberExceptionContext.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/CharSequenceReader.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/SubscriberExceptionHandler.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/TypeVisitor.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredMultimapValues.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractTable.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/Runnables.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/HashingInputStream.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Utf8.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java

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jar/com/google/common/collect/MapMaker.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/JdkFutureAdapters.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/xml/XmlEscapers.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/ByteArrayDataInput.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Cut.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/Callables.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/annotations/GwtIncompatible.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/AbstractExecutionThreadService.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/annotations/GwtCompatible.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/escape/Escapers.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/primitives/SignedBytes.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SparseImmutableTable.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/cache/LocalCache.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/escape/ArrayBasedCharEscaper.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/net/HostSpecifier.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/Platform.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/CacheBuilder.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/UnsignedBytes.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/net/InternetDomainName.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingFluentFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingListenableFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/Service.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/TypeResolver.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Splitter.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/LineProcessor.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/MapMakerInternalMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/ReferenceEntry.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractIdleService.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/net/UrlEscapers.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Platform.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/ArrayBasedEscaperMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractService.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/DenseImmutableTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/ByteProcessor.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/SettableFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/ArrayBasedUnicodeEscaper.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/ByteArrayDataOutput.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/html/HtmlEscapers.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/LineBuffer.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Function.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/CountingOutputStream.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/DeadEvent.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Preconditions.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Supplier.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenableFuture.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/MultiInputStream.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/Primitives.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Objects.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/LineReader.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Interners.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/AsyncEventBus.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/CountingInputStream.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/Subscribe.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/FinalizableReference.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/DirectExecutor.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/ByteStreams.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/EnumMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/FinalizableReferenceQueue.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Functions.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/AllowConcurrentEvents.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/HashBiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/Resources.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/FinalizableSoftReference.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/CharStreams.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Defaults.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Predicate.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Charsets.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/Files.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/Flushables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/EventBus.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/LittleEndianDataInputStream.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Predicates.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredSetMultimap.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredEntryMultimap.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableAsList.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/CompactLinkedHashSet.java



\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/TransformedIterator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/DescendingImmutableSortedSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/EvictingQueue.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/CompactLinkedHashMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingDeque.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredEntrySetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractNavigableMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredKeySetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableEnumMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractSortedKeySortedSetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AllEqualOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/UnmodifiableSortedMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingBlockingDeque.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/TreeTraverser.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingNavigableSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/SortedMultisetBridge.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RangeMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingNavigableMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/CompactHashSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/CompactHashMap.java

```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/FilteredKeyListMultimap.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/TransformedListIterator.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ForwardingImmutableSet.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/TreeRangeMap.java
```

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```

```
*/
```

```
/**
```

```
* Holder for web specializations of methods of { @code Floats }. Intended to be empty for regular
* version.
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/primitives/FloatsMethodsForWeb.java
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*/
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- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/LittleEndianByteArray.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/CombinedFuture.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/ReaderInputStream.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/InterruptibleTask.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AggregateFutureState.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/FarmHashFingerprint64.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AsyncCallable.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ConsumingQueueIterator.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/Platform.java

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- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenableScheduledFuture.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/BaseEncoding.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableRangeMap.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/Stats.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/PairedStats.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/StatsAccumulator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/xml/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/Closer.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/SmoothRateLimiter.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/SipHashFunction.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/Parameter.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/FileWriteMode.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/PairedStatsAccumulator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/CartesianList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/TypeCapture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/LongAddable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/LongAddables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/LongAddable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ServiceManager.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/Invokable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/LongAddables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/html/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/CharSource.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/StandardSystemProperty.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/ChecksumHashFunction.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-

jar/com/google/common/hash/AbstractByteHasher.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/reflect/ClassPath.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/reflect/TypeToInstanceMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/math/LinearTransformation.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/CharSink.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/ByteSource.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/ByteSink.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/reflect/AbstractInvocationHandler.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/RateLimiter.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableRangeSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/reflect/MutableTypeToInstanceMap.java  
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jar/com/google/common/io/MoreFiles.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/MultimapBuilder.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableMapEntry.java

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 */
```

```
/**
```

```
 * Holder for extra methods of { @code Objects } only in web. Intended to be empty for regular
 * version.
 */
```

Found in path(s):

```
*/opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/LinkedHashMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/UsingToStringOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/MutableClassToInstanceMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingListIterator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ArrayListMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Synchronized.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingSortedSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ComparatorOrdering.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractMapEntry.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ConcurrentHashMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Iterables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/SingletonImmutableSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/NullsFirstOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-

jar/com/google/common/collect/EnumBiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/TreeMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ExplicitOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Lists.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractBiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingMapEntry.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ReverseNaturalOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/LinkedListMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingQueue.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/HashMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractMapBasedMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractSortedSetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Multiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/LexicographicalOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Ordering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractListMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/BiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ClassToInstanceMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/NaturalOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingSortedMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ReverseOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Iterators.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-



jar/com/google/common/collect/ForwardingConcurrentMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/TreeMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SortedSetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Multimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/LinkedHashMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/HashMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractMapBasedMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ByFunctionOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/MapDifference.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Sets.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Interner.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/NullsLastOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractIterator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingIterator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Multisets.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/EnumHashBiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingObject.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-

jar/com/google/common/collect/Maps.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractSetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Multimaps.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/CompoundOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingCollection.java  
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Found in path(s):  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SortedMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SortedMultisets.java  
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```
*/
/**
 * Returns an array containing all of the elements in the specified collection. This method
 * returns the elements in the order they are returned by the collection's iterator. The returned
 * array is "safe" in that no references to it are maintained by the collection. The caller is
 * thus free to modify the returned array.
 *
 * <p>This method assumes that the collection size doesn't change while the method is running.
 *
 * <p>TODO(kevinb): support concurrently modified collections?
 *
 * @param c the collection for which to return an array of elements
 */
```

Found in path(s):

```
*/opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ObjectArrays.java
```

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 */
/*
 * This method was rewritten in Java from an intermediate step of the Murmur hash function in
 * http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
 * following header:
 *
 * MurmurHash3 was written by Austin Appleby, and is placed in the public domain. The author
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 */
```

Found in path(s):

```
*/opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/Hashing.java
```

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```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/IndexedImmutableSet.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/JdkBackedImmutableBiMap.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/JdkBackedImmutableMap.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/BaseImmutableMultimap.java
```

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Found in path(s):

```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/annotations/package-info.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/util/concurrent/Atomics.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
```

jar/com/google/common/primitives/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/SortedLists.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/net/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/annotations/Beta.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ContiguousSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingBlockingQueue.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ThreadFactoryBuilder.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Ascii.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Equivalence.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/UncaughtExceptionHandler.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ListeningExecutorService.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/Monitor.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Strings.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/Traverser.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ClosingFuture.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/AbstractBaseGraph.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/BaseGraph.java  
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/\*\*

\* Holder for web specializations of methods of { @code Shorts }. Intended to be empty for regular  
\* version.

\*/

Found in path(s):

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/ShortsMethodsForWeb.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/Reflection.java

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```
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jar/com/google/common/collect/Streams.java
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* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/primitives/Platform.java
```

```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/util/concurrent/Internal.java
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ForwardingLock.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ForwardingCondition.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/primitives/ImmutableIntArray.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/hash/AbstractHashFunction.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/primitives/ImmutableDoubleArray.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/primitives/ImmutableLongArray.java

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jar/com/google/common/util/concurrent/ServiceManagerBridge.java

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Found in path(s):

```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/primitives/DoublesMethodsForWeb.java
No license file was found, but licenses were detected in source scan.
```

```
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 */
/**
 * Not supported. You are attempting to create a map that may contain a non-{@code Comparable}
 * key. Proper calls will resolve to the version in { @code ImmutableSortedMap }, not this dummy
 * version.
 *
 * @throws UnsupportedOperationException always
 * @deprecated Pass a key of type { @code Comparable } to use { @link
 * ImmutableSortedMap#of(Comparable, Object)}.
 */
```

Found in path(s):

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableSortedMapFauxverideShim.java  
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/\*

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\*

\* As of 2010/06/11, this method is identical to the (package private) hash method in OpenJDK 7's

\* `java.util.HashMap` class.

\*/

Found in path(s):

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/Striped.java

## 1.323 failureaccess 1.0.1

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Found in path(s):

\* /opt/cola/permits/1349013147\_1655879756.6643403/0/failureaccess-1-0-1-sources-4-jar/com/google/common/util/concurrent/internal/InternalFutures.java  
\* /opt/cola/permits/1349013147\_1655879756.6643403/0/failureaccess-1-0-1-sources-4-jar/com/google/common/util/concurrent/internal/InternalFutureFailureAccess.java

# 1.324 commons-io 2.8.0

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# 1.325 commons-fileupload 1.4

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# 1.326 dc 1.3

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```

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```
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example-Swift/DCPathButton/Classes/DCPathItemButton.h
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/DCPathButton/Classes/DCPathItemButton.m
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example-Swift/DCPathButton/Classes/DCPathItemButton.m
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/DCPathButton/Classes/DCPathItemButton.h
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example/Example/AppDelegate.m
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example/Example/main.m
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example/Example/AppDelegate.h
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example/Pods/DCPathButton/DCPathButton/Classes/DCPathItemButton.h
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example-Swift/DCPathButton/Classes/DCPathButton.h
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example/Pods/DCPathButton/DCPathButton/Classes/DCPathItemButton.m
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/DCPathButton/Classes/DCPathButton.m
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example-Swift/DCPathButton/Classes/DCPathButton.m
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example/ExampleTests/ExampleTests.m
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/DCPathButton/Classes/DCPathButton.h
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example/Example/ViewController.m
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example/Pods/DCPathButton/DCPathButton/Classes/DCPathButton.h
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-DCPathButton-39be410/Example/Example/ViewController.h
* /opt/cola/permits/1125758851_1613553092.69/0/tangdxi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdxi-
```

DCPathButton-39be410/Example/Pods/DCPathButton/DCPathButton/Classes/DCPathButton.m

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Found in path(s):

\* /opt/cola/permits/1125758851\_1613553092.69/0/tangdixi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdixi-DCPathButton-39be410/Example/Pods/Target Support Files/Pods/Pods-acknowledgements.plist

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\* /opt/cola/permits/1125758851\_1613553092.69/0/tangdixi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdixi-DCPathButton-39be410/Example-Swift/Example-Swift/ViewController.swift

\* /opt/cola/permits/1125758851\_1613553092.69/0/tangdixi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdixi-DCPathButton-39be410/Example-Swift/Example-Swift-Bridging-Header.h

\* /opt/cola/permits/1125758851\_1613553092.69/0/tangdixi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdixi-DCPathButton-39be410/Example-Swift/Example-SwiftTests/Example\_SwiftTests.swift

\* /opt/cola/permits/1125758851\_1613553092.69/0/tangdixi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdixi-DCPathButton-39be410/Example-Swift/Example-Swift/AppDelegate.swift

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Pod::Spec.new do |s|

```
s.name = "DCPathButton"
s.version = "2.1.1"
s.summary = " A beautiful button copy from Path® "
```

```
s.description = <<-DESC
DCPathButton is a menu button, design by an famous App Path®.
Since Path® 4.0, it return to use a tab bar instead of a side bar,
and also change the menu button. So I try to implement it and then
the DCPathButton born :)
```

```
DESC
```

```
s.homepage = "https://github.com/Tangdixi/DCPathButton"
```

```
s.license = {
:type => 'MIT',
:text => 'The DCPathButton use the MIT license'
}
```

```
s.author = { "Tangdixi" => "Tangdixi@gmail.com" }
```

```
s.platform = :ios, '7.0'
```

```
s.source = {
```

```
:git => "https://github.com/Tangdixi/DCPathButton.git",
:tag => "2.1.1"
}
```

```
s.source_files = 'DCPathButton/Classes/*.{h,m}'
```

```
s.resources = ["DCPathButton/Sounds/*"]
```

```
s.frameworks = 'QuartzCore','AudioToolbox'
```

```
s.requires_arc = true
```

```
end
```

Found in path(s):

```
* /opt/cola/permits/1125758851_1613553092.69/0/tangdixi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdixi-DCPathButton-39be410/DCPathButton.podspec
```

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```

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```
<label opaque="NO" clipsSubviews="YES" userInteractionEnabled="NO" contentMode="left"
horizontalHuggingPriority="251" verticalHuggingPriority="251" text=" Copyright (c) 2015 DC. All rights
```

```
reserved." textAlignment="center" lineBreakMode="tailTruncation" baselineAdjustment="alignBaselines"
minimumFontSize="9" translatesAutoresizingMaskIntoConstraints="NO" id="8ie-xW-0ye">
```

Found in path(s):

```
* /opt/cola/permits/1125758851_1613553092.69/0/tangdixi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdixi-
DCPathButton-39be410/Example-Swift/Example-Swift/Base.lproj/LaunchScreen.xib
```

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This application makes use of the following third party libraries:

## DCPATHButton

The DCPATHButton use the MIT license

Generated by CocoaPods - <http://cocoapods.org>

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```
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DCPathButton-39be410/Example/Pods/Target Support Files/Pods/Pods-acknowledgements.markdown
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```
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DCPathButton-39be410/Example/Pods/DCPATHButton/README.md
```

```
* /opt/cola/permits/1125758851_1613553092.69/0/tangdixi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdixi-
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DCPathButton-39be410/Example/Example/BarButtonItemViewController.h
```

```
* /opt/cola/permits/1125758851_1613553092.69/0/tangdixi-dcpathbutton-2-1-3-0-ge4b13fb-tar-gz/Tangdixi-
DCPathButton-39be410/Example/Example/BarButtonItemViewController.m
```

## 1.327 slf4j 2.0.5

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```

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 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/spi/LoggerFactoryBinder.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/IMarkerFactory.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/MessageFormatter.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/NOPLoggerFactory.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/spi/MarkerFactoryBinder.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/NOPMDCAdapter.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/MarkerIgnoringBase.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/MarkerFactory.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/Util.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/MDC.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/BasicMarker.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/NOPLogger.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/FormattingTuple.java  
 \* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/SubstituteLoggerFactory.java



\* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/spi/LocationAwareLogger.java  
\* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/BasicMDCAdapter.java  
\* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/LoggerFactory.java  
\* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/spi/MDCAdapter.java  
\* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/Marker.java  
\* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/NamedLoggerBase.java  
\* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/helpers/SubstituteLogger.java  
\* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/ILoggerFactory.java  
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\* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/LoggerFactoryFriend.java

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\* /opt/cola/permits/1489599390\_1676985289.0237827/0/slf4j-api-2-0-5-sources-jar/org/slf4j/Logger.java

## 1.328 error\_prone\_annotations 2.3.4

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\* /opt/ws\_local/PERMITS\_SQL/1059106420\_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/FormatString.java  
\* /opt/ws\_local/PERMITS\_SQL/1059106420\_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/DoNotMock.java  
\* /opt/ws\_local/PERMITS\_SQL/1059106420\_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/CompatibleWith.java  
\* /opt/ws\_local/PERMITS\_SQL/1059106420\_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/RestrictedApi.java  
\* /opt/ws\_local/PERMITS\_SQL/1059106420\_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/MustBeClosed.java  
\* /opt/ws\_local/PERMITS\_SQL/1059106420\_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/FormatMethod.java

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\* /opt/ws\_local/PERMITS\_SQL/1059106420\_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/concurrent/GuardedBy.java  
\* /opt/ws\_local/PERMITS\_SQL/1059106420\_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/OverridingMethodsMustInvokeSuper.java  
\* /opt/ws\_local/PERMITS\_SQL/1059106420\_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/CheckReturnValue.java

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\* /opt/ws\_local/PERMITS\_SQL/1059106420\_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/ForOverride.java  
\* /opt/ws\_local/PERMITS\_SQL/1059106420\_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-

```
jar/com/google/errorprone/annotations/Var.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/SuppressPackageLocation.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/IncompatibleModifiers.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/CanIgnoreReturnValue.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/CompileTimeConstant.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/concurrent/LazyInit.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/RequiredModifiers.java
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jar/com/google/errorprone/annotations/concurrent/UnlockMethod.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/NoAllocation.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/concurrent/LockMethod.java
```

## 1.329 auto-value-annotations 1.6.3

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\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/autovalue.vm

\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/gwtserialzier.vm

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\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/AutoValueTemplateVars.java

\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/TypeSimplifier.java

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\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/extension/memoized/processor/ClassNames.java

\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/TypeEncoder.java

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\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/TypeMirrorSet.java

\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/BuilderSpec.java

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\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/MissingTypeException.java

\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/GwtSerialization.java

\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/GwtCompatibility.java

\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/ErrorReporter.java

\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/AutoAnnotationProcessor.java

\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/AutoAnnotationTemplateVars.java

\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/AnnotationOutput.java

\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-

jar/com/google/auto/value/processor/AutoValueBuilderProcessor.java

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\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/AutoOneOfProcessor.java  
\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/AutoOneOfTemplateVars.java  
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\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/AutoValueOrOneOfTemplateVars.java  
\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/ClassNames.java  
\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/AutoValueOrOneOfProcessor.java

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\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-

jar/com/google/auto/value/processor/ExtensionContext.java

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/\*\*

\* Specifies that AutoValue should copy any annotations from the annotated element to the

\* generated class. This annotation supports classes and methods.

\*

\* <p>The following annotations are excluded:

\*

\* <ol>

\* <li>AutoValue and its nested annotations;

\* <li>any annotation appearing in the { @link AutoValue.CopyAnnotations#exclude } field;

\* <li>any class annotation which is itself annotated with the { @link

\* `java.lang.annotation.Inherited` meta-annotation.

\* </ol>

\*

\* <p>For historical reasons, annotations are always copied from an { @code @AutoValue } property

\* method to its implementation, unless { @code @CopyAnnotations } is present and explicitly

\* { @linkplain CopyAnnotations#exclude excludes } that annotation. But annotations are not copied

\* from the { @code @AutoValue } class itself to its implementation unless { @code @CopyAnnotations }

\* is present.

\*

\* <p>If you want to copy annotations from your { @literal @ }AutoValue-annotated class's methods to

\* the generated fields in the AutoValue\_... implementation, annotate your method

\* with { @literal @ }AutoValue.CopyAnnotations. For example, if Example.java is:<pre>

\* { @code @ }Immutable

\* { @code @ }AutoValue

\* abstract class Example {

\* { @code @ }CopyAnnotations

\* { @code @ }SuppressWarnings("Immutable") // justification ...

\* abstract Object getObject();

```

* // other details ...
* }</pre>
*
* <p>Then AutoValue will generate the following AutoValue_Example.java:</pre>
*
* final class AutoValue_Example extends Example {
* {@code @}SuppressWarnings("Immutable")
* private final Object object;
*
* {@code @}SuppressWarnings("Immutable")
* {@code @}Override
* Object getObject() {
* return object;
* }
*
* // other details ...
* }</pre>
*
* <p>When the type of an {@code @AutoValue} property method has annotations, those are
* part of the type, so they are always copied to the implementation of the method.
* {@code @CopyAnnotations} has no effect here. For example, suppose {@code @Confidential} is a
* {@link java.lang.annotation.ElementType#TYPE_USE TYPE_USE} annotation:
*
* <pre>
*
* {@code @}AutoValue
* abstract class Person {
* static Person create({@code @}Confidential String name, int id) {
* return new AutoValue_Person(name, id);
* }
*
* abstract {@code @}Confidential String name();
* abstract int id();
* }</pre>
*
* Then the implementation of the {@code name()} method will also have return type
* {@code @Confidential String}.
*
* @author Carmi Grushko
*/

```

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\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/processor/PropertyBuilderClassifier.java  
\* /opt/cola/permits/1362940769\_1657749666.24471/0/auto-value-annotations-1-6-3-sources-jar/com/google/auto/value/extension/memoized/Memoized.java

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\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-

jar/io/netty/handler/codec/socksx/v4/Socks4CommandRequest.java  
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\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socks/SocksProtocolVersion.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socks/SocksCmdStatus.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/SocksVersion.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socks/SocksResponseType.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socks/SocksMessageType.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socks/SocksAuthScheme.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5CommandStatus.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socks/SocksSubnegotiationVersion.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5AuthMethod.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socks/SocksAddressType.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5AddressType.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5CommandType.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socks/SocksRequestType.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socks/SocksCmdType.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthStatus.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socks/SocksAuthStatus.java

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\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v4/AbstractSocks4Message.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v4/Socks4ClientEncoder.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v4/package-info.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5InitialResponseDecoder.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5InitialRequestDecoder.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/AbstractSocks5Message.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/package-info.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5CommandRequestDecoder.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5ServerEncoder.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5ClientEncoder.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v4/Socks4ServerEncoder.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v4/Socks4Message.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthResponseDecoder.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5CommandResponseDecoder.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5Message.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/AbstractSocksMessage.java

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\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/SocksPortUnificationServerHandler.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5AddressDecoder.java  
\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/io/netty/handler/codec/socksx/v5/Socks5AddressEncoder.java  
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\* /opt/cola/permits/1425036391\_1663940297.3645694/0/netty-codec-socks-4-1-79-final-sources-1-jar/META-INF/maven/io.netty/netty-codec-socks/pom.xml

## 1.331 jsr305 3.0.2

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\* /opt/cola/permits/1334730768\_1653653249.5131547/0/jsr305-3-0-2-sources-8-jar/javax/annotation/concurrent/GuardedBy.java

\* /opt/cola/permits/1334730768\_1653653249.5131547/0/jsr305-3-0-2-sources-8-jar/javax/annotation/concurrent/NotThreadSafe.java

\* /opt/cola/permits/1334730768\_1653653249.5131547/0/jsr305-3-0-2-sources-8-jar/javax/annotation/concurrent/Immutable.java

\* /opt/cola/permits/1334730768\_1653653249.5131547/0/jsr305-3-0-2-sources-8-jar/javax/annotation/concurrent/ThreadSafe.java

# 1.332 python-chardet 2.2.1 3.e17

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<meta name="keywords" content="character, set, encoding, detection, Python, XML, feed">
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<link rel="up" href="index.html" title="Documentation">
<link rel="prev" href="history.html" title="Revision history">
</head>
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```
@smallexample
```

```
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```

```
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```

```
@end smallexample
```

That's all there is to it!

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Manifest-Version: 1.0

Automatic-Module-Name: com.codahale.metrics.jetty9

Build-Jdk-Spec: 1.8

Bundle-Description: A set of extensions for Jetty 9.3 and higher which provide instrumentation of thread pools, connector metrics, and application latency and utilization.

Bundle-License: <https://www.apache.org/licenses/LICENSE-2.0.html>

Bundle-ManifestVersion: 2

Bundle-Name: Metrics Integration for Jetty 9.3 and higher

Bundle-SymbolicName: io.dropwizard.metrics.jetty9

Bundle-Version: 4.1.33

Created-By: Apache Maven Bundle Plugin 5.1.8

Export-Package: com.codahale.metrics.jetty9;uses:="com.codahale.metrics,javax.servlet,javax.servlet.http,org.eclipse.jetty.io,org.eclipse.jetty.server,org.eclipse.jetty.server.handler,org.eclipse.jetty.util.annotation,org.eclipse.jetty.util.component,org.eclipse.jetty.util.thread";version="4.1.33"

Implementation-Title: Metrics Integration for Jetty 9.3 and higher

Implementation-Version: 4.1.33

Import-Package: javax.servlet;version="[2.5.0,4.0.0)",javax.servlet.http;version="[2.5.0,4.0.0)",com.codahale.metrics;version="[4.1,5)",org.eclipse.jetty.http;version="[9.4,10)",org.eclipse.jetty.io;version="[9.4,10)",org.eclipse.jetty.server;version="[9.4,10)",org.eclipse.jetty.server.handler;version="[9.4,10)",org.eclipse.jetty.util.annotatio



n;version="[9.4,10)",org.eclipse.jetty.util.component;version="[9.4,10)",org.eclipse.jetty.util.thread;version="[9.4,10)"  
Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.8))"  
Tool: Bnd-6.3.1.202206071316

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\* /opt/cola/permits/1480501782\_1668971450.344051/0/metrics-jetty9-4-1-33-jar/META-INF/MANIFEST.MF

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Eclipse

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\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.

\* org.eclipse.jetty.orbit:javafx.security.auth.message

The following artifacts are EPL and CDDL 1.0.

\* org.eclipse.jetty.orbit:javafx.mail.glassfish

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Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api

\* javax.annotation:javax.annotation-api

\* javax.transaction:javax.transaction-api

\* javax.websocket:javax.websocket-api

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Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons

org.ow2.asm:asm

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Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec  
org.apache.taglibs:taglibs-standard-impl

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MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp  
org.apache.tomcat:tomcat-jasper  
org.apache.tomcat:tomcat-juli  
org.apache.tomcat:tomcat-jsp-api  
org.apache.tomcat:tomcat-el-api  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-api  
org.apache.tomcat:tomcat-util-scan  
org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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Mortbay

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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# 1.342 classmate 1.5.1

## 1.342.1 Available under license :

Java ClassMate library was originally written by Tatu Saloranta (tatu.saloranta@iki.fi)

Other developers who have contributed code are:

\* Brian Langel

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# 1.343 texinfo 5.1 5.e17

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